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Evolving moral intuitions: how ancient values shape attitudes to modern issues

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## Abstract

Across four papers, this thesis examines three key themes: which moral values predict preference for Universal Basic Income (UBI); can moral reframing improve peoples' UBI attitudes; and how our evolved privacy psychology may be mismatched with modern online environments. Both UBI and online privacy are becoming increasingly topical issues, yet there is a paucity of research focused on the role moral intuitions play in determining attitudes and behaviours related to these issues. As such, we adopt a Moral Foundations Theory framework to identify the moral values which underpin peoples' attitudes to UBI. We then follow up by using a moral reframing intervention to couch UBI messages in terms of the values associated with peoples' identified moral concerns. While for online privacy, we set out to explain why people profess to value their privacy yet do little to protect it when online – a phenomenon known as the *privacy paradox*. By adopting an evolutionary mismatch framework, we posit that this contradiction between one's stated and revealed preferences can, in part, be explained as an evolutionary mismatch. That is, human privacy intuitions have adapted to an ancestral environment which is far removed from the online environment of today. As such, the suite of evolved intuitions that guide behaviours to protect our bodies, territories, and reputations often fail because of a lack of recognisable cues within the digital environment.

In Paper 1, examining a US sample, Study 1 and 2 use a series of moral measures to predict individuals' UBI preferences, revealing Equality and Economic Liberty to be the two significant moral predictors. Study 3 then morally reframed UBI messages to align with these values; both messages were shown to significantly increase UBI preference (vs. Control message). In Paper 2, Study 1 and 2 again examined the moral predictors of UBI preference, though this time with samples from the UK and Norway. Beginning with the UK, we found that, when using the original five moral foundations to predict UBI preference, the Authority

foundation emerged as the only significant predictor of UBI preference. In the second study we introduced a more granular set of moral measures and a second sample from Norway. Results revealed that in the UK, Authority was again found to predict UBI preference, along with Equality. While in the Norwegian sample, Authority was revealed to be the single, significant moral predictor. In Paper 3 we designed a moral reframing technique based on the findings in Paper 2. The study examined whether UBI messaging, couched in the values relevant to the Norwegian and UK sample, could again increase UBI preference (vs. Control message). Results found that none of the reframed messages significantly increased participant favourability of UBI. Finally, in Paper 4 – a theory paper – we submit that the privacy paradox is not simply the product of internet users’ rational cost-benefit analysis. Rather, this inability to protect one’s personal online data is the result of an evolutionary mismatch between the ancestral environment we adapted to, and the digital environment we often find ourselves in today. I then discuss some of the limitations of adopting the theoretical conception of morality as outlined by Moral Foundations Theory (MFT). To conclude, I outline several suggestions for policy makers and researchers on the topic of UBI and online privacy, based upon the empirical findings and theorising within this thesis.

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## **Declaration**

This thesis has been written in an ‘articles format’, whereby Chapters 2 to 5 are presented as they have been submitted to or published in peer reviewed journals. Author contributions for each chapter are given below. The first and final chapter provide an overview and discussion of the work in this thesis and therefore have not been submitted for publication.

Chapter 2 is currently under review for publication as:

Green, J., Easterbrook, M. J. (2021). The Moral Underpinnings of Universal Basic Income in the US.

JG and ME coordinated on conceiving and designing the study. JG collected the data, prepared study materials, and run the statistical analyses. JG wrote the manuscript, while ME provided feedback on the design, analysis, and written manuscript.

Chapter 3 is currently under review for publication as:

Green, J., Easterbrook, M. J., Petryniak, C., Olsson, M. I. T. (2021). Universal Basic Income: Measuring Moral Motivations in the UK and Norway.

JG and ME coordinated on conceiving and designing the study. JG collected the UK data and prepared the study materials. MO and CP collected the Norwegian data and backtranslated all the study materials into Norwegian. JG analysed all the data and wrote the manuscript, while ME provided feedback on the design, analysis, and written manuscript.

Chapter 4 is currently not under review for publication:

Green, J., Easterbrook, M. J., Petryniak, C., Olsson, M. I. T. (2021). Universal Basic Income: The Effects of Moral Reframing on UK and Norwegian Citizens.

JG and ME coordinated on conceiving and designing the study. JG collected the UK data and prepared the study materials. MO and CP collected the Norwegian data and backtranslated all the study materials into Norwegian. JG analysed all the data and wrote the manuscript, while ME provided feedback on the design, analysis, and written manuscript.

Chapter 5 is published in *Current Directions in Psychological Science* as:

Shariff, A., Green, J., & Jettinghoff, W. (2021). The Privacy Mismatch: Evolved Intuitions in a Digital World. *Current Directions in Psychological Science*, 30(2), 159-166.

JG, AS, and WJ conceived of applying the evolutionary mismatch hypothesis to the topic of privacy. JG formulated the idea of the ownership psychology and personal space mismatch, while AS and JG formulated the idea of the reputational concern mismatch. JG formulated the idea of applying the privacy mismatch idea as a way to explain the phenomenon of the ‘privacy paradox’. JG designed the flow diagram while WJ created the published version. JG wrote the first draft of the manuscript. In the published version, AS wrote the Privacy Paradox Section, JG wrote the Evolutionary Mismatches section, and AS, JG, and WJ shared the remaining writing responsibilities.

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## INTRODUCTION

The pace of economic growth, technological innovation, and social change is such that few people can hope to keep track of all the consequential events taking place around them. The once relatively glacial pace of human innovation meant that for a sizable chunk of our ancestry, one century would look remarkably like the next. Plucking a group of Homo Sapiens from their home environment, say, 50,000 years ago and placing them at the same spot 100 years in the future, while a little disorientating, would have required little to no cultural or technological updating. Tool making, hunting techniques, and intergroup dynamics would have remained familiar, and they would likely have little trouble picking up where they left off. Fast-forward to present day Western societies, though, and you could dispense with the time travelling scenario. To illustrate the pace of change in modern societies you only need watch a parent struggle to work out a gaming app that their 10-year-old child has mastered in minutes. This is because of the exponential growth of innovation; humans are now tasked with navigating a world that is being reshaped by technology with increasing regularity.

Take, for example, the online trading website, eBay – having adopted a digital translation tool that was able to translate one language into another for its users, global trade grew by 10%. In other words, a machine learning translation programme singlehandedly increased international exports at a scale equivalent to literally shrinking the world by 25% (Brynjolfsson et al., 2019). When technology such as this takes a leap forward, it affects not just the economy and culture, but human psychology too. It is these downstream psychological effects that are at the core of this PhD project: how are culturally evolved values, norms, and intuitions – which developed over millennia – shaping beliefs and behaviours related to modern-day issues. E.O. Wilson once described humans as having, “Stone Age emotions, medieval institutions, and godlike technology” (Wilson, 2012, p.

23). My aim here, then, is to examine some of the ways our Stone-Aged minds are adapting to the changes brought about by godlike technology.

This examination can be broken down into three parts. First, given the rapid rise of technological automation and its ability to replace human workers, how do people feel about the idea of UBI being introduced in their country, and what moral motivations or concerns might underpin these feelings. Second, having established the moral threads that underpin peoples' UBI attitudes, we test how effective the technique of moral reframing is for increasing UBI preference. And lastly, we adopt the same intuitionist approach as the previous studies to examine why people profess to care about their privacy and yet do so little to protect it when online. We suggest a partial explanation can be found by looking back to our evolutionary roots. But before addressing each of these issues directly, I will first outline the key theories and literature that underpin this thesis.

### **Moral Intuitionism**

Early research in moral psychology was largely carried out through developmental research, in which a rationalist interpretation of morality dominated. Through presenting children of different ages with a set of moral dilemmas, Kohlberg (1969) was able to show that, as with cognitive stages of development, stages of moral development became more sophisticated with age. Kohlberg viewed moral development as a rationally based process where children construct their moral judgements of fairness, rights and justice through learning underlying rules and roles during play with peers (Kohlberg, 1969, 1984). This perspective heavily focused on children's abilities to independently generate their own rational moral judgements, whilst largely ignoring the role of emotional intuitions. Kohlberg's conception of moral development aligned with the prevailing 'cognitive revolution' in psychology during the latter half of the twentieth century. This approach

viewed cognition from a computational, information processing perspective. But by the mid-nineties, aided by new technology in neuroscience, moral psychology began to develop a different perspective on moral reasoning (Greene, 2014). A whole set of new findings began to show that individuals largely do not rationalise their way to moral judgements, instead they are primarily driven by affective intuition (Kahneman, 2003; Mercier & Sperber, 2020). This new perspective argued that moral judgements are generally driven by a flash of affective valence, while strategic reasoning serves as a post hoc process, functioning to justify (rather than formulate) moral judgements (Haidt, 2001; Wright, 1994). In short – people mostly reason *from* emotion, not to it.

Indeed, many neuroscience studies have since shown that emotion is not the enemy of reason but is actually an integral part of the decision-making process (Bechara, 2004; Wheatley & Haidt, 2005). Researchers looking at patients with damage to the prefrontal cortex – the same region that was damaged in the well-known case of Phineas Gage – revealed a similar pattern of symptoms as the nineteenth-century railroad worker (Damasio et al., 1994). As with reports of Gage, the more recent patient's frontal lobe damage was shown to impair the processing of emotion and rational decision making. Damasio (2006) refers to these patients losing their 'somatic markers' – these are effectively neurological tags which infuse objects and experiences with associated physiological affect that aid in guiding decision making. A simple example would be the subtle flash of positive affect which arises at sight of chocolate (if the person likes chocolate, that is), this perceptual experience becomes infused with a positive valence and guides approach behaviour. Damasio et al. (1994) found that if these areas are lesioned, while overall intellect was preserved (measured by IQ), patients real life decision skills (as measured by the Iowa Gambling Task) were greatly impaired. It appeared that without those affective automatic flashes serving to guide them, a person's intuitive reasoning ability diminished.

A later landmark fMRI study by Greene et al. (2001) illustrated the importance of the role of emotion in making moral judgements. An earlier philosophical thought experiment known as the ‘trolley problem’ (Thompson, 1985) presents two dilemmas; in the first dilemma participants are told that a train is heading towards five people on the track, they are able to hit a switch if they choose and divert the train onto a track with just a single person. The second dilemma involves the same potential outcomes in death toll (five or one); only in this scenario the option is to push a man from a footbridge onto the track to derail the train, thereby killing the one pushed man, but saving the other five people. Several studies have replicated the same overall finding (Cushman et al., 2006); in the trolley dilemma (impersonal), most people choose quickly to flick the switch and kill one to save five. In the footbridge dilemma (personal), however, most people quickly say they will not push the man to save five. From a Kohlbergian, rationalist perspective, people should consistently reason their way to one of two views: either, kill one to save five in either dilemma (consequentialist view), or decide that actively killing the single man in either dilemma is unacceptable (deontological view). Why then was there a divergence in choice between the two dilemmas?

Greene et al., (2001) suspected that this divergence was not the product of cold rational judgement but was driven by their emotional gut reactions. Participants, considering pushing a man to his death, would experience a more viscerally unpleasant feeling than simply flicking a switch. They predicted that for the ‘personal’ footbridge condition, participants would show greater activation of emotion-based areas of the brain compared to when making the ‘impersonal choice’ in the trolley condition. They also predicted that for those who *did* choose to push the man, these participants would take longer to make the choice because they would require more time to override their aversive gut. Both predictions were supported: in the ‘personal’ footbridge scenario people activated emotion and social processing regions (angular gyrus); in the ‘impersonal’ trolley scenario they found increased

activation associated with regions related to working memory (dorsolateral prefrontal and parietal areas). And for the few that chose the option to push the man, these participants did indeed take longer to choose this more emotionally charged option. Greene et al., (2001) suggest that while there is room for rational moral judgement, it is emotional intuition that primarily drives this moral judgement.

In Haidt's (2001) Social Intuitionist Model he describes the process of moral judgements as beginning with an affective intuition, followed later by post hoc reasoning that is employed in service of justifying the initial intuition. The intuition phase is likened to an aesthetic judgement – an automatic process with a positive or negative valence, yet without any conscious awareness of the processing that formulated it. Whereas post hoc reasoning is likened to a lawyer or press secretary, whereby strategic explanations are consciously constructed to justify the intuitive judgements that preceeded them (Haidt & Bjorklund, 2008). Subsequent research on disgust appeared to align with the intuitionist explanation of moral judgement, as several studies found that priming disgust (affective intuition) increased the harshness of moral judgments (post hoc reasoning) (Inbar et al., 2009; Olatunji et al., 2016; Schnall et al., 2008). By experimentally inducing a state of disgust, participants were found to more harshly condemn a whole range of behaviors which were deemed 'impure', from drug taking to casual sex (Horberg et al., 2009; Horberg et al., 2011), although more recent work has called these findings into question. A meta-analysis on disgust's role in increasing the severity of moral judgments has found small effects, which, when corrected for publication bias, actually suggests null effects (Landy & Goodwin, 2015). In addition, large replications of key studies on this topic have also failed to replicate (Ghelfi et al., 2020). Despite this, the broader moral intuitionism literature has found growing support for moral evaluations emerging rapidly after heuristic-like processing, and in the absence of effortful rationalisation (Cui et al., 2019; Dubljević et al., 2018; Rowley et al., 2018; Ward & King,



2018). Importantly, though, the processing and contextual moderators of this process are still the focus of ongoing research and debate (Greene, 2017) – a point that will be returned to in the final chapter.

As the research above suggest, there has been some consilience between neuroscience and moral psychology – that is, moral judgements are often driven by automatic affective intuition, rather than conscious reasoning (Haidt, 2012). However, as others (Pizarro & Bloom, 2003) have argued, moral reasoning can occur in the absence of affective intuitions. Reasoned logic can influence moral decision in situations which do not muster the moral emotions; when deciding if it is wrong to steal paperclips from the office, for example. It is also possible to override affective reactions through deliberate, reasoned reflection, though this is an effortful and less common form of moral cognition (Kahneman, 2011). Nonetheless, when taking a functionalist perspective of the role of morality, the primacy of intuition over rationality can be seen as a feature rather than a bug. Morality did not develop in order to rationally reveal objective truths. It developed to improve social cooperation by creating a consensual, intuitive understanding of what is considered ‘right’ and ‘wrong’ within groups (Curry, 2016; Dunbar, 1996; Haidt, 2012; Wright, 1994).

### **The Evolutionary Roots of Morality**

From an evolutionary perspective, morality helps to create a structured social environment in which collective challenges can be overcome through creating a cohesive moral framework (Boyd & Richerson, 2005; Baumeister et al., 2018). This is the ‘social’ part of the Social Intuitionist Model; Haidt (2001) argues that although people may not often make moral judgements ‘rationally’, people are also not just blindly driven by selfish intuition either. Instead, these intuitions are guided by their surrounding social environment, enabling people to learn to recognise and respect the values of the group. Indeed, humans

throughout history and across cultures have managed to band together with non-kin to solve problems and then share the spoils. Yet in all other species – except for kin-based, ultrasocial species like bees and termites – cooperation is vanishingly rare. From an evolutionary point of view, then, humans’ collective adherence to prescribed rules and expectations is somewhat of a puzzle: why would an individual suppress their own self-interest for the good of the group (Henrich & Muthukrishna, 2021). Several formal and well supported theories have now been developed to explain and model the mechanisms which would allow for such largescale cooperation, including: direct reciprocity, indirect reciprocity, spatial selection, and more controversially, multilevel selection (Rand & Nowak, 2013). However, most of these mechanisms can be packaged into a more parsimonious and overarching explanation: humans form ‘moral communities’. Individual’s reputations about how well they conform to the prescriptions of the group serves as a collective signal indicating who should and should not be cooperated with (Santos et al., 2011; Suzuki & Akiyama, 2005). As empirical research has shown, those who make characteristically intuitive, deontological judgements based on rights and obiligate duties are preferred as social partners, when compared with those who make characteristically consequentionalist judgements based on a cost-benefit moral calculus (Everett et al., 2016). Using sacrificial moral dilemmas, Everett et al. (2016) found that those adopting deontological intuitions were infered to be more trustworthy social partners. Evolutionarily, under the continued social selection pressue of individuals selecting for cooperative partners, intuitive, characteristically denotological moral judgements are suggested to have served as a cue to relaibility, trustworthiness, and moral conformity. Indeed, those who violate the moral expectations of the group can become the victim of gossip, or get denied access to group resources, or even receive punishment from third-parties who were not directly affected by another’s transgression (Barclay, 2013). Therefore, cooperation can persist and scale up because those that might otherwise choose to pursue

self-interested motives over group-based interests, are enmeshed within a vigilant moral community which metes out punishment when necessary (Henrich & Muthukrishna, 2021; Wrangham, 2021).

But if morality explains *how* groups have solved the cooperative dilemma, the question remains as to *why* individuals would form these groups in the first place. The explanation, according to Tomasello et al. (2012), begins with small bands of foragers who behaved collaboratively out of a shared recognition that their survival was tethered to that of their fellow group members. In the middle Pleistocene, selection pressure was such that cognitive coordination strategies were required to acquire sufficient food for everyone to survive (Stiner, 2001). Then, from this early stage of obligatory collaboration, it is argued that group size and social complexity were able to scale up, in large part, because humans developed a norm psychology (Chudek & Henrich, 2011; Henrich & Muthukrishna, 2021). Which is to say, functional group life increasingly became structured by the cultural adaptation of moral norms, which in turn began to shape human's ability to readily learn and internalize group norms (Henrich et al., 2006; Herrmann et al., 2007). Over time, new moral emotions like guilt and shame are said to have evolved, increasing the adherence to prescriptive norms further through experiencing aversive, visceral moral emotions (Al-Shawaf & Lewis, 2017; Boyd & Richerson, 2009). Social selection pressure was such that, those who were unable to conform to these collective normative expectations would likely end up experiencing ostracism, a lack of mating partners, or even violent retribution (Nesse, 2010; Tomasello et al., 2012; Wrangham, 2021).

Building on this line of genetic and cultural evolution, Moral Foundation Theory has argued that moral virtues evolved as solutions to specific and reoccurring sets of challenges throughout our ancestral past (Graham et al., 2013; Haidt, 2012). More specifically, MFT suggests that moral judgment occurs via domain-specific cognitive modules which respond to

distinct moral concerns such as harm or fairness. MFT researchers propose a distinct set of evolved mental structures, or ‘moral foundations’, which allow individuals to make rapid intuitive moral judgements. For example, when an individual perceives they have been cheated during a social exchange, automatic intuitive moral emotions such as anger motivate adaptive downstream behaviours aimed at punishing the defector – a process which game theoretic modelling has shown can boost long run rates of interpersonal cooperation (Axelrod & Dion, 1988; Cosmides et al., 2010; Van Lier, Revlin & De Neys, 2013). Each foundation is said to have developed in response to a reoccurring social challenge, helping to coordinate adaptive responses within our ancestral past to suppress selfishness behaviour and enhance group cohesion (Graham et al., 2013). MFT suggests that as a result of this, people across a diversity of cultures have evolved to share the same set of innate moral foundations. These domain-specific structures then function to support the development and maintenance of moral communities (Haidt & Joeseeph, 2011). However, cultural, social, and environmental factors can modify one’s morality by promoting or suppressing a given moral foundation, producing a diversity of moral communities. The scale which MFT researchers used to measure these foundations is known as the Moral Foundations Questionnaire (MFQ) and has been used extensively in a range of empirical projects ever since.

### **Moral Pluralism**

A moral system has been described as an, “inter-locking sets of values, practices, institutions...” (Haidt, 2012, p. 70), but what are the specific values which constitute this system? Kohlberg (1969) founded his system on the single moral foundation of justice; he argued that morality in all cultures is reducible to concerns about justice and rights. However, this position was challenged, and later accepted by Kohlberg (see Kohlberg et al., 1983), as too narrow. Gilligan (1993) argued that ethics of care are a central part of moral judgement, and that they are derived from nurturing close social bonds, and are not reducible to concerns

about justice. And so, the dominant view in moral psychology came to regard the moral domain as having two foundational values: justice and care (Turiel, 1983). However, based on his cross-cultural studies, Shweder (1991) argued that this cognitive-developmental model was too narrow and only captured the moral foundations of western individualistic societies. He noted that in most parts of the world outside of secular western cultures, societies have three broad moral foundations. These were what he described as the ‘ethic of autonomy’ which describes the morality of Kohlberg and Gilligan (relating to concepts like rights, care and justice, which serve individual independence), the ‘ethic of community’ (relating to respect, duty and loyalty of the group), and ‘the ethic of divinity’ (relating to purity, sanctity, and sin, which serve to maintaining divinity and avoiding degradation of hedonistic selfishness) (Shweder, 1991).

MTF has built on the work of Schweder, as well as merging elements of other theories which had focused on cross-cultural morality, such as Schwartz and Bilsky’s (1990) Theory of Universal Values. Later, Haidt and Joseph (2007) formalised five moral foundations which they argue make up the moral domain: care, fairness, loyalty, and sanctity – although they acknowledge that other foundations could potentially be added in future (Graham et al., 2013). Haidt (2012) has since made a case that Liberty/oppression could be added, with subsequent research supporting this argument that it should be its own distinct foundation (Iyer et al., 2012). MFT researchers claim that in choosing these five (and provisionally, six) foundations, they were aiming to identify and explain the values common to evolutionary psychologists research (e.g., reciprocal altruism and coalitional psychology) and anthropology (e.g., reciprocal gift-giving and tribalism) (Graham et al., 2013; Haidt & Joseph, 2011). Subsequent theories of morality have challenged this ad hoc approach, arguing that specific, theory-driven explanations should be provided based on established evolutionary theories of cooperation, such as kin altruism, reciprocal altruism, and

competitive altruism (Curry et al., 2019). But while Curry's Morality as Cooperation (MAC) theory addresses this issue, unlike MFT, MAC is not a psychological theory. It does not explain the underlying cognitive, cultural, or social processes which give rise to moral judgements. As such, MFT's approach to moral judgements has been adopted in Papers 1 through 3, because it offers a more descriptive and comprehensive explanation of the role of each moral foundation.

Here is a brief description of the moral domain as conceived of by MFT, broken down into the six existing moral foundations. The Harm/care foundation refers to the desire to defend others from harm, based on feelings of care and compassion – the origins of which are said to derive from our evolutionary history of nurturing for offspring (Foster et al., 2006). The Fairness/Cheating foundation refers to issues relating to unjust treatment of oneself or others, as well as more abstract principles of justice. Evolutionarily, those whose minds adapted to a norm psychology sensitive to cheating and able to play “tit for tat”, have a cooperative advantage over those who rely on a general intelligence to solve cooperative dilemmas (Cosmides et al., 2010; Trivers, 1971). The Loyalty/betrayal foundation is associated with concern for the in-group, including feelings of pride, identity, and solidarity to one's group – originating from our tribal evolutionary past (Hornsey, 2008; Tooby & Cosmides, 2010). The Authority/subversion foundation refers to a motivation to uphold and respect traditions and social hierarchies – based on beliefs in maintaining social order through structure and deference to authority (Boehm, 1999). The Sanctity/degradation foundation relates to concerns about maintaining physical and mental purity by evading pathogens and exercising self-control. It is based on feelings of disgust which triggers the avoidance of contact with pathogens through unhygienic objects, or other groups of people who are considered impure or immoral (Schnall et al., 2008). Finally, the Liberty/oppression foundation refers to a desire to break free from oppression and maintain autonomy and

freedom both socially and economically. It is based on an aversion to domination or bullying from leaders or oppressors within the group (Bohem et al., 1993).

However, in contrast to MFT's pluralistic view of morality, an alternate, moral monist perspective argues that moral judgements essentially stem from a single harm-based form of moral cognition. Specifically, Dyadic morality (Gray & Schein, 2012) suggests that moral evaluation derives from matching situations to a cognitive template made up of a harming agent and a harmed victim. Indeed, this dyadic model of morality is likely a central process within many forms of moral judgement, and empirical work has supported this claim (Gray et al., 2014). But the stronger claim that *all* moral judgements boil down to a harm-based dyadic template run counter to numerous studies which have found that moral judgements and intuitions are evoked even in harmless scenarios (Curry et al., 2019; Graham et al., 2015; Haidt, 2012).

Furthermore, when different moral concerns are experimentally primed in moral reframing exercises (e.g. care vs. purity), different moral messages evoke significantly different reactions (see Day et al., 2014; Feinberg & Willer, 2013; Wolsko et al., 2016). Because of this, and because of the robust evolutionary framework that MFT was created from, we favoured a functionalist theory which accommodates the plurality of moral values that previous research has evidenced. This pluralist conception of morality aligns with a growing body of evolutionary theory, and is also better able to accommodate findings in moral psychology research which indicate that people's moral concerns extend beyond harm-based concerns (Dugan et al., 2017; Rottman et al., 2014; Wagerman et al., 2018).

In addition to MFT being applied to the cross-cultural moral divides, later research has also mapped on well to the moral division between the political divide between Left and Right. Several studies have found that those Left of centre have a greater concern for what

MFT researchers describe as the ‘individual foundations’ of harm and fairness, as they are said to be values that pertain to protecting individually-based concerns. While those on the left report very little concern for the ‘binding foundations’ (loyalty, authority, and sanctity), with ‘binding’ referring to the functional role of these values as tightening group bonds. In contrast, those on the Right show slightly less concern for harm and fairness, and instead show a similar levels of concern for each of the five foundations (Graham et al., 2009; Graham et al., 2011, Haidt et al., 2009; McAdams et al., 2008). This moral divide between the Right and the Left has been reliably found through multiple methods including content analysis (Clifford & Jerit, 2013), self-report questionnaires (Graham et al., 2009) and EEG studies (Graham et al., 2013). This ideological divide has also been found outside of America and Europe, in eleven world regions so far (Graham et al., 2011). Therefore, MFT can also become a useful tool to understand the moral threads which underpin politically divisive topics such as UBI.

### **Social Welfare in the Twenty-First Century**

Social welfare is a notoriously divisive topic which attracts a great deal of political debate and moral discourse (Petersen et al., 2011; Skitka & Tetlock, 1993). Following the economic disruption caused by the COVID-19 pandemic, as well as the ongoing threat of automation technology displacing more and more human jobs, there is now a growing desire for social and economic reform (Giberstadt, 2020). A recent poll by the Pew Research Centre found that in Germany, UK, and US, half of all citizens believe that, ‘the existing economic system needs a major overhaul’ (Devlin et al., 2021). In 2021, a growing section of this economic overhaul debate has focused on introducing UBI at the local and national level (Bidadanure, 2019; Hemsley et al., 2018). The idea here, is that the most straightforward and effective way to stabilise a turbulent economy and ensure citizens have sufficient financial support, is to provide every adult with a standard, unconditional payment at regular intervals



(Yang, 2018). At the time of writing, dozens of trials worldwide are underway, with each hoping to gain a better understanding of the costs and benefits facing governments that are considering implementing this scheme at the local or national level.

This renewed interest in UBI across the globe is in large part motivated by forecasts coming from organisations such as the World Economic Forum, which predict automation technology will supplant about 85 million jobs by 2025 (Kande & Sönmez, 2020). Many of these jobs losses will be countered by job creation in other sectors, nevertheless, it is the huge economic upheaval that will displace millions of workers (Smith & Anderson, 2017). Some of the political discourse on UBI has centred on whether such an idea is financially viable, while much of the preliminary demographic research has focused on how attitudes to this scheme vary as a function of political orientation, age, gender, or nationality (De Wispelaere & Stirton, 2012; Lee, 2018). This early research has revealed some interesting findings, showing that left-wingers hold more favourable attitudes to UBI than right-wingers, and that younger people also hold more favourable UBI attitudes when compared with their older counterparts (Devlin et al., 2021; Gilberstadt, 2020). The aim here is to extend this demographic research on UBI by examining which moral values underlie people's UBI preferences.

To do so, we approached this in the most direct way possible, by entering individuals' moral value endorsements, along with demographic measures, into a regression model to predict UBI preference. Previous research has shown that attitudes towards several prominent socio-political topics, such as abortion and capital punishment, are most strongly predicted by moral values, which are not intuitively obvious (Koleva et al., 2012). As a first pass, then, we aimed to identify which, if any, moral values might be motivating these demographic differences between younger and older individuals, or between left-wingers and right-wingers. By identifying the moral threads which underlie UBI, the aim was to use this

information to construct a moral reframing intervention around these findings. Previous moral reframing studies both in and outside of the lab have been able to demonstrate that by couching issues in terms of the values relevant to a target audience, attitudes on issues such as economic inequality, environmentalism, voting intentions, and same-sex marriage have significantly improved (Feinberg & Willer, 2013; Feinberg & Willer, 2019; Goldberg et al., 2021; Voelkel & Feinberg, 2018; Wolsoko et al., 2016). Therefore, from an applied perspective, a moral reframing intervention offers potential in helping to improve communication on this topic, for both policymakers and UBI advocates alike.

### **Improving Communication via Moral Reframing**

Despite UBI being significantly more favoured by left-wingers than right-wingers, in practice, basic income programmes have features that appeal to people across the political spectrum (Haagh, 2019; Yang, 2018). For example, those right-of-centre have expressed support for UBI's potential to drastically shrink government bureaucracy, while those left-of-centre have expressed support for UBI's ability to provide a financial floor for all adult citizens (Van Parijs & Vanderborght, 2017). In terms of a moral reframing, the utility in adopting this technique for UBI messaging is that it may help to close the moral empathy gap. As previously noted, theorising based on MFT has shown that people attempting to persuade someone with different values to themselves are prone to focusing on the values that concern them, while ignoring those of their opponent (Graham & Haidt, 2010). UBI discourse may suffer from this same moral empathy gap problem, thereby exacerbating intergroup divisions that might otherwise be relatively minor. Put differently, UBI connects with a plurality of values, but the moral rhetoric surrounding this topic may be constraining its appeal by only addressing a narrow subset of these values. However, if a short moral reframing technique were able to increase UBI preference through identifying and connecting with an audience's moral concerns, this would hold likely significant socio-

political value. Indeed, for many countries the political future of this policy may rest on being voted in by a democratic majority. Consequently, this type of intervention could well bring a great deal of practical utility to a timely issue by helping to improve related social and political communication.

### **Privacy Psychology**

The explosion of surveillance technology throughout the 21<sup>st</sup> Century has meant that privacy has become another timely and controversial sociopolitical issue. One recent landmark piece of reporting by the New York Times found that, over the space of just a few months, 12 million location tracking devices produced 50 billion data points (Thompson & Warzel, 2019). Meaning that, although highly useful and ostensibly anonymous, geolocation devices including mobile phones can easily be triangulated to reveal a person's identity, along with where they live, work, and socialize. Reports like this are producing a growing sense of disquiet among the public as many now feel exposed and unable to maintain a suitable level of personal privacy. For example, a recent global survey found that 53% of respondents felt more concerned about their online privacy than they did just one year ago (CIGI & Ipsos, 2019). Similarly, 81% of Americans reported feeling that data collected about them had associated privacy risks which exceeded any related benefits (Auxier et al., 2019). When combined with numerous other reports relating to data hacking, illegal surveillance, intrusive facial recognition technology, collectively these results show a growing public concern around the perceived erosion of personal privacy (Antón, et al., 2010; Dobber et al., 2019).

This growing issue of protecting one's privacy seemed to me to be a very moralised topic; one which appeared to fit the criteria laid out by Graham et al. (2013) as being its own distinct moral foundation. But as I began to have some doubts over certain theoretical and empirical aspects of the theory – which I will address in the final chapter – I choose to

approach the issue from a slightly different perspective. Looking through the privacy research, I was struck by just how little attention social psychologists had given to studying this topic, although many connected fields, such as communication science, had extensively studied issues relating to people's privacy and surveillance concerns. Among that literature, one of the most cited topics in privacy is the *privacy paradox*, a phenomenon in which people report to care about protecting their privacy but nonetheless go on to behave carelessly when online (Barnes, 2006; Norberg et al., 2007; Gerber et al., 2018). Several different perspectives have been used to explain this apparent paradox, with perhaps the most well-established coming from the 'homo economicus' inspired Privacy Calculus model (Dinev & Hart, 2006; Levitt & List, 2008). Here the user is taken to be a rational, utility maximizer whose online behavior is regulated via a process of reasoned privacy trade-off decisions. The perceived privacy risk of exposing one's personal online information is said to be weighed against the perceived financial, social, or practical benefits of self-disclosure (Dienlin & Metzger, 2016; Kim et al., 2019). Therefore, according to the Privacy Calculus theorizing, the Privacy Paradox is explained by the user ultimately deciding that - despite concerns - if expected benefits of disclosing data outweigh costs, they will share their personal data (Lee & Kwon, 2015).

However, applying the moral intuitionist perspective outlined above, this perspective appeared to attribute too much weight to people's rational decision-making processes. Countering the homo economicus model of the Privacy Calculus, we suggest that the decision-making process underpinning the privacy paradox findings are largely driven by adaptive automatic inference systems, as opposed to rationally considered trade-offs (Haidt, 2001). As evolutionary psychologists have argued, within our ancestral environment, human's cognitive architecture developed specialized inferential mechanisms to solve specific adaptive challenges (Cosmides & Tooby, 1992). For instance, a subjective sense of

social crowding has been shown to increase levels of cortisol, motivating individuals to then seek out personal space to reinstate physiological homeostasis (Vine, 1982; Evans & Wener, 2007). Such adaptations are well-calibrated to automatically respond to reoccurring ecological challenges in our content-rich ancestral past. Yet if modern environments become stripped of recognizable cues, our adapted suite of intuitions no longer trigger the required adaptive response behaviors (Roos et al., 2020; Sbarra et al., 2019). Accordingly, we suggest that the lack of correspondence between online users' intended and actual privacy behaviors can be partially explained by an evolutionary mismatch between our ancestral environment and the modern online environment. Here, the aim was to apply the same functionalist logic from evolutionary psychology and bring it to bear on privacy psychology research.

### **Overview of the Studies**

By outlining the theoretical approach which has informed this project's examination of UBI and privacy psychology, I hope to have highlighted a few key points. Firstly, despite a great deal of historical and contemporary research emphasising the role of rational decision making, rapid, automatic intuitions which adapted to social challenges throughout our ancestral environment often determine moral judgements (Haidt, 2001). This principle runs through each of the four papers, but none more so than paper four. This was written as a theory paper that applies intuitionist logic to counter existing theories in the privacy paradox literature which suggest that our privacy attitudes and behaviours are the product of a reasoned cost-benefit calculus (Dinev & Hart, 2006; Levitt & List, 2008). Secondly, despite the oversized role that care and well-being play in moral cognition, moral concerns extend far beyond harm-based concerns. In Papers 1, 2, and 3, we applied this pluralist approach to examining whether people's moral values predict their UBI preference. By adopting the original foundations as moral predictors, followed by a more granular set of moral measures, we were able to carry out an exploratory set of studies to identify the specific moral values

that are most associated with UBI preference. Thirdly, that UBI is a prime candidate for being morally reframed, as it has features that can appeal variously to several different demographic groups. Moral reframing techniques have shown themselves to have a considerable ability to shift views on important topics. In paper 1 and 3 we adopt this reframing technique, by adopting the moral frames identified in the earlier studies within each of these papers to test if this form of intervention can enhance existing UBI preferences.

In paper 1, focusing on a US sample, we began in Study 1 by measuring how much participants endorsed each of the 5 moral foundations, as measured by the MFQ, as well as participants' UBI preference. We predicted that the strongest unique predictor in the model will come from a moral subscale and not a demographic variable. Additionally, we also expected that the moral foundations would collectively contribute more predictive power to the model than the collective demographic variables. Using hierarchical regression, UBI preference was regressed onto demographic variables, then moral foundations were added in step two, while in step three the interaction effects between the moral values and political orientation were included. Both predictions were supported, with Sanctity emerging as the strongest predictor in the model and the moral foundations holding more predictive power than the demographic variables. The same process was then repeated in Study 2, only with a larger sample and the addition of a more granular set of moral measures. Per Haidt's (2012) suggestion that the fairness foundation that was not sufficiently capturing the full domain range of fairness concerns, we replaced this unitary measure with three separate fairness measures: equality, equity, and procedural justice. We also included a subscale measuring people's desire to be largely free from government interference (economic liberty). Our predictions were again supported, with equality and economic liberty values emerging as the two unique moral predictors of UBI preference among this expanded set of moral predictors. Across both studies, step three in the regressions found nonsignificant interaction effects

between moral value measures and political orientation. Finally, having established economic liberty and equality to be the two moral predictors of UBI preference, we then created a moral reframing intervention. By couching UBI messages in terms of equality or economic liberty we were able to demonstrate that both reframed messages significantly improved UBI attitudes (vs. Control) across a politically mixed sample.

Paper 2 adopted the same experimental design and predictions as Paper 1, although here we focused on different national samples to assess the relationship between moral values and UBI preference. We began with a pilot study which examined which of the original five foundations predicted UBI preference in the UK. As with Paper 1 both predictions were confirmed – the moral foundations predicted more of the overall variance in the model than did demographics, and the authority foundation was found to be the strongest predictor in the model, with higher endorsement of this value predicting lower UBI preference. In Study 1, both a Norwegian and UK sample were assessed using a set of moral measures which replaced the fairness foundation with three subscales: equality, equity, and procedural justice. The economic liberty measure was not included within this study as this measured a form of libertarian political ideology which, unlike the US, is not well represented in Europe and the UK (Iyer et al., 2012). In the UK, the authority finding from the pilot study was replicated, while equality also emerged as a significant predictor, with greater endorsement of equality predicting greater UBI preference. In the Norwegian sample, authority emerged as the only significant moral predictor in the model, with higher endorsement of this value predicting lower UBI preference. As with the US sample, no interaction effects were found between moral values and political orientation in step three of the hierarchical regression model.

In Paper 3, a moral reframing intervention was designed to appeal to the moral values of a UK and Norwegian sample, based upon the moral values previously identified in Paper 2. An additional political reframing condition was included, based on dual identity theory

(Glasford & Dovidio, 2011). The aim here was to avoid using moral rhetoric and instead affirm the political identities of both left-wingers and right-wingers, while highlighting their shared national identity and UBI's ability to improve all Norwegian/UK lives. Yet, despite having previously identified the values which predicted UBI preference in Paper 2, none of the moral reframing conditions increased UBI preference (vs. Control condition). We discuss these results and suggest possible explanations for these nonsignificant findings, then offer suggestions for future research on morally reframing UBI.

In paper 4, we use the Evolutionary Mismatch Hypothesis (Li et al., 2018) to explain the privacy paradox (Kokolakis, 2017). Contrary to some existing explanations which posit that online users stated privacy preferences differ from their revealed preferences because they are ultimately making a rational trade-off decision (Dinev & Hart, 2006; Levitt & List, 2008), we suggest that humans have adapted a suite of privacy intuitions within an interpersonal, ancestral environment, which help guide the management of our social boundaries. However, the online world is stripped of many of the cues necessary to trigger these adaptive privacy intuitions. As such, online users are often left exposed and without access to automatic intuitions which would otherwise help to guide their privacy behaviour in face-to-face contexts. Following this, we discuss the implications of this evolutionary theorising and argue that individual-level improvement in one's privacy management online is an unrealistic solution to this problem. And rather than changing bottom-up user behaviour to align with our evolved privacy intuitions, top-down policy changes should be redesigned to avoid these user-based shortcomings.

In the final chapter, I summarise the main findings and discuss some of the theoretical limitations of MFT's context-free measures of morality. Then, based on this critique of MFT, I then suggest some changes to the moral reframing technique to improve its precision and effectiveness. And finally, I discuss the privacy mismatch's implication for helping to



understand user's online behaviour when managing their personal data and outline possible research empirical projects that could test our theoretical claims.

## **Chapter 2**

### **The Moral Underpinnings of Universal Basic Income in the US**

#### **Chapter Prologue**

Chapter 2 addresses the role of moral values in both informing and affecting peoples' UBI preference in the US. In this chapter, I examine which moral values predict UBI preference and whether moral values are a stronger predictor of this outcome than demographic variables. Following this, I build on existing moral reframing techniques to build a moral reframing intervention based on the values identified in Study 1 and 2 of this chapter. This is the first study, that I know of, to use MFT to examine UBI preference, and the first to apply a moral reframing technique to the topic of UBI.

## **Abstract**

Universal Basic Income (UBI) is gaining international recognition as a policy that could help combat the economic disruption caused by automation technology and COVID-19. Polling data shows that preference for this policy varies substantially by age, political ideology, and other demographic variables. However, very little research has examined the moral values underpinning these demographic differences. Assessing UBI preference among US participants, Study 1 ( $N = 122$ ) and Study 2 ( $N = 146$ ) found moral predictors outperform demographic predictors. Equality and economic liberty values emerged as the unique moral predictors of UBI preference. Study 3 ( $N = 138$ ) then applied a moral reframing technique, couching UBI information in terms of equality or economic liberty. Results found that both messages significantly improved UBI attitudes (vs. Control) among a politically mixed sample. These studies reveal the moral values underpinning UBI preference and how they can be harnessed to improve political communication on this topic.

## **The Moral Underpinnings of Universal Basic Income in the US**

First suggested in the 16<sup>th</sup> century, reenergised in the 20<sup>th</sup> century, and globally recognised in 2020 – UBI has transformed from a once radical idea into a mainstream social welfare policy alternative. The idea itself is relatively simple: every adult citizen receives a modest, unconditional monthly sum of money (roughly \$500 - \$1000) from the government, irrespective of employment status. Advocates of the scheme claim that its introduction to the US and elsewhere would: stimulate the economy; drastically reduce social welfare bureaucracy; and provide a financial floor, pulling everyone above the poverty line (Yang, 2018). It is for these reasons that some economists, industry leaders, and politicians now regard the scheme as a pragmatic way to buffer national citizens against ongoing economic disruption (Haagh, 2019; Van Parijs & Vanderborght, 2017). However, other experts claim that implementing UBI across the US would be economically inefficient and socially ineffective (Hoynes & Rothstein, 2019).

A recent US PEW poll found that UBI divided opinion among nonexperts too: 66% of Democrats favoured UBI, compared to just 22% of Republicans (Gilberstadt, 2020). The poll also found young people favouring UBI at a rate of around two-to-one – a rate far greater than their older counterparts. Suggesting that while public and political discourse over UBI is growing, appetite for the scheme varies considerably across certain demographic groups. Indeed, research on this topic has generally focused on how UBI attitudes vary as a function of broad demographic variables such as political orientation, age, and gender (Reinhart, 2018; Smith & Anderson, 2017). Yet a vast literature in both moral and political psychology research has found that public attitudes to politically and culturally relevant topics – like UBI – are motivated in large part by moral concerns (see, Harper & Hogue, 2019; Koleva et al., 2012; Skitka, 2010; Voelkel & Feinberg, 2018). Therefore, the present study aims to go beyond just examining broad demographic measures, instead we also examine which moral

values predict people's UBI preference. In turn, we then use these findings to design an intervention whereby UBI messages are couched in morally relevant terms. Thereby allowing us to examine whether targeted, morally reframed messages affect participants' UBI preferences. Previous research has found that morally reframing divisive topics (e.g. environmentalism) can be an effective technique for improving communication and avoiding morally polarising rhetoric (Markowitz & Shariff, 2012; Wolsko, 2017).

### **Automation, COVID-19, and Universal Basic Income**

Due to the rapid rise in automation and artificial intelligence, many economists foresee technological advances as posing a significant threat to global unemployment over the next decade (Acemoglu & Restrepo, 2019; Frey & Osborne, 2017). Here the term 'automation' simply refers to any task that a technology performs instead of humans, such as driverless cars or self-service checkouts. Estimations of automation's impact to the economy vary, but several large-scale reports predict that this technological transition will have a sizeable impact on the labour market. Notably, the McKinsey Institute forecast that up to 30% of global working hours could be lost to automation by 2030 (Manyika et al., 2017). While another large-scale report predicted that 20 million manufacturing jobs worldwide could be automated by 2030 (Oxford Economics, 2019).

Following the COVID-19 pandemic these dramatic near-term predictions of rising unemployment have been brought nearer still. Many citizens unable to work from home have seen their job role downsized or terminated because of restrictions aimed at curbing the transmission of the virus (Nicola et al., 2020). In the US, this has led to record numbers filing for unemployment as the country faces its worst economic downturn since the Great Depression (Schwartz, 2020). Moreover, a significant second-order effect of the pandemic has been to incentivise even more businesses and corporations to automate jobs, so as to

lessen their reliance on a precarious human workforce (Coombs, 2020). Together these disruptive technological and socio-political factors place enormous pressure on the present social welfare system. In response, this has led to renewed calls for the federal government to consider implementing some form of basic income programme (Cowen & Kasparov, 2020; Reinhart, 2018).

This idea of providing citizens with a financial buffer against economic disruption in the form of a basic income is far from new. From early advocates such as social philosopher, Thomas More (1551/ 1912) and American revolutionary, Thomas Paine (1796/ 2000), through to modern economist such as, Milton Friedman (2009), have all argued for such a scheme. While more recently, Andrew Yang's 2020 US presidential election bid reintroduced the idea of UBI to the US – if elected, every adult aged US citizen would have received an unconditional \$1000 per month, in accordance with his proposal (Yang, 2018). Based on Yang's UBI policy, the Spanish government has implemented a guaranteed monthly income for around 100,000 citizens to obviate some of the financial hardship caused by COVID-19 and is working towards scaling up to a larger, permanent UBI programme (Colson, 2020). In addition, many UBI trials are either complete or underway, in Finland, Scotland, USA, Canada, Kenya, and many more locations worldwide (Banerjee et al., 2019).

Amidst this rise of automation and the ongoing global pandemic, calls to introduce UBI have grown, prompting many lively, moralistic debates (Hamilton & Martin-West, 2019; Hemsley, Garcia-Murillo & MacInnes, 2018; Parolin & Siöland, 2020; Van Parijs, 2004). Yet so far, research has tended to overlook moral issues, focusing instead on how UBI attitudes vary as a function of basic demographic factors (Reinhart, 2018; Lee, 2018; Smith & Anderson, 2017). But as intriguing as these findings are, they offer little insight into *why* this type of social welfare policy divides the young and old, liberals and conservatives, Americans and Europeans (Gilberstadt, 2020). But by identifying the moral issues

underpinning UBI debates, valuable additional insight could be gained for policymakers and advocate groups alike (Hoynes & Rothstein, 2019). Indeed, when Harper and Hogue (2019) examined another controversial political topic – Britons voting intentions for Brexit – they found that demographic variables offered limited predictive power, while moral concerns relating to people’s welfare and personal liberty were shown to be far stronger predictors. Similarly, other studies have shown moral concerns to be the central motivating force driving people’s attitudes and behaviour on a range of substantive issues, including voting behaviour (Skitka & Bauman, 2008), charitable giving (Nilsson, Erlandsson & Västfjäll, 2020) and behavioural compliance during the COVID-19 pandemic (Chan, 2021). Therefore, given the primacy of morality in social and political decision-making (Gantman & Van Bavel, 2015), we aim to extend the research focus of UBI by examining whether moral motives are predictive of people’s preference for the scheme.

### **Moral Foundations Theory**

An influential, pluralistic model of moral psychology known as Moral Foundations Theory (MFT; Haidt & Joseph, 2004; Haidt, 2012) identifies six ‘Foundations’ of universal morality, which, it argues, make up the human moral domain (see Table 1). The core tenets of MFT are: intuitive moral judgements precede rational decision-making; morality is multidimensional and cannot be reduced to just one moral construct (such as harm or justice); and finally, across different groups and cultures, endorsement of the Moral Foundations can vary (Graham et al., 2013; Haidt, 2001). MFT researchers propose a set of evolved mental structures, or ‘Moral Foundations’, which allow individuals to make rapid intuitive moral judgements. Each foundation is said to have developed in response to reoccurring ancestral challenges, functioning to coordinate adaptive responses to suppress selfishness and increase group cohesion (Graham et al., 2013). MFT argues that people across a range of different cultures all share these innate mental structures. Yet due to the modifying effects of cultural,

social, and environmental pressures, a diverse set of moral communities can emerge from these six Foundations.

**Table 1**

*Descriptions of the Moral Foundations*

Moral Foundation	Description
Harm	The desire to defend others from harm, based on feelings of care and compassion – the origins of which are said to derive from our evolutionary history of nurturing for offspring.
Fairness	Issues relating to unjust treatment of oneself or others, as well as more abstract principles of justice – aligns with the reciprocal principles outlined in law of karma.
Loyalty	Associated with concern for the in-group, including feelings of pride, identity, and solidarity to one's group – originating from our tribal evolutionary past.
Authority	A motivation to uphold and respect traditions and social hierarchies – based on beliefs in maintaining social order through structure and deference to authority.
Sanctity	Concerns relating to maintaining physical and mental purity by evading pathogens and exercising self-control - based on feelings of disgust which triggers the avoidance of contact with pathogens through unhygienic objects, or other groups of people who are considered impure or immoral.
Liberty	A desire to break free from oppression. Maintaining autonomy and freedom, both socially and economically – based on an aversion to domination from leaders or oppressors within the group.



In terms of differing moral domains, the most influential and robust findings in MFT literature lie between liberals and conservatives (Graham et al., 2011). According to the theory – and as measured by Moral Foundations Questionnaire (MFQ) – left-leaning morality is primarily concerned with social justice, and as such, liberals generally score slightly higher on the Care and Fairness Foundations (Graham et al., 2011), while right-leaning morality tends to place more focus on maintaining social order, and as such, conservatives tend to score higher on the Loyalty, Authority and Sanctity Foundations (Graham et al., 2013; Reynolds, Makhanova & Conway, 2020). More recently, Liberty has been provisionally added as a sixth Foundation, and though this Foundation is said to be valued by both liberals and conservatives, the type of liberty they endorse differs (Haidt, 2012). For Liberals, liberty concerns are generally characterised by the desire to protect vulnerable groups from the oppression of powerful groups – what will from now on be referred to as ‘social liberty’, while for US conservatives, liberty is better described as a desire to be largely free from government interference – what will now be referred to as ‘economic liberty’ (Haidt, 2012; Iyer et al., 2012). Accordingly, we expect people’s UBI preference will be influenced by whether they interpret the scheme as aligning with or opposing their moral and ideological values. Therefore, the aim of Study 1 and 2 is to identify which specific moral values predict UBI preference.

### **Moral Reframing**

Several social science researchers have created interventions which have been shown to significantly reduce partisan bias on a variety of cultural and political topics (Feinberg & Willer, 2015; Whitmarsh & Corner, 2017). These interventions have built upon Haidt’s (2012) insight that, if the goal is to improve communication across the moral and political divide, then speaking *to* your political opponent’s values, rather than *from* your own, can be more impactful and persuasive approach (Nisbet et al., 2012). For instance, levels of concern

relating to the impact of climate change have traditionally been higher among liberals than conservatives (Markowitz & Shariff, 2012). But through reframing environmentalism in conservative values such as patriotism (e.g. ‘looking after your country is a patriot duty’), researchers found that this type of intervention was able to reduce or even eliminate attitudinal differences between US liberals and conservatives (Feinberg & Willer, 2013; Wolsko, 2017). In Study 3 we will apply a similar reframing technique by morally reframing UBI to align with the values identified in Study 1 and Study 2, so we can then measure its effects on participants’ UBI preference.

### **The Current Studies**

Study 1 used the original MFQ to examine whether scores on the original five Moral Foundations, as well as demographic variables, predicted UBI preference. Study 2 followed the same procedure, although here the moral subscales were broadened. The MFT creators have acknowledged that the original Fairness Foundation does not properly capture the various dimensions of fairness, nor does it accommodate moral concerns relating to liberty/oppression (Graham et al., 2013; Haidt, 2012). As such, Study 2 replaced the original Fairness Foundation with three separate fairness subscales (Equality, Equity, and Procedural Justice), as well as adding a measure of Economic Liberty.

Study 1 and 2 were exploratory and therefore no directional predictions were made about the moral values and their relationship with UBI preference. However, based on previous findings we expected the moral measures to be stronger predictors than the demographic measures.

H1a: In Study 1 and 2, the strongest unique predictor in the model will come from a moral subscale and not a demographic variable.

H1b: In Study 1 and 2, the moral subscales will collectively contribute more predictive power to the model than the collective demographic variables.

After answering the first research question – which, if any, moral values predict UBI preference? – we then created a moral reframing exercise based on the findings of Study 2. In Study 3, we aimed to examine whether couching UBI messaging in the moral values identified by the previous study would boost UBI preference (vs. a control message). Importantly, given the lack of interaction between moral values and political ideology in either Study 1, 2, or 3, unlike previous moral reframing studies, we did not analyse liberals and conservatives separately.

## **Method**

### **Study 1**

Using a multiple regression analysis, Study 1 aimed simply to measure individuals' overall UBI preference and then examine how well this was predicted by demographic variables and scores on the MFQ. Several additional items relating to UBI attitudes were also included within the study (see Appendix 1 for exploratory analysis using Moral Foundations to predict UBI attitudes).

### **Participants**

From an original sample of 363, the final sample consisted of 122 participants following data screening. Participants were excluded from the analysis for: failing one or both MFQ attention checks; because they answered “don’t know” when asked about their overall UBI preference or political orientation; if they reported their nationality to be outside of the US; for answering “other” for Gender”; or for not completing the relevant items. The ages of the final sample ranged from 18 to 84, with 58 males, 64 females ( $M = 42.54$ ,  $SD = 15.62$ ) (see Table 3). Recruitment was first carried out by contacting various community

groups using social media platforms. The remaining participants were collected using Prolific, a popular online recruitment platform. Prolific has been shown to be superior to other crowdsourcing platforms on a set of criteria including response rate, internal reliability, naivety, and dishonesty (Peer, Brandimarte, Samat & Acquisti, 2017). The analyses were exploratory in nature, and so we did not conduct an *a priori* power analysis, instead we simply aimed to collect as many participants as we could within our time and budgetary constraints.

## **Procedure**

All participants were invited to take part by clicking on a shared link posted online which led to a consent form. The survey was then divided into three sections: in Part One, participants completed demographic items; Part Two required participants to fill out the 30-item MFQ; Part Three began with a short passage describing the concept of UBI, followed by a brief video (1 min, 40 secs) summarising the three main pros and cons of UBI (see OSF link for video). We pre-tested this UBI information for political bias on a small pilot sample ( $N = 31$ ). On a 5-point Likert scale, results of a one-sample t-test found no significant difference from the midpoint (3): 1 = ‘very right-wing biased’, 5 = ‘very left-wing biased’, mean = 3.10, standard deviation = .30,  $t(30) = 1.79$ ,  $p = .083$ . Participants were then asked to rate their agreement with a battery of UBI-related statements, including UBI preference. This study received ethical approval prior to data collection.

## **Measures**

### ***Demographic Questionnaire and UBI Preference Items***

Participants were asked for information relating to their age, gender, and education level (measured using a 7-point Likert scale). Political orientation was measured using a single-item, measured using a 7-point Likert scale. Previous research has found that Moral

Foundation scores significantly predict political orientation (and vice versa), therefore, we measured political orientation to investigate whether it significantly interacted with the Moral Foundations to predict UBI preference (see Results) (Franks & Scherr, 2015; Hatemi et al., 2019).

To measure the outcome variable (UBI preference) the following item was used: “Imagine that the government does one day introduce a form of Universal Basic Income. Each person - working or not - receives a modest monthly payment, just enough so that nobody lives below the poverty line (roughly \$1000). Overall, how would you feel about a scenario like this?”. Participants scored their preference on a 7-point Likert scale. These items were included within a larger questionnaire which contained several exploratory items (see OSF link for online supplementary materials).

### ***Moral Foundations Questionnaire***

The 30-item MFQ was used to measure how much participants endorsed each of the original five Foundations. The first half of the scale measured moral relevance (e.g. “Whether or not someone showed a lack of respect for authority”), while the second half of the scale measured moral judgements (e.g. “It can never be right to kill a human being”). Two attention check items were also embedded within the questionnaire. Each Moral Foundation score represents the mean value of the total 6-item subscale responses.

One of the MFQ internal reliability scores was found to be below the 0.7 threshold (see Table 2). However, this aligns with several other previous studies using the same scale (Harper & Hogue, 2019; Koleva, et al., 2012). These relatively low internal consistency coefficients are, in part, due to the design of the MFQ: item clusters were created to maximise coverage of each Foundation’s construct domain, rather than to maximise the internal consistency of the survey (see Federico et al., 2013; Graham et al., 2011).

**Table 2**

*Study 1 Internal reliability scores for the Moral Foundation.*

Subscale	$\alpha$
Harm	.69
Fairness	.70
Loyalty	.71
Authority	.79
Sanctity	.84

## Results

A three-step hierarchical regression was used to test whether the Moral Foundations could predict overall UBI preference above and beyond demographic variables. In the first step of the analysis, UBI preference was regressed onto Age, Gender, and Education. In the second step, the five Moral Foundations were added to the model: Care, Fairness, Loyalty, Authority, and Sanctity. In the third-step, political orientation and its interactions with the Moral Foundations were added to the model. The correlations between Loyalty, Authority, and Sanctity were high, although the VIF statistics were all below 5, indicating that multicollinearity did not bias the model (see James et al., 2013) (see Table 3). Participants with missing data were excluded through listwise deletion.

Step one explained a significantly greater amount of the variance in UBI preference compared to a null model, accounting for 7.3% (Table 4). Gender was a significant predictor,

with females reporting lower overall UBI preference than males. While neither participants' age nor level of education predicted overall UBI preference.

Step two confirmed H1b, as the introduction of the Moral Foundations explained a further 29.6% of the variance in overall UBI preference, with Sanctity emerging as the strongest unique predictor in the model, confirming H1a; those with greater endorsement of the Sanctity foundation had lower UBI preference.

Step three showed that while Political Orientation was a significant predictor of UBI preference ( $\beta = -.415, p < .001$ ), no significant interaction effects were found between Political Orientation and the Moral Foundations. Results for step-three revealed a significant improvement to the model, driven by the main effect of political orientation,  $\Delta R^2 = .092, F(6, 107) = 3.05, p = .008$  (see online Appendix A for step-three).

**Table 3***Zero-order Correlations for Study Variables and Descriptive Statistics in Study 1.*

Variables	1	2	3	4	5	6	7	8	9	10
1. UBI Preference <sup>a</sup>	—	-.09	-.26**	.00	-.56**	.05	.18	-.34**	-.44**	-.51**
2. Age		—	.09	.42**	-.13	.07	.18	-.13	-.06	-.04
3. Gender <sup>b</sup>			—	.10	-.02	.33**	.13	.09	.08	.14
4. Education <sup>c</sup>				—	-.25**	.02	.02	-.18	-.16	-.12
5. Political Orien. <sup>d</sup>					—	-.17	-.27**	.49**	.65**	.65**
6. Harm <sup>e</sup>						—	.56**	.03	.01	.12
7. Fairness <sup>e</sup>							—	-.12	-.09	-.03
8. Loyalty <sup>e</sup>								—	.75**	.69**
9. Authority <sup>e</sup>									—	.76**
10. Sanctity <sup>e</sup>										—
<i>M</i>	4.42	42.54	—	4.95	3.39	4.62	4.68	3.31	3.68	3.27
<i>SD</i>	2.30	15.62	—	1.29	2.16	0.78	.74	0.89	1.00	1.29

\*  $p < .05$ . \*\*  $p < .01$ .<sup>a</sup> Scale ranged from 1-7 with higher numbers indicating greater preference.<sup>b</sup> M = 1, F = 2.<sup>c</sup> Scale ranged from 1-7 with higher numbers indicating higher education.<sup>d</sup> Scale ranged from 1-7, 1 = “very left-wing, 7 = “very right-wing”.<sup>e</sup> Scale ranged from 1-6 with higher numbers indicating greater moral endorsement.



**Table 4**

*Two-step Hierarchical Linear Regression Predicting UBI Preference from Demographics and Moral Foundations in Study 1.*

Variables	Step 1		$\beta$	$p$	Step 2		$\beta$	$p$
	$B$	$SE\ B$			$B$	$SE\ B$		
Age	-.013	.014	-.089	.364	-.017	.012	-.115	.176
Gender	<b>-1.167</b>	<b>.409</b>	<b>-.255</b>	<b>.005</b>	<b>-1.069</b>	<b>.368</b>	<b>-.234</b>	<b>.004</b>
Education	.107	.175	.060	.541	.004	.150	.002	.978
Harm					.267	.282	.091	.345
Fairness					.525	.289	.168	.072
Loyalty					.313	.311	.121	.317
Authority					-.388	.302	-.170	.202
Sanctity					<b>-.798</b>	<b>.216</b>	<b>-.447</b>	<b>.000</b>
Model overview	$R^2 = .073, F(3, 118) = 3.09, p = .030$				$R^2 = .369, F(8, 113) = 8.27, p < .001$			
$R^2$ change					$\Delta R^2 = .296, F(5, 113) = 10.61, p < .001$			

*Note.* Bold font indicates predictors with significant  $p$ -values.

## Discussion

Study 1 revealed an association between two predictor variables and overall UBI preference: Sanctity and Gender. Sanctity emerging as the only significant moral predictor in the model was somewhat unexpected given that fairness is ostensibly a value more closely aligned with the topic of social welfare. However, as previous research has shown, Sanctity/Purity concerns often inform people's thinking on several cultural issues where alternate Foundations may intuitively seem more relevant (Horberg et al., 2009; Koleva et al.,

2012). Also, female participants were shown to hold more negative attitudes towards UBI's introduction when compared to male participants. This, too, was an unexpected finding, although not the focus of the present study.

Sanctity negatively predicting UBI preference may be suggestive of people's belief that working for a living is sacrosanct, and that UBI represents a threat to the national work ethic. As a Foundation, Sanctity is closely tied both conceptually and empirically to religion and divinity (Graham & Haidt, 2010). It may well be the case that for some, the concept of UBI poses a threat to the Protestant work ethic, without necessarily being tied to the specific religious tenets of Protestantism (Alaoui & Sandroni, 2018; Ali et al., 1995). Indeed, although we did not explicitly measure whether participants viewed work as having sacred value, some of our exploratory items suggest that those scoring higher on Sanctity believe that UBI will lead to a moral decline. Statements such as "UBI would encourage a lack of self-control by increasing laziness" and "drug and alcohol consumption" showed a highly significant positive association with endorsement of the Sanctity Foundation (see OSF link).

Finally, it is also possible that the nonsignificant finding of the Fairness Foundation in Study 1 may be an artefact of the MFQ itself. The MFT creators have more recently acknowledged that their original fairness measures are weighed too heavily on equality, and largely omit equity, as well as other forms of fairness, such as procedural justice (Haidt, 2012). Consequently, in Study 2 a more fine-grain set of measures will be adopted: the original Fairness Foundation subscale will be replaced with three new subscales covering distributive justice (Equality and Equity) and procedural justice (i.e. the transparency and fairness of the process which decides who gets what). Also, Liberty/oppression has since been added to the theory as a provisional sixth Foundation – MFT researchers have suggested that freedom from oppression should be regarded as its own distinct Foundation (Haidt, 2012). Given that UBI would be a large-scale government intervention, for Study 2 we chose

to include two Economic Liberty items drawn from a larger liberty scale to measure this relevant aspect of liberty concern (see Iyer et al., 2012).

## **Methods**

### **Participants**

From an initial sample of 218, following data screening, the final sample consisted of 146 participants. The same exclusion criteria were applied as in Study 1. The ages of the final sample ranged from 18 to 84, with 85 males, 61 females ( $M = 38.38$ ,  $SD = 10.59$ ) (see Table 6). Participants were again recruited via Prolific. The analyses were exploratory in nature, and so no *a priori* power analysis was carried out. Instead, we simply collected as many participants as possible within our time and budgetary constraints.

### **Procedure**

All participants were invited to take part in our online survey by clicking the shared questionnaire link. Respondents were first directed to a consent form which provided an outline of the study. In Part One participants completed demographic items. In Part Two participants were asked to fill out the updated 34-item moral values survey. In Part Three participants read the same short passage outlining the main details of UBI, followed by the same short video shown in Study 1. They were then asked to rate their agreement with a battery of UBI-related statements, including their overall UBI preference. The questionnaire received ethical approval prior to any data collection.

### **Measures**

#### ***Demographic Questionnaire***

To measure political orientation this time we used 2 items, measuring both social and economic political orientation on a 7-point Likert scale. A Spearman-Brown correlation

between these two items was found to be high ( $= .89$ ; see Table 5 for all reliability scores) As such, these items were collapsed into a single composite measure of mean political orientation. Otherwise, all demographic items remained the same as Study 1.

### ***Moral Values Questionnaire***

An updated 34-item questionnaire was used which consisted of additional items; the original Fairness Foundation scale was replaced by a separate Equality, Equity, and Procedural Justice subscale (taken from Meindl et al., 2019). A 2-item measure of Economic Liberty was also included (e.g. “The government interferes far too much in our everyday lives”, taken from Iyer et al., 2012). These additional subscales were added to the original version of the MFQ to assess the degree to which participants endorsed: Equality, Equity, Procedural Justice, Economic Liberty, Harm, Authority, Loyalty, and Sanctity. Some of the internal reliability scores were below the 0.7 threshold (see Table 5), but as previously mentioned, these relatively low internal consistency coefficients are consistent with previous findings (Graham et al., 2011).

**Table 5**

*Internal Reliability Scores for the Moral and Demographic Subscales in Study 2.*

Subscale	$\alpha$
Care	.62
Loyalty	.81
Authority	.74
Sanctity	.87
Equality	.72
Equity	.87
Procedural Justice	.76 <sup>a</sup>
Economic Liberty	.58 <sup>a</sup>
Political Orientation	.89 <sup>a</sup>

<sup>a</sup> indicates 2-item subscales calculated using Spearman-Brown formula.

## Results

A three-step hierarchical linear regression was used to predict overall UBI preference. In Step one, Age, Gender, and Education were added to the model. In Step two the eight moral values subscales were included to assess their additive effect predicting UBI preference. In Step Three, Political Orientation and its interactions with the moral value scores were added to the model. As with Study 1, despite Loyalty, Authority, and Sanctity being highly inter-correlated, the VIF score was below 5 (see James et al., 2013) (Table 6).

Step One was significant, explaining 9.6% of the variance (see Table 7). Age was a significant predictor, with younger participants showing greater UBI preference.

At Step Two, the updated set of moral values subscales significantly improved the predictive power of the model, explaining an additional 36.3% of the variance, supporting H1b. Economic Liberty was shown to be the strongest unique predictor in the model, supporting H1a. Those who had greater endorsement of Economic Liberty had significantly lower preference for UBI. Conversely, those scoring higher on Equality showed significantly higher UBI preference.

Step-three did not significantly improve the model,  $\Delta R^2 = .061$ ,  $F(9, 125) = 1.77$ ,  $p = .080$ . The main effect of Political Orientation was significant ( $\beta = -.339$ ,  $p = .001$ ), but there were no significant interaction effects between Political Orientation and the moral predictors (see online Appendix B). Finally, Economic Liberty and Age held as significant predictors in the model, trending in the same direction, while Equality became nonsignificant.

**Table 6***Zero-order Correlations for Study Variables and Descriptive Statistics in Study 2.*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. UBI pref. <sup>a</sup>	—	-.29**	-.08	.09	-.61**	.14	-.36**	-.45**	-.37**	.00	.40**	.05	-.51**
2. Age		—	.12	-.01	.16	.11	.05	.04	.10	-.01	-.11	.00	.17*
3. Gender <sup>b</sup>			—	.11	.00	.31**	-.02	.07	.06	-.04	.11	.02	.03
4. Education <sup>c</sup>				—	-.24**	.01	.09	.00	-.02	.14	.23*	.12	-.19*
5. Politics <sup>d</sup>					—	-.13	.52**	.57**	.51**	.04	-.46**	-.10	.47**
6. Care <sup>e</sup>						—	.05	.01	.14	.20*	.58**	.39**	-.23**
7. Loyalty <sup>e</sup>							—	.71**	.59**	.37**	-.16	.11	.24**
8. Authority <sup>e</sup>								—	.70**	.19*	-.20*	.07	.27**
9. Sanctity <sup>e</sup>									—	.18*	-.11	.00	.18*
10. Equity <sup>e</sup>										—	.34**	.55**	.11
11. Equality <sup>e</sup>											—	.57**	-.36**
12. Procedural <sup>e</sup>												—	-.02
13. Eco Liberty <sup>e</sup>													—
<i>M</i>	4.46	38.38	—	3.98	3.52	4.55	3.34	3.67	3.11	3.55	4.25	4.40	3.96
<i>SD</i>	2.11	10.59	—	1.34	1.80	1.02	.95	.86	.94	1.07	1.00	1.06	.95

\*  $p < .05$ . \*\*  $p < .01$ .<sup>a</sup> Scale ranged from 1-7 with higher numbers indicating greater preference.<sup>b</sup> M = 1, F = 2.<sup>c</sup> Scale ranged from 1-7 with higher numbers indicating higher education.<sup>d</sup> Scale ranged from 1-7, 1 = “very left-wing, 7 = “very right-wing”.<sup>e</sup> Scale ranged from 1-6 with higher numbers indicating greater moral endorsement.

**Table 7**

*Two-step Hierarchical Linear Regression Predicting UBI Preference from Demographics, Moral Foundations for Study 2.*

Variables	Step 1				Step 2			
	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>
Age	<b>-.057</b>	<b>.016</b>	<b>-.285</b>	<b>.001</b>	<b>-.036</b>	<b>.013</b>	<b>-.182</b>	<b>.007</b>
Gender	-.237	.345	-.055	.494	-.228	.297	-.053	.443
Education	.144	.127	.091	.259	-.030	.109	-.019	.782
Care					.049	.257	.017	.847
Loyalty					-.138	.211	-.067	.514
Authority					-.394	.243	-.176	.107
Sanctity					-.198	.157	-.119	.209
Equity					.190	.155	.105	.222
Equality					<b>.543</b>	<b>.230</b>	<b>.247</b>	<b>.020</b>
Procedural					-.287	.183	-.142	.119
Eco. Liberty					<b>-.554</b>	<b>.131</b>	<b>-.317</b>	<b>.000</b>
Model overview	$R^2 = 0.096, F(3, 142) = 5.01, p = 0.002$				$R^2 = 0.459, F(11, 134) = 10.33, p < 0.001$			
$R^2$ change					$\Delta R^2 = 0.363, F(8, 134) = 11.24, p < 0.001$			

*Note.* Bold font indicates predictors with significant *p*-values

## Discussion

As with Study 1, moral values were again able to predict UBI preference above and beyond demographics alone. The demographic predictors in step-one revealed that older participants reported feeling less positive about the idea of UBI than younger participants; a finding which matches with recent US polling data (Gilberstadt, 2020; Gallup, 2018). In



terms of moral predictors, unlike Study 1, Sanctity no longer predicted UBI preference. Instead, Equality and Economic Liberty were shown to be significant predictors, each of which were associated with opposing attitudes towards UBI. Those who more strongly endorse Equality had more favourable attitudes to UBI. While those more supportive of Economic Liberty (minimal government intervention) were less in favour of the scheme. H1a and H1b were again supported: Economic Liberty was found to be the strongest predictor in the model, and the collective addition of the moral value subscales accounted for more variance in the model than did demographics. Also revealing that when a more granular set of fairness and liberty measures replace the unitary Fairness foundation, equality and economic liberty appear to be the primary moral motivators of UBI preference.

Having identified the specific moral values underpinning UBI preference, we next designed a moral reframing intervention which targeted these values. By creating a UBI message which emphasised how UBI is compatible with either Equality or Economic Liberty, we aimed to examine whether this reframing technique would increase participants' preference for UBI.

### **Study 3**

Based on the specific moral values identified in the previous study, UBI is an ideal topic for reframing in terms of both equality and economic liberty. By providing each adult citizen with the same sum of money, irrespective of circumstance, the scheme aligns with the principles of equal distribution. But also, as UBI can actually reduce government intervention and bureaucracy by eliminating the need for a complex means testing system, the scheme also aligns with principles of economic liberty. Furthermore, our results have shown that while UBI attitudes are politically divided, they are not morally divided. That is, neither Sanctity in Study 1, nor Equality or Economic Liberty in Study 2 were shown to interact with

political orientation when predicting UBI preference (see online Appendix A and B). As such, our experimental conditions will be presented to a politically mixed sample and examined as politically mixed sample.

Many moral reframing studies have previously constructed their appeals based on MFT research findings regarding differences between liberal and conservative moral domains. For instance, Feinberg and Willer (2013) found that by morally reframing environmentalism in terms of Sanctity/Purity – a value more strongly endorsed by conservatives – they were able to increase conservative pro-environmentalism attitudes to a roughly equivalent level as liberals. However, in the present study, rather than appealing to values which are theoretically synonymous with either liberals or conservatives, we designed morally reframed messages based on the results of Study 1 and 2. Given that no moral divisions were found between liberals and conservatives when predicting UBI, Study 3 aimed to assess whether targeted moral messaging can increase UBI preference irrespective of political orientation.<sup>1</sup>

H2a: after reading an equality based UBI message, participants would hold more favourable attitudes towards the idea of scheme being introduced in the US (vs. a morally neutral control message).

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<sup>1</sup> Anticipating a moral divide among liberals and conservatives, we had prepared an additional reframing message based on Dual Identity Theory (Glasford & Dovidio, 2011). This was designed to avoid evoking any potentially ideologically divisive moral rhetoric by focusing on participants shared national identity. However, as no differences were found across moral values between liberal and conservatives in Study 1 or 2, the Dual Identity condition was not included in Study 3 (see OSF link for Dual Identity results).

H2b: after reading an economic liberty based UBI message, participants would hold more favourable attitudes towards the idea of scheme being introduced in the US (vs. a morally neutral control message).

## **Methods**

### **Participants**

Recruiting via Prolific, 138 participants took part in the moral reframing exercise. Ages ranged from 18 to 79 (60 males, 78 females),  $M = 38$ ,  $SD = 14.21$ . The sample consisted of a politically mixed group of participants: 49% left-of-centre; 5% centre; 46% right-of-centre. As no appropriate effect size could be drawn from previous moral reframing research – because all models contained political orientation – we chose a medium effect size ( $f^2 = .15$ ). Using G\*Power software package, with power set at 80%, a minimum sample size of 68 was required to detect a medium effect size. Again, our final sample size was dictated by time and budgetary constraints.

### **Materials and Procedure**

In Part 1 participants completed the same demographic questionnaire as Study 1 and Study 2. Part 2 introduced the moral reframing exercise, in which participants were randomly assigned to read one of three messages about UBI: Control, Equality, or Economic Liberty. The Control message consisted of a short passage describing the main details of UBI along with two accompanying pictures which displayed information about the rise in automation machinery and UBI trials worldwide (unique to Study 3). The remaining two experimental conditions also received the exact same message prior to then reading an additional morally reframed message.

For the Equality condition, participants then read about the ways in which UBI could improve inequality in the US by pulling every adult citizen above the poverty line. For the

Economic Liberty condition, the message explained how UBI would shrink government bureaucracy related to social welfare and allow people to gain more financial independence. Each message followed the same structure and was of similar length, with each message being paired with two related images (see OSF link). In Part 3 participants UBI preference was measured with the same item used in Study 1 and Study 2. Finally, a battery of other UBI-related morality-based questions were included, followed by a debrief message.

## Results

To examine the effects of the reframing messages we conducted a multiple regression analysis, entering dummy-coded variables representing Equality and Economic Liberty (Control as the reference group) as predictors, with UBI preference as the outcome variable (see Table 8). The analysis revealed that those reading the equality based UBI message reported greater UBI preference ( $M = 5.26$ ,  $SD = 1.88$ ) than those reading the morally neutral Control message ( $M = 4.50$ ,  $SD = 1.94$ ), confirming H2a (See Figure 1). Similarly, H2b was confirmed, as participants reading the economic liberty-based message also reported significantly higher UBI preference ( $M = 5.38$ ,  $SD = 1.74$ ) when compared with those in the Control condition. Finally, there were no significant difference between the Equality reframing condition and the Economic Liberty condition on UBI preference,  $t(90) = .21$ ,  $p = .173$ . As with Study 1 and Study 2, we checked for interactions between moral predictors and Political Orientation, and again found no significant effects (See online Appendix C).

**Table 8**

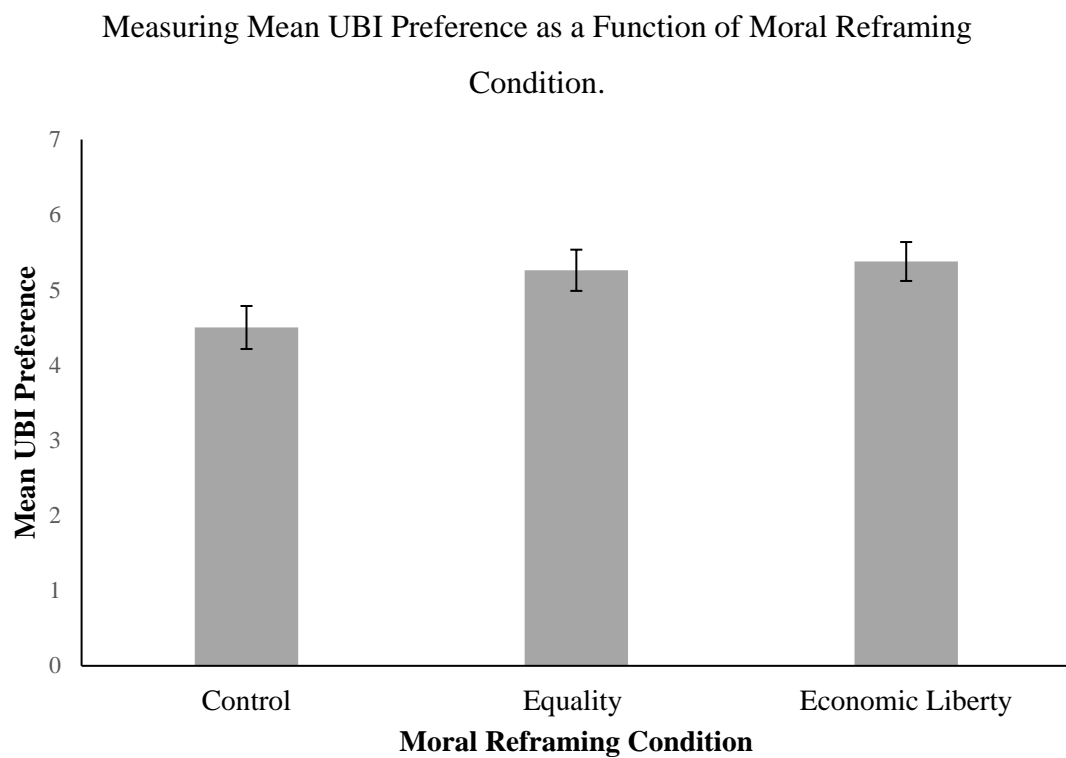
*Multiple Regression Predicting UBI Preference from Equality and Economic Liberty*

*Conditions in Study 3.*

Variables	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>
Constant	4.391	.203		.000
Condition: Equality	.798	.384	.202	.040
Condition: Liberty	.878	.389	.219	.026

Model overview:  $R^2 = .045$ ,  $F(2, 135) = 3.15$ ,  $p = .046$

*Note.* Control condition as the reference group.



*Figure 1.* Mean UBI preference for moral reframing exercise. Error bars represent  $\pm 1$  SEM.

## **Discussion**

Consistent with hypothesis H2a and b, participants' reading either the morally reframed Equality or Economic Liberty UBI message reported significantly higher UBI preference scores (vs. Control group). These findings reveal that the addition of just a short, morally reframed message can significantly improve participants' UBI attitudes. Moreover, despite the moral divergence of Study 2's findings – Equality positively predicted UBI preference while Economic Liberty negatively predicted it – *both* moral reframing conditions were able to elicit increased UBI preference. By addressing the ways UBI can support rather than hinder economic liberty, this reframing condition was able to increase UBI preference to a similar level as the morally congruent Equality condition. Importantly, both moral reframing messages increased UBI preference among a politically mixed sample of liberals and conservatives. Suggesting that when presented in the context of UBI, both equality and economic liberty appear to be effective framing techniques, despite these values being synonymous with opposing political ideologies.

## **General Discussion**

The present research has, for the first time, identified the moral values which predict attitudes towards UBI and then reframed the scheme to focus on these values. Using the original five Foundations, Study 1 found that the Sanctity Foundations predicted UBI preference. In Study 2, the original five Foundations were replaced with a broader and more refined set of moral measures. Following these changes, Equality and Economic Liberty then emerged as the two significant moral predictors of UBI preference. In both Study 1 and 2 the strongest unique predictor in the model came from a moral subscale, confirming H1a. Also, moral values predicted more unique variance than the demographic variables, confirming H1b. Based on these findings, Study 3 presented participants with a UBI message couched in

terms relating to either equality or economic liberty. As with several previous moral reframing studies, this form of intervention was shown to be persuasive. Those reading either the Equality or Economic Liberty message reported significantly higher UBI preference than those in the Control group. Interestingly, results across all three studies indicated that while UBI is a politically divisive topic – liberals score higher than conservatives on UBI preference – political division did not appear to stem from underlying moral differences. No interactive effects were found between moral values and political orientation when predicting UBI preference. From these collective findings come two main points: firstly, moral values provide a more informative set of predictors than demographics when researching people's UBI attitudes. Secondly, UBI is politically but not necessarily morally divisive.

Beginning with the utility of moral measures, UBI polling and research has largely focused on broad demographic variables. Yet previous research has already shown that when people make decisions on important political policies, morality plays a unique and influential role (Garrett, 2019; Harper & Hogue, 2019). Moral conviction, for example, has been shown to be psychologically distinct from related constructs such as partisanship and religion (Skitka, 2010). But the case for including moral predictors goes beyond simply adding predictive power to a statistical model; identifying relevant moral values also provides instructive information for those aiming to understand what actually motivates people's UBI attitudes (Dickinson et al., 2016; Skitka & Bauman, 2008). For example, government intervention and greater financial freedom suddenly emerge as likely topics of interest once economic liberty concerns have been identified as a predictor of UBI preference. Similarly, identifying equality concerns suggests that appeals based on reducing social and economic inequality are also likely to be engaging and persuasive messaging themes. Research which includes moral measures will likely provide useful additional insight for those hoping to communicate in an effective and morally relevant manner. Indeed, some political strategists

appear to already be adopting relevant moral language to improve their message appeal on this topic – Andrew Yang’s presidential campaign renamed UBI the ‘Freedom Dividend’ after it reportedly ‘tested better’ among focus groups of US voters (Yang, 2018).

Regarding the divide in UBI preference between liberals and conservatives, we had expected this intergroup division to be underpinned by moral differences. MFT research has consistently found a pattern whereby conservatives generally score higher on items relating to Loyalty, Authority, Sanctity (and more recently, Economic Liberty) and slightly lower in Care and Fairness items (Graham et al., 2009; Iyer et al., 2012). We had predicted that differences in moral motivations were, in part, driving these group differences. Yet the consistent finding across all three studies show that political orientation lacked interactive effects with the moral measures. Given previous MFT findings, the lack of moral-political interactive effects was somewhat surprising. However, a growing critique of moral psychology research may help to explain these results.

Several researchers have pointed to moral psychology’s over-reliance on surveys and vignettes which use nondescript agents within largely context-free, relationship-free situations to examine moral judgements (Hester & Gray, 2020; Schein, 2020). Indeed, the well-established moral differences between liberals and conservatives were discovered using the MFQ – itself a mostly decontextualized scale. It is possible, perhaps even likely, that these well-established moral intergroup differences will not hold when imbued with real-world context (Beal, 2020). In Study 3 we provided just such a context; rather than speaking in the abstract about economic liberty or equality, the morally reframed messages explained how UBI could affect change in a way that satisfied specific moral goals in the real world. Consequently, during the intervention participants were thinking about either equality or economic liberty in a contextualised and situationally relevant manner. Of course, abstract moral predictors can serve as a useful first step in identifying the morally relevant values



associated with a topic (as in Study 1 and 2). But the relationship between moral values and UBI attitudes then requires further real-world context to tease out the nuances of the decision-making process (as in Study 3).

Overall, the study has several limitations; firstly, in Study 1 Sanctity emerged as a significant predictor of UBI preference, as well as several other related UBI attitudes (see OSF link), yet this finding did not replicate in Study 2. One possible explanation for this finding is, following the inclusion of a broader and more refined set of moral predictors in Study 2, the effect of Sanctity was simply crowded out by more relevant values. Notably though, Study 1 had participants collected from several social media platforms as well as crowdsourcing platform Prolific. Whereas Study 2's participants were made up entirely of Prolific participants. Although Prolific has been found to have a more diverse population than some other popular crowdsourcing platforms (Peer et al, 2017), it may still differ from the population in Study 1. The clearest difference to check for between the sample in Study 1 and Study 2 was levels of religiosity, given the connection between the Sanctity Foundation and religion, but this revealed no group level differences. Looking forward, it would be interesting to explore the connection between sanctity values, working values, and UBI using qualitative methods.

In Study 2 we chose to include only the two liberty items, specifically related to concerns regarding government intervention, from a full liberty scale (see Iyer et al., 2012). The reliability score for our 2-item Economic Liberty scale was relatively poor as it was not designed as a sub-scale in and of itself. The full comprehensive and validated liberty scale would likely have provided us with a more robust measure of liberty-related values. Also, by including the full scale we may have seen an additional moral thread emerge, as the full scale covers both Lifestyle Liberty and Economic Liberty issues.

In Study 3's moral reframing exercise UBI messages were reframed according to specific moral values; however, the precision of the messaging could have been more focused. Providing real-world context within the morally reframed messages is important but it also introduces its own inherent problems – namely, which issues should be included when providing context. Instead of mentioning both 'reducing government bureaucracy' and 'increasing financial independence' within a single Economic Liberty message, we could have split these two issues into separate message conditions. This would have improved our ability to disentangle which specific, morally relevant issues appealed to those reading the message. But also, this more systematic approach may have teased out underlying political divisions – it may be that 'reducing government bureaucracy' and 'financial independence' affect liberal and conservative UBI preference in different ways. Of course, from an applied perspective, creating morally reframed messages which hold bipartisan appeal, as Study 3 did, also possesses its own practical utility. But from an experimental and theoretical perspective, the existing political divide we found regarding UBI preference remains largely unexplained.

Lastly, our Control condition message formed the beginning of each of our morally reframed conditions, it also then contained an additional passage on UBI couched in a specific moral value (Equality or Economic Liberty) (see OSF link). One issue that arises from this design is whether merely the addition of extra UBI content made the moral messages more appealing. This seems unlikely given that the Dual Identity condition also had an additional passage but did not increase UBI preference (see online Appendix C). But to eliminate this concern, future studies might aim to include a control condition which has the same length message as the morally reframed conditions.

## **Conclusion**

Despite its long history, UBI has largely been unable to take the important step of going from proposal to policy. Yet this may soon change as many trials are underway worldwide and several local and national governments are considering, or even working towards, implementing some version of this scheme. For many of these governments, public opinion is likely to play a significant role in the fate of this proposal. Yet, despite being a controversial topic – one which can motivate both effusive praise and scathing criticism – there are now signs that UBI can hold broad political appeal. Our findings have shown how moral psychology cannot only offer additional insight into the values associated with UBI, but it can also then play an instrumental role in improving communication on this topic.

UBI is a complex subject and undoubtedly attitudes towards it also rest on pragmatic issues such as its affordability and effectiveness at scale. Nevertheless, by understanding the values associated with UBI, advocates and policy makers alike can begin to improve their understanding and communication on this topic. We feel this is a timely contribution as UBI is continually gathering both national and international prominence due to the ongoing unemployment threat from automation and COVID-19. The present findings suggest that although UBI remains a politically contentious and divisive issue, focusing on how UBI can serve specific moral goals may help to unite a divided crowd.

## **Chapter 3**

### **Universal Basic Income: Measuring Moral Motivations in the UK and Norway**

#### **Chapter 3 Prologue**

Chapter 3 looks to examine the moral motivations of UBI preference beyond the US context, this time focusing on samples in the UK and Norway. The principles of UBI are, as the name suggests, universal; however, this chapter aims to explore if the moral concerns underpinning UBI preference differ in these national samples. Despite having one of the most generous and supportive social welfare systems in Europe and worldwide, Norwegians rank lowest among Europeans in terms of favouring UBI's introduction to their country. While in the UK, UBI favourability is split almost exactly evenly, with half being for the scheme and half being against it. This chapter identifies the specific moral values that are informing these preferences.

## **Abstract**

With automation technology and the COVID-19 pandemic continuing to displace millions of workers worldwide, many politicians, economists, and industry leaders have signalled support for a once radical idea: Universal Basic Income (UBI). Advocates argue that introducing a guaranteed income programme for all adult citizens would help to stabilise the economy, reduce poverty, and boost innovation. However, this program continues to reliably evoke contentious debate, often centring on morally based concerns. In order to examine which specific moral concerns motivate people's UBI preference, we began by conducting a pilot study in the UK ( $N = 122$ ). Results indicated that, above and beyond demographic variables, greater concerns for maintaining social order predicted lower preference for UBI. In Study 1, using a more granular set of moral measures, we then repeated this process using both a UK ( $N = 134$ ) and Norwegian ( $N = 133$ ) sample – two nations which have different levels of social inequality and different approaches to social welfare. Across both national samples, we again found that greater support for maintaining social order negatively predicted UBI preference. Results suggest that, in the UK and Norway, moral values play a key role in informing people's UBI preferences, especially those values related to protecting traditional social structures.

## **Universal Basic Income and its Moral Motivations in the UK and Norway**

Following the vast numbers of jobs lost due to the COVID-19 pandemic, and the millions of jobs forecast to become automated over the next decade, governments have begun to consider implementing some form of basic income programme. Implementation of such a programme would mean that every adult would receive a modest but unconditional monthly payment – roughly equivalent to £500 - £1000 – irrespective of employment status. The main arguments for introducing such a scheme centre on a few key points: a direct transfer of money into the public's pocket would help stimulate the economy; it would provide a financial floor for all adult citizens, assuring nobody lives below the poverty line; and it would drastically reduce the inefficiency and bureaucracy of many existing social welfare programmes (Haagh, 2019; Van Parijs, 2004; Yang, 2018). Because of this collection of features, UBI has gained widespread, majority support among both citizens and lawmakers in Europe (Devlin et al., 2021). For those hoping to re-establish some level of financial stability in an increasingly capricious job market, this once seemingly radical proposal now offers pragmatic value (Haagh, 2019; Van Parijs & Vanderborght, 2017).

In recent years, automation technology has continued to replace human workers in greater numbers (Dermont & Weisstanner, 2020), while the arrival of the COVID-19 pandemic has further impacted millions of additional jobs worldwide (Roosma & Van Oorschot, 2020; Ståhl & MacEachen, 2020). In the UK alone, 7.6 million jobs become classified as 'at risk' due to COVID-19 restrictions and regulations (Allas et al., 2020). However, even prior to the pandemic the McKinsey Global Institute had forecast that a potential 400 million to 800 million jobs could be partly or fully replaced by robotic automation by 2030 (Manyika et al., 2017), with other large-scale reports estimating that up to 44% of low educated workers were at risk of having their jobs automated by mid-2030s (Rao & Verweij, 2017). This ongoing automation-based threat to unemployment has

been compounded by the arrival of the COVID-19 pandemic. As businesses and corporations have now become even more incentivised to automate jobs where possible to lessen their reliance on a precarious human workforce (Coombs, 2020). Together, this constellation of disruptive technological and socioeconomic factors has renewed calls from key figures in politics, economics, and industry to implement UBI at the national level (Cowen & Kasparov, 2020; Hemsley et al., 2018; Yang, 2018).

The growing support for UBI among national citizens, however, is uneven and appears to vary as a function of geographic and demographic factors. In Europe, for example, public attitudes to the scheme vary dramatically; in a large-scale comparative analysis across 21 European countries, Lee (2018) found that the idea of introducing UBI nationwide was most popular in Lithuania, with 81% in favour of the measure. It was most unpopular in Norway, ranking bottom with just 34% of the national sample reporting to be in favour of the scheme's introduction. While the middle-ranked UK was close to evenly divided, with 51% in favour of UBI. The popularity of the scheme also appears to vary between politically left-leaning and right-leaning individuals. In the UK, 63% of Labour voters supported UBI being introduced nationally, compared to just 40% support from Conservative voters (Martinelli, 2017). Similarly, a large-scale European Social Survey found that left-wing ideology was associated with greater preference for UBI being implemented in respondents' home countries (Parolin & Siöland, 2020). These broad demographic findings, though interesting, often raise more questions than they answer: what underlying factors motivate these differences in preference across countries? Which values are motivating left-wing and right-wing individuals to view UBI's introduction so differently?

Research in moral psychology has shown that people's attitudes to several important socio-political topics are motivated by their underlying *moral concerns* (Alesina et al., 2018; Dickinson et al., 2016; Skitka, 2010). For example, endorsement of specific moral values

have been shown to predict attitudes on a range of issues above and beyond demographic factors – issues such as, capital punishment (Vaughan et al., 2019), voting intentions for Brexit (Harper & Hogue, 2019), and pro-environmentalism (Milfont et al., 2019). Indeed, much of the UBI rhetoric, both past and present, for and against, has been moralistic in nature (Freedman, 2016; Haagh, 2019; Van Parijs, 1992). There are many who have expressed concerns around the unconditional payments, and whether the recipients will be limited to only national citizens or beyond (Bidadanure, 2019; Dermont & Weisstanner, 2020; Parolin & Siöland, 2020). This is in contrast with many supporters, who argue that UBI is urgently needed to keep everyone out of poverty and in stable employment (Haagh, 2019; Hamilton & Martin-West, 2019).

Yet despite all this moral discourse, research has tended to focus on how UBI attitudes vary as a function of demographic factors like age, gender, and political orientation. But knowing that younger people are more in favour of UBI than older people, or left-wingers more in favour of UBI than right-wingers does little to elucidate people's underlying motivations (Gilberstadt, 2020). But knowing that greater concern for, say, equality or increased social order predicts more favourable attitudes towards UBI can offer additional insight into people's underlying motivations. Consequently, in this study we aim to examine which, if any, moral values predict UBI preference in the UK and Norway. By doing so, we hope to provide both policymakers and advocate groups with further information about the ways in which morality informs UBI preference.

### **Moral Foundations Theory**

Creators of the Moral Foundations Theory (MFT) originally identified five “Foundations” of universal morality: Harm, Fairness, Loyalty, Authority, and Sanctity (Haidt, 2012; Haidt & Joseph, 2004). (see Table 1). This taxonomy of moral values provides



a useful framework from which to examine individuals' moral concerns. The associated scale, the Moral Foundations Questionnaire (MFQ), provides a measure of individual endorsement on each of the Foundations. Using these moral measures, in addition to the more common demographic measures, provides a more granular understanding of the moral values that may underpin a person's attitude towards UBI.

Haidt (2012) and colleagues argue that although there are five moral foundations, different recombinations of these values create a variety of moral domains. This variety is said to stem from environmental, cultural, and heritable influences, which together affect how much an individual or group endorses each of the moral foundations (Graham et al., 2013; Graham et al., 2009). Accordingly, the most influential and robust finding in MFT is that politically left-leaning individuals rely more heavily on a two-foundation morality of care and fairness, and place far less emphasis on loyalty, authority, and sanctity. Whereas politically right-leaning individuals rely more evenly on all five foundations, as measured by the MFQ (Graham et al., 2009; Iyer et al., 2012; Haidt, 2012). MFT researchers have gone on to explain that left-wing morality is primarily concerned with social justice, and as such leans heavily on the moral foundations of care and fairness. Right-wing ideology generally places more focus on maintaining social order, and as such, utilises loyalty, authority, and sanctity (Graham et al., 2011; Haidt, 2012). We expect these ideological goals, as well as their attendant moral motivations to inform people's attitudes towards UBI. As such, in both the Pilot Study and Study 1 we set out to examine which specific Moral Foundations predict UBI preference.

**Table 1***Descriptions of the Moral Foundations*

Moral Foundation	Description
Harm	The desire to defend others from harm, based on feelings of care and compassion – the origins of which are said to derive from our evolutionary history of nurturing for offspring.
Fairness	Issues relating to unjust treatment of oneself or others, as well as more abstract principles of justice – aligns with the reciprocal principles outlined in law of karma.
Loyalty	Associated with concern for the in-group, including feelings of pride, identity, and solidarity to one's group – originating from our tribal evolutionary past.
Authority	A motivation to uphold and respect traditions and social hierarchies – based on beliefs in maintaining social order through structure and deference to authority.
Sanctity	Concerns relating to maintaining physical and mental purity by evading pathogens and exercising self-control - based on feelings of disgust which triggers the avoidance of contact with pathogens through unhygienic objects, or other groups of people who are considered impure or immoral.

**The Current Studies**

We began with a Pilot Study using a UK sample to examine which of the original five moral foundations predicted UBI preference. Study 1 then introduced two updated changes to the Pilot Study. Firstly, we added a second national sample from Norway. This update was made because, in terms of their levels of inequality and their approach to social welfare, the

UK and Norway vary (Kozák, 2021; Wilkinson & Pickett, 2019). Norway has traditionally had a more generous level of government aid and lower levels of income inequality compared with the UK (as measured by the Gini coefficient: Norway, 0.26; UK, 0.37; OECD, 2020). Therefore, we aimed to see if these national differences in social welfare and inequality revealed different moral predictors when analysing citizens UBI preference.

Secondly, Study 1 replaced the original Fairness Foundation used in the pilot study with three new fairness subscales: Equity, Equality, and Procedural Justice. Social welfare attitudes often hinge on issues relating to fairness (Petersen, 2012; Skitka & Tetlock, 1993), yet despite this the Fairness Foundation in the pilot study did not significantly predict UBI preference. Haidt (2012) has since acknowledged that the original Fairness Foundation mainly measures equality attitudes but fails to sufficiently capture other key aspects of fairness. As such, a more fine-grained set of measures were added to examine participants moral endorsement of procedural fairness (i.e. the transparency and fairness of the process which decides who gets what), equality (i.e. everyone gets the same), and equity (i.e. all receive rewards in proportion to their inputs) issues. Finally, as the Pilot Study and Study 1 were both exploratory, we made no predictions about which specific moral values may predict UBI preference. However, we did predict that moral measures would explain more variance in the model than did demographic measures.

H1a: the strongest unique predictor in the model will be represented by a moral measure rather than a demographic measure (as measured by standardised betas).

H1b: the moral values measures will collectively account for more unique variance in the model than the collective demographic variables.

## **Methods**

### **Pilot Study**

### **Participants**

From an original sample of 233, the final sample consisted of 117 participants following data screening. A total of 116 participants were excluded from the analysis because they answered either “don’t know/ not political” for the political orientation measure, or “don’t know” for the UBI preference measure. Participants were also excluded for answering “other” for Gender, or if they reported their nationality to be outside of the UK. Finally, participants were excluded from the analysis if they failed one or both attention checks embedded within the MFQ, or for failing to complete the relevant survey items.

Demographically, the sample was made up of 65 females and 52 males, with ages ranging from 18 to 72 ( $M = 42.64$ ,  $SD = 14.88$ ) (see Table 3 for further demographic information). Recruitment was carried out partly on social media by posting the survey link on various community groups. Recruitment was also partially carried out via the online recruitment platform, Prolific. This crowdsourcing platform has been shown to be superior to other popular participant recruitment platforms on a range of measures including response rate, naivety, internal reliability, and dishonesty (Peer et al., 2017). A power analysis was not performed to establish a required sample size – instead, participant collection was determined by time and budgetary constraints.

### **Procedure**

Those taking part were invited to click on the shared link which took participants to a consent form which briefed them on the outline of the study. Those who consented to continue were directed through to take part in the survey which consisted of three sections.

Part One of the survey asked participants to provide demographic information on their age, gender, education level, and political orientation. In Part Two, participants were asked to complete the 30-item MFQ to measure their moral endorsements across the five Foundations. Part Three first provided a brief passage explaining the basic idea of UBI, after which a short video (1 min, 40 secs) was presented summarising the three main pros and cons of UBI (see Supplementary Materials for video link: <https://osf.io/xpsfu/>). The UBI information presented in Part Three of the survey was pre-tested on a small pilot sample ( $N = 31$ ) for political neutrality. Participants were asked “Do you feel the information was presented in a politically neutral manner?”, with participants scoring their response on a 5-point Likert scale: 1 = “No, it seemed to have a right-wing bias”; 3 = “yes, it seemed like a fair and balanced explanation”; 5 = “No, it seemed to have a left-wing bias”. Performing a one-sample t-test, results indicated that on a 5-point Likert scale the mean political orientation score of the messaging did not differ significantly from the midpoint (3):  $M = 3.10$ ,  $SD = .30$ ,  $t(30) = 1.79$ ,  $p = .083$ . Finally, an item measuring overall UBI preference was presented, followed by a range of additional exploratory items measuring attitudes to various UBI-related issues. This study was given ethical approval by our institutional ethics committee prior to data collection.

## **Measures**

### ***Demographic Questionnaire and UBI Preference Items***

Education level was measured using a 7-point Likert scale, e.g. 1 = “less than high school”, to 7 = “doctorate/ PhD”). Similarly, political orientation was measured on a 7-point Likert scale, e.g. 1 = “very left-wing, 7 = “very right-wing”, with those answering “don’t know/not political” being removed from analysis. To measure political orientation, participants were asked to rate themselves on a 7-point political spectrum scale, in terms of

both their social and economic political orientation. The Spearman-Brown correlation between these two items was found to be high ( $= .93$ ; see Table 2 for all reliability scores) (Eisinga et al., 2013). As such, these items were collapsed into a single composite measure of mean political orientation. For the dependent variable, UBI preference, a single-item measure was used: “Imagine that the government does one day introduce a form of Universal Basic Income. Each person - working or not - receives a modest monthly payment, just enough so that nobody lives below the poverty line (roughly £1000). Overall, how would you feel about a scenario like this?”. Participants again scored their preference on a 7-point Likert scale: 1 = “extremely negative”, 7 = “extremely positive”, with those answering “don’t know” being removed from the analysis.

### ***Moral Foundations Questionnaire***

To measure participants’ scores across the five Moral Foundations the 30- item MFQ was used. All items were rated on a 6-point Likert scale, with six items making up each of the Moral Foundation subscales for Care, Fairness, Loyalty, Authority, and Sanctity. The mean of these items was taken to calculate participants’ score for each Foundation, with higher scores representing greater moral endorsement. The MFQ is made up of two halves, the first half measured moral relevance: “... to what extent are the following considerations relevant to your thinking?”, e.g., “Whether or not someone was cruel”. The second half measured moral judgements by indicating agreement or disagreement with various morally based statements, e.g., “Men and women each have different roles to play in society”. Two additional attention check items were also included (e.g., It is better to do good than to do bad”), those scoring beyond the mid-point in the wrong direction on either item were excluded from the analysis.

As with many previous studies using the MFQ (Harper & Hogue, 2019; Koleva, et al., 2012), one of the internal reliability scores for the Moral Foundations was shown to be below the  $\alpha = 0.7$  threshold (see Table 2). The relatively low internal consistency coefficients found for some of the Moral Foundation subscales are partly explained by the design of the MFQ which aimed to maximise coverage of each Foundation's construct domain, as opposed to maximising the internal consistency of each Moral Foundation (see Federico et al., 2013; Graham et al., 2011).

**Table 2**

*Pilot Study Internal reliability scores for the Moral Foundation and Political Subscales.*

Subscale	$\alpha$
Harm	.73
Fairness	.65
Loyalty	.71
Authority	.81
Sanctity	.79
Political Orientation <sup>a</sup>	.93

<sup>a</sup> indicates a 2-item subscale calculated using Spearman-Brown formula

## Results

A three-stage hierarchical regression was conducted to examine how well demographic variables and the Moral Foundations predicted UBI preference. In Step One, Age, Gender, and Education were entered into the model. In Step Two, Harm, Fairness, Loyalty, Authority, and Sanctity were added (see Table 4). Finally, in Step Three, political orientation and its interactions with the Moral Foundations were added (see Appendix A). Multicollinearity between Loyalty, Authority, and Sanctity was high, although the VIF statistics were all below 5.0 (see James et al., 2013), indicating that the integrity of the model was not threatened (see Table 3). Listwise deletion was used to exclude participants with missing data.

In Step One the overall model was nonsignificant, accounting for just 2.9% of the variance, with none of unique demographic variables significantly predicting UBI preference. In Step Two the Moral Foundations were added, with the results supporting H1a: the Authority Foundation was shown to be the strongest unique predictor in the model (as measured by standardised betas, see Table 4). Those with greater endorsement of the Authority foundation reported lower overall UBI preference. Step two also confirmed H1b, as the Moral Foundations explained a further 27.7% of the variance. Following the addition of the Moral Foundations, Gender emerged as a significant predictor of UBI preference, with females showing less UBI preference than their male counterparts.

In Step Three, Political Orientation was shown to be nonsignificant as a main effect. For interaction effects between Political Orientation and the Moral Foundations, Sanctity X Political Orientation was found to be the only significant interaction,  $\beta = -326, p = .017$ . When endorsement for sanctity increased, those with more left-leaning political orientation (compared with right-leaning participants) had lower preference for UBI (see Appendix A for



Step Three and Appendix B for simple slopes analysis). Step Three made no significant improvement to the overall model.

**Table 3**

*Pilot Study Zero-order Correlations for Variables and Descriptive Statistics.*

Variables	1	2	3	4	5	6	7	8	9	10
1. UBI Pref.	—	.08	-.07	.11	-.40**	.16	.30**	-.35**	-.46**	-.34**
2. Age		—	.28**	.07	-.06	.08	.23*	-.03	.06	.05
3. Gender			—	.05	-.24*	.45**	.32**	-.04	.02	.12
4. Education				—	-.22*	-.07	.17	-.17	-.19*	-.15
5. Political Orien.					—	-.30**	-.49**	.55**	.64**	.47**
6. Harm						—	.63**	.12	.03	.15
7. Fairness							—	-.07	-.16	-.07
8. Loyalty								—	.78**	.69**
9. Authority									—	.75**
10. Sanctity										—
<i>M</i>	4.18	42.64	—	4.45	3.51	4.61	4.65	3.33	3.68	3.02
<i>SD</i>	2.08	14.88	—	1.45	1.73	.90	.71	.88	1.02	1.00

*Note.* \*  $p < .05$ . \*\*  $p < .01$ .

**Table 4**

*Pilot Study Two-stage Hierarchical Linear Regression Predicting UBI Preference from Demographics and Moral Foundations.*

Variables	Step 1				Step 2			
	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>
Age	.015	.013	.106	.274	.016	.012	.116	.183
Gender	-.447	.402	-.107	.268	<b>-.955</b>	<b>.397</b>	<b>-.229</b>	<b>.018</b>
Education	.160	.133	.112	.233	.021	.121	.015	.861
Harm					.412	.296	.165	.166
Fairness					.509	.329	.175	.125
Loyalty					-.139	.324	-.058	.670
Authority					<b>-.813</b>	<b>.305</b>	<b>-.400</b>	<b>.009</b>
Sanctity					.035	.266	.017	.896
Model overview	$R^2 = .029, F(3, 113) = 1.13, p = .339$				$R^2 = .306, F(8, 108) = 5.96, p < .001$			
$R^2$ change					$\Delta R^2 = .277, F(5, 108) = 8.62, p < .001$			

*Note.* Bold font indicates predictors with significant *p*-values.

## Discussion

Step One of the Pilot Study model revealed that none of the demographic variables were significant predictors. In Step two, both Gender and the Authority Foundation emerged as significant predictors: females reported lower UBI preference than males, while greater endorsement of the Authority was shown to predict lower preference for UBI. These initial results suggest that the Authority Foundation likely plays an important role in informing people's beliefs about UBI's efficacy. Those who scored high on Authority, and therefore value tradition and social order, appear to perceive this scheme as being incongruent with

these values. Ironically, one of the main reasons UBI proponents advocate UBI for the scheme's introduction is because it is said to provide a financial buffer, one which would stabilise the economy and help prevent social disruption (Yang, 2018). Nevertheless, the government providing an unconditional monthly sum of money to every adult citizen – stabilising or not – may seem like too much of a threat to the status quo for those who value maintaining relatively fixed social structures.

As mentioned, while a large-scale welfare scheme such as UBI may be promoted as a pragmatic solution to an economic problem, the scheme itself may not be judged on its pragmatic qualities alone. In fact, practical issues may indeed be an ancillary concern – the merits of the scheme may well depend primarily on how well the scheme supports peoples' broader moral concerns. And these moral concerns appear to be related to how UBI would threaten traditional social structures and working values. Of course, these results are not sufficient to draw causal inferences, but some findings among our additional exploratory items appear to align with this interpretation. Scoring high on the Authority Foundation was positively associated with the belief that introducing UBI would make people lazier, and negatively associated with the belief that it would make people less stressed (see Online Supplementary Materials: <https://osf.io/xpsfu/>). Authority being the only significant Moral Foundation was somewhat surprising considering the moral complexity of the topic. Given that many concerns regarding social welfare hinge on concerns that recipients are 'getting something for nothing', the Fairness Foundation was shown to be an unexpectedly poor predictor of UBI preference (Haidt, 2012). This is a point we will return to in Study 1.

Finally, with regards to the demographic findings, female participants expressed lower preference towards UBI's introduction than their male counterparts. Interestingly, research has shown that women in the UK are more likely to be in the lower paid jobs than men, they are also less likely to be able to gain opportunities to progress out of these low paid

jobs (D'Arcy, 2018). As such, a scheme such as UBI may offer the support necessary to improve job progression for women stuck in low paying work. However, participants in the study may be driven more by their moral intuitions rather than an informed cost-benefit assessment of the scheme.

Interestingly, despite UBI ostensibly being a morally complex topic which affects many issues, this initial pilot study suggests that moral values relating to the Authority Foundation largely account for overall UBI preference. The demographics variables Age and Education were found to be relatively weak predictors of UBI preference. Next, in Study 1, we include an additional national sample and broaden out the measures of fairness to refine our moral measures and enable cross-cultural comparison.

## **Methods**

### **Study 1**

#### **Participants**

##### ***UK Sample***

From an initial sample of 184, after data screening the remaining sample consisted of 134 participants: 76 females and 58 males, with ages ranging from 18 to 74 ( $M = 37.04$ ,  $SD = 13.53$ ) (see Table 7 for demographic descriptive statistics). As with the pilot study, participants were excluded from the analysis, either for answering “Don’t know/ not political” when reporting on their political orientation, or for answering “don’t know” when reporting their UBI preference. Further exclusions were made for those answering “other” for Gender, or for participant’s nationality being outside of the UK. Participants were also removed from the analysis if they failed one or both attention checks embedded within the MFQ, or if they failed to complete the relevant survey items.

All participants were recruited via Prolific. The analyses were again exploratory in nature, and so no *a priori* power analysis was carried out. Instead we simply collected as many participants as possible within our time and budgetary constraints.

### ***Norwegian Sample***

From an initial sample of 292, after data screening the total sample consisted of 133 participants: 62 females and 71 males, with ages ranging from 18 to 68 (see Table 9 for demographic descriptive statistics). We applied the same exclusion criteria for the Norwegian sample as we did for the UK sample.

All participants were collected via posting the survey link across multiple social media platforms. Again, no *a priori* power analysis was carried out; we simply collected as many participants as possible within our time and budgetary constraints.

### **Procedure**

For the Norwegian sample, the entire survey, including the MFQ, was translated by a Norwegian researcher and then independently back-translated by a separate Norwegian- and English-speaking researcher. All participants were invited to take part in our online survey by clicking the questionnaire link. Those who chose to take part were first directed to a consent form which outlined the details of the study. In Part One, participants answered the same demographic items as presented in the Pilot Study. Part Two asked participants to fill out the updated 32-item moral values survey. In Part Three participants read the same short passage outlining the main details of UBI, followed by the same short video shown in the Pilot Study. Finally, participants were asked about their overall UBI preference along with some additional exploratory items assessing various other UBI-related attitudes. Within the information provided about UBI at the beginning of Part Three, UBI payments were

described as being around £500 - £1000 in the UK version, while in the Norwegian version the figure was converted to 8,500 - 17,000 Norwegian Krone, a relatively equivalent sum to the UK payment figure (in 2019). The questionnaire received ethical approval prior to any data collection.

## **Measures**

### ***Demographic Questionnaire***

The same demographic items were used as in the Pilot Study.

### ***Moral Values Questionnaire***

An updated 32-item questionnaire was used instead of the original MFQ; the Fairness Foundation was replaced with three separate fairness subscales: Equality, Equity, and Procedural Justice subscale (taken from Meindl et al., 2019; see Table 5 for further descriptions). This was the only change made to the original version of the MFQ, with the new moral questionnaire now measuring moral endorsement across the following seven values: Equality, Equity, Procedural Justice, Harm, Authority, Loyalty, and Sanctity. All items were rated on the same six-point Likert scale, with Harm, Authority, Loyalty, and Sanctity items remaining unchanged from the previous study. Some of the internal reliability scores were again below the 0.7 threshold (see Table 6), but as previously mentioned, these relatively low internal consistency coefficients are consistent with previous findings (Graham et al., 2011).

**Table 5***Descriptions of the Replacement Measures of Fairness.*

Fairness Subscales	Description
Equality	Equality is a state of affairs in which all people within a specific society have equal social and economic rights
Equity	Rewards or should be proportional to the relative contribution of each individual or group
Procedural Justice	The notion that fair procedures are the best guarantee for fair outcomes

**Table 6***Study 1 Internal Reliability Scores for the Moral and Political Subscales.*

Subscale	Norway	UK
	$\alpha$	$\alpha$
Care	.62	.57
Loyalty	.70	.57
Authority	.76	.73
Sanctity	.72	.71
Equality	.60	.69
Equity	.73	.76
Procedural Justice <sup>a</sup>	.73	.52
Political Orientation <sup>a</sup>	.90	.92

<sup>a</sup> indicates 2-item subscales calculated using Spearman-Brown formula.**Results**

As with the Pilot Study, a three-step hierarchical linear regression was again used to predict overall UBI preference. In Step One the demographic variables Age, Gender, and Education were added to the model. In Step Two the updated moral values subscales were added to examine their contribution to predicting UBI preference. Finally, in Step three, Political Orientation as a main effect as well as its interactions with the moral subscales was added to the model. As with the Pilot Study, multicollinearity was quite high between the Loyalty, Authority, and Sanctity Foundation, but the VIF score did not exceed 5 for the UK or Norwegian sample (see James et al., 2013).

### **UK Sample**

Using demographic predictors alone, Step One of the model was significant, explaining 8% of the variance (see Table 8). Education emerged as the only significant variable, with more educated participants showing greater UBI preference.

In Step Two, the addition of the updated moral subscales was shown to significantly increase the predictive power of the model, explaining a further 14.3% of the variance. This supported H1b, as the moral measures accounted for more variance in the model than did the demographic measures in Step One. The Authority Foundation was a significant predictor of UBI preference, it was also the strongest predictor in the model, supporting H1a. This replicated the finding in the Pilot Study – those reporting greater endorsement of the Authority Foundation reported lower UBI preference. In addition, those scoring higher on Equality reported significantly greater preference for UBI than those with lower endorsement of this value. Education remained a significant predictor in this second step of the model.

In Step Three, neither Political Orientation nor its interactive effects with the moral measures were significant. Similarly, the addition of these variables in Step Three did not improve the overall model,  $\Delta R^2 = .040$ ,  $F(8, 118) = .80$ ,  $p = .605$  (see Appendix C).



**Table 7***Study 1 UK Sample, Zero-order Correlations for Study Variables and Descriptive Statistics.*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. UBI pref.	–	-.13	-.19*	.20*	-.34**	.00	-.20*	-.33**	-.17	-.04	.20*	.07
2. Age		–	.03	.04	.25**	.08	.14	.15	.19*	-.01	.05	.16
3. Gender			–	-.17	-.05	.30**	.00	.06	.10	-.10	.11	.05
4. Education				–	.05	-.19*	-.06	-.13	-.09	-.01	-.16	-.11
5. Politics					–	-.18*	.37**	.44**	.22**	.12	-.41**	-.090
6. Harm						–	.17	.12	.17*	.03	.45**	.37**
7. Loyalty							–	.68**	.56**	.41**	.07	.14
8. Authority								–	.60**	.38**	-.02	.19*
9. Sanctity									–	.34**	.18*	.21*
10. Equity										–	.17	.27**
11. Equality											–	.43**
12. Procedural												–
<i>M</i>	4.59	37.04	–	4.16	3.68	4.74	3.58	3.89	3.23	4.09	4.42	4.83
<i>SD</i>	1.90	13.53	–	1.32	1.47	.63	.72	.81	.87	.92	.88	.74

*Note.* \*  $p < .05$ . \*\*  $p < .01$ .

**Table 8**

*Study 1 UK Sample, Two-stage Hierarchical Linear Regression Predicting UBI Preference from Demographics, Moral Foundations.*

Variables	Step 1				Step 2			
	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>	<i>B</i>	<i>SE B</i>	$\beta$	<i>p</i>
Age	-.019	.012	-.137	.105	-.017	.012	-.119	.151
Gender	-.595	.325	-.156	.069	-.634	.324	-.166	.053
Education	<b>.257</b>	<b>.123</b>	<b>.179</b>	<b>.038</b>	<b>.261</b>	<b>.119</b>	<b>.181</b>	<b>.031</b>
Care					-.013	.294	-.004	.964
Loyalty					.004	.308	.002	.989
Authority					<b>-.667</b>	<b>.283</b>	<b>-.286</b>	<b>.020</b>
Sanctity					.006	.232	.003	.979
Equity					-.002	.192	-.001	.991
Equality					<b>.476</b>	<b>.211</b>	<b>.222</b>	<b>.025</b>
Procedural					.192	.246	.074	.436
Model overview	$R^2 = 0.084, F(3, 130) = 3.95, p = .010$				$R^2 = 0.226, F(10, 123) = 3.60, p = .001$			
$R^2$ change					$\Delta R^2 = 0.143, F(7, 123) = 3.25, p = .003$			

*Note.* Bold font indicates predictors with significant *p*-values.

## Norwegian Sample

The demographic predictors in Step one were all nonsignificant significant, collectively explaining only 1.4% of the variance (see Table 10).

In Step two, like the Pilot Study and the UK sample in Study 1, the Authority Foundation was the strongest predictor in the model and emerged as the strongest predictor in the model, supporting H1a. Consistent with our previous findings, those reporting greater endorsement of the Authority Foundation showed significantly greater preference for UBI. The Authority Foundation was also the only significant predictor in the model, with the addition of the moral measures explaining a further 21.1% of the overall variance, supporting H1b.

In Step three the addition of Political Orientation and its interactive effects with the moral measures did not significantly improve the model,  $\Delta R^2 = .040$ ,  $F(8, 118) = .80$ ,  $p = .605$  (Appendix D). There was no main effect of Political Orientation and none of the interaction effects were shown to be significant, nor any of the demographic predictors. Also, in this final model Authority became nonsignificant ( $\beta = -.290$ ,  $p = .053$ ).

**Table 9**

*Study 1 Norwegian Sample, Zero-order Correlations for Study Variables and Descriptive Statistics.*

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. UBI pref.	–	-.10	.02	-.07	-.36**	-.02	.31**	.43**	.31**	.23**	-.23**	-.15
2. Age		–	.20**	.01	-.04	-.34**	-.19*	-.06	-.15	.09	-.06	.04
3. Gender			–	-.06	-.27**	-.40**	-.01	.06	-.06	.11	-.36**	-.19*
4. Education				–	.05	.12	.03	.03	.00	-.02	.23**	.20*
5. Politics					–	.18*	-.34**	-.53**	-.36**	-.47**	.46**	.20**
6. Harm						–	.34**	.16*	.24*	.07	.57**	.22**
7. Loyalty							–	.69**	.59**	.42**	.00	-.05
8. Authority								–	.70**	.49**	-.16	-.11
9. Sanctity									–	.34**	.01	-.04
10. Equity										–	-.16*	-.06
11. Equality											–	.47**
12. Procedural												–
<i>M</i>	4.20	38.88	–	3.82	3.64	4.38	3.74	3.55	3.09	3.86	4.34	4.89
<i>SD</i>	2.00	11.71	–	1.31	1.56	.73	.82	.92	.83	.87	.78	.78

*Note.* \*  $p < .05$ . \*\*  $p < .01$ .

**Table 10**

*Study 1 Norwegian Sample, Two-stage Hierarchical Linear Regression Predicting UBI Preference from Demographics, Moral Foundations.*

Variables	Step 1		$\beta$	$p$	Step 2		$\beta$	$p$
	$B$	$SE\ B$			$B$	$SE\ B$		
Age	-.017	.015	-.102	.252	-.013	.015	-.079	.375
Gender	.149	.353	.037	.672	-.204	.353	-.051	.565
Education	-.092	.131	-.061	.485	-.066	.124	-.043	.597
Care					.157	.319	.057	.624
Loyalty					-.053	.293	-.022	.856
Authority					<b>-.795</b>	<b>.290</b>	<b>-.368</b>	<b>.007</b>
Sanctity					-.079	.279	-.033	.777
Equity					-.045	.213	-.020	.831
Equality					.329	.294	.128	.265
Procedural					.084	.229	.033	.714
Model overview	$R^2 = .014$ , $F(3, 133) = .65$ , $p = .583$				$R^2 = .226$ , $F(10, 126) = 3.67$ , $p < .001$			
$R^2$ change					$\Delta R^2 = .211$ , $F(7, 126) = 4.91$ , $p < .001$			

*Note.* Bold font indicates predictors with significant  $p$ -values.

## Discussion

### UK Sample

A three-stage hierarchical linear regression model was used to predict people's preference for UBI being introduced in their country. At Step one, those with higher levels of education held a more favourable attitude to UBI's introduction. Here, it may be the case that those with higher levels of education feel that their jobs are less at risk than those who are less educated. Subsequently, more educated participants may regard UBI's introduction as a welcome supplement to their existing wage. If this were their expectation, it may only be only partially correct. While those with less education have been shown to be at greater risk from automation-based unemployment, many white-collar jobs have also been forecast to be at risk of automation over the coming decade (Manyika et al., 2017; McAfee & Brynjolfsson, 2016). A recent report by the Brookings Institute (Muro et al., 2019) explains that well-paid managers, supervisors, and analysts may also be heavily impacted by automation. These jobs require skills in planning, learning, reasoning, problem-solving – skills which AI technology is also well-suited to performing. Of course, those with higher levels of education may have less self-interested motivations and are instead motivated to see income inequality fall. But the present study design is unable to disentangle which motivations are driving educated participants' greater relative preference for UBI.

At Step two, the updated moral measures were introduced into the model revealing Authority and Equality to be the significant moral predictors of UBI preference. As with the Pilot Study, greater endorsement of the Authority Foundation predicted lower UBI preference. This result held even after the additional measures relating to procedural and distributive justice were entered into the model. This finding suggests that Authority-related moral concerns appear to be an influential factor in determining peoples' UBI preference. Those who value the conservation of tradition and hierarchical structure in UK society appear

to find the idea of UBI's introduction at odds with these goals. As such, those who strongly endorse this foundation may regard the idea of providing unconditional monthly payments to all adult citizens as encouraging a poor work ethic and generally eroding the societal values they want to maintain (Stam et al., 2013).

Following the addition of a more granular set of fairness measures to replace the Fairness Foundation used in the Pilot Study, Step two revealed that those with greater endorsement of Equality also had greater preference for UBI. This suggests that the Fairness Foundation, as a unitary measure, was too blunt an instrument to identify the specific type of fairness concern driving peoples' UBI preferences. The association here between greater endorsement of Equality and favouring UBI is perhaps unsurprising given that many advocates and supporters regard, and indeed promote, UBI as a measure which can help alleviate rising levels of social inequality (Yang, 2018; Hurst et al., 2016). These appeals to reducing social inequality may be well-received by those who value equality and are concerned about the potential of automation technology to further exacerbate existing social inequality. A recent poll found that 69% of US millennials reported being worried that the emergence of new technology will increase inequality and widen the gap between rich and poor (Gallup, 2018). Some now see UBI as a novel scheme to tackle social inequality – an issue which has proved intractable under existing social welfare systems (Hadley & Hatch, 2018).

### **Norwegian Sample**

At Step one, unlike the UK Pilot Study and Study 1, demographics did not significantly contribute to explaining any of the variance in UBI preference. But with the addition of the moral measures in Step two of the model, Authority was revealed to be the only significant predictor of UBI preference. A strong association was found between higher

endorsement of the Authority Foundation and lower preference for the introduction of UBI. Interestingly, despite their different levels of inequality and different approach to social welfare, those in the Norway and UK samples who value tradition and stable hierarchical structures both have lower preference for UBI. Here again the second step in the model illustrates the utility of going beyond considering just demographic variables, as moral values have been demonstrated to better predict UBI preference.

As mentioned earlier, Norway was found to rank bottom in terms of national support for introduction UBI nationwide with just 34% of the national sample in favour of the scheme (Lee, 2018). Given Norway's relatively generous approach to the social welfare system, this may seem surprising. What the data may suggest, is that concerns centring on UBIs potential to disrupt the present system (i.e. relating to high endorsement of the Authority Foundation) may be motivating resistance to the scheme. This explanation dovetails with others who have argued that countries like Norway that have generous welfare states are now facing a 'new liberal dilemma' (Emmenegger & Klemmensen, 2013). Having developed welfare services within, what was, a homogeneous national population, Norway is now experiencing increased resistance because this welfare state is supporting a more ethnically diverse population (Parolin & Siöland, 2020). The Authority Foundation finding may be indicative of a nation which is wrestling with how it should approach social welfare following greater levels of economic disruption and immigration. UBI's feature of unconditional payments may be further increasing concerns that, a once ethnically homogenous society with a generous welfare state, is now attracting a more heterogenous group of ethnically diverse immigrants (Kozák, 2021; Vlandas, 2021). If so, those who fear the present social order is changing too fast may be resistant to the scheme, especially if they believe it will attract greater levels of immigration. Research is beginning to support this interpretation, sometimes referred to as *welfare chauvinism*, wherein ethnic diversity drives down native-born individuals' support



for migrants to receive social welfare generally (van der Meer & Reeskens, 2021), as well as UBI specifically (Parolin & Siöland, 2020).

## **General Discussion**

We examined the relationship between the moral values people endorse and their preference for UBI being introduced into their country. In the UK Pilot Study, we examined whether the original five Moral Foundations predicted UBI preference. In Study 1, having included a more granular set of fairness measures, we examined participants in both the UK and Norway to see which moral values predicted UBI preference. In both studies H1a and H1b were supported: the strongest unique predictor in each model was a moral measure rather than a demographic measure, and the moral value measures collectively accounted for more unique variance than the collective demographic variables. Together these studies have demonstrated that moral values, above and beyond demographic variables, are useful for understanding what concerns motivate or underpin people's attitudes to UBI.

## **UK Sample**

Across both studies, higher endorsement of Authority was associated with lower preference for UBI preference. To get a better understanding of why this pattern of results may have occurred, it is probably useful to consider the socio-political context in the UK during the time of data collection. In 2019, during the period of data collection, the UK was in the throes of a politically divisive Brexit debate which caused both social and economic disruption nationwide. For those who value social order, the uncertainty over Brexit and its future outcome was undoubtedly already representing a possible threat to the status quo. The idea of then proposing something as radical as UBI on top of this already turbulent situation may well have been viewed by some as just another societal disruption (Hogue & Harper, 2019; Andreouli et al., 2019).

Alongside the general social and economic disruption of Brexit, there was also increased public and political discourse around topics such as immigration. The referendum on Brexit and the vote to leave campaign was fuelled in part by an anti-immigration stance, especially regarding the migrant crisis and EU border control issues (Abrams & Travaglino, 2018). For those who value social order and tradition and see immigration as a threat to the existing social structures in the UK, UBI may be perceived as a scheme which could attract further immigration. In the present studies, we did not specify who exactly would be entitled to receive UBI payments beyond saying, ‘national citizens’. Given the resistance against redistributing services towards immigrants promoted by right-wing populist parties like the UK Independence Party, this may have also fuelled resistance to UBI among some participants (Gavin, 2018). The sentiment for directing welfare services to ‘our own’ (Andersen and Bjørklund, 1990), could have motivated a resistance to a scheme that redistributes wealth indiscriminately. For those uncertain of whether immigrants could potentially receive UBI payments, or that had concerns that UBI could attract further immigration, this may have then lowered their support for UBI (Emmenegger & Klemmensen, 2013). However, given that this sentiment is associated more with right-leaning political ideology (Harper & Hogue, 2019; Parolin & Siöland, 2020), we would have expected to have observed interactions with Authority and Political Orientation, and yet we did not. Therefore, this pattern between endorsement of the Authority Foundation and lower preference for UBI may simply be indicative of a general attitude to reduce any further social and economic disruption, as opposed to being driven by anti-immigrant sentiment.

The second moral thread revealed by Study 1 in the UK showed that endorsing equality predicted greater preference for UBI. Through replacing the nonsignificant Fairness Foundation measure in the Pilot Study with subscales measuring distributive (Equality and Equity) and procedural fairness, equality was the specific form of fairness that predicted UBI

preference. Here, the addition of moral measures to assess UBI preference was shown to be useful and informative. It could have been the case that valuing equality as a moral value meant that UBI would be seen as unfavourable precisely *because* it gives equal payments to everyone, whether rich or poor. Consequently, those who wish to see a reduction in social and income inequality may, rightly, claim that if everyone gets the same payment this cannot directly reduce inequality. Indeed, some have made this argument and advocated alternate approaches such as a negative income tax, which factor in existing disparities in wealth when arranging wealth redistribution (Honkanen, 2014). However, taken from a broader perspective, UBIs equal distribution can be seen to disproportionately improve the lives of those living on low incomes. For these low earners, an additional modest monthly sum may be the difference between living above or below the poverty line, and as such can make a vast difference to improving the lives of the poor while leaving the rich relatively unaffected. Here, the results of our study appear to suggest that those who value equality perceive the scheme through the latter perspective.

### **Norwegian sample**

Despite the lower levels of income inequality and more generous approach to social welfare, the Authority Foundation was also found to predict UBI preference. As mentioned previously, this may offer further insights about the moral underpinnings that motivate Norway and other Nordic countries' reluctance to UBI. Recent findings have shown that individuals living in nations with a more generous welfare state and who also hold anti-immigrant sentiment or support right-wing ideology, are more likely to be resistant to UBI (Kozák, 2021; Vlandas, 2021). For countries with less expansive welfare states, anti-immigrant sentiment or supporting right-wing ideology is a relatively weak predictor (Parolin & Siöland, 2020). The suggestion being that, in nations with weaker welfare states, the

concern of immigrants receiving UBI payments is crowded out by the perceived positive effects of receiving a more robust form of social welfare.

In Study 1's Norwegian sample we found that valuing social order and tradition was associated with lower UBI preference. Here, the moral motivation underlying this finding may be that if individuals perceive little personal gain from receiving UBI, they may instead be driven by their willingness to maintain the status quo and reduce further levels of immigration. Therefore, if they regard UBI as being a factor that will encourage more immigration, they will, in turn, resist UBI, especially if they themselves are affluent enough to not gain much of a financial advantage from the scheme (Dermont & Weisstanner, 2020). But while our results did find that right-wing political orientation was predictive of having lower UBI preference, there was no interactive effect between the Authority Foundation and political orientation.

### **Limitations and Future Directions**

Our study could have gathered a larger and more socially and economically diverse sample. We used a self-selecting opportunity sample to gather our data by posting links to take part on social media community groups, along with the crowdsourcing platform, Prolific. And while our sample was relatively diverse across variables such as politics, gender, and age, UK participants were more educated than the national average (Higher Education Statistics Agency, 2017).

This was an exploratory set of studies to examine whether morality could contribute additional explanatory value above and beyond relying on just broad demographic variables when measuring UBI preference. However, having established that morality plays a key role in predicting UBI attitudes, future research would benefit from pursuing qualitative work to better understand how attitudes to politics, immigration, and valuing social order in one's

home country inform attitudes towards UBI. There is an increasing recognition that morality is contextually bound up with many issues that were not fully captured within our basic model (Beal, 2020; Hester & Gray, 2020; Schein, 2020). Future research should aim to assess, not just abstract moral values, but how these values manifest in discourse on this topic. More information-rich qualitative approaches may help to further answer questions such as: who do participants think should receive UBI; which, if any, groups do they believe should be excluded from receiving payments and does their perceived individual level of wealth affect their UBI preference? UBI is a complex and multifaceted scheme, and as such researchers will have to continue to broaden the approaches used to measure, predict, and understand attitudes on this topic.

## **Conclusion**

Research so far has tended to assess UBI preference by measuring how it varies across broad demographic measures such as age, gender, education, and political orientation. Here, morality has been shown to play a more informative and influential role in determining people's UBI attitudes. People's moral values are both interacting with and reacting to the social and economic factors shaping working life. Europe has been gripped by a pandemic and continues to face pressures relating to unemployment, automation, immigration, and right-wing populism. If governments wish to implement UBI in order to regain some societal stability, then gaining a better understanding of the public's underlying moral motivations will be an important next step.

## **Chapter 4**

### **Universal Basic Income: The Effects of Moral Reframing on UK and Norwegian Citizens**

#### **Chapter Prologue**

Chapter 4 follows on from the findings in Chapter 3, creating targeted moral reframing interventions to examine whether couching UBI messaging in specific values can increase UBI preference. Based on the findings of the previous chapter, this moral reframing exercise targets values specifically relevant to Brits and Norwegians. Despite having traditionally different approaches to social welfare and different levels of favourability to UBI, we aimed to test the effectiveness of the moral reframing technique in overcoming these differences.

## **Abstract**

Young or old, left-wing, or right-wing, male or female, attitudes to Universal Basic Income (UBI) have been shown to vary significantly across several key demographic categories. However, in the UK and Norway, research has shown that endorsement of moral values predicted UBI preference above and beyond demographic measures. In this study we use a reframing technique to describe UBI in terms of specific moral and political values. In the UK sample ( $N = 179$ ) and the Norwegian sample ( $N = 282$ ) UBI messaging was reframed to emphasize either: its politically bipartisan appeal (Dual Identity); its ability to improve social inequality (Equality), or its ability to maintain social order (Authority). In both samples results revealed that although left-wingers had greater UBI preference than right-wingers, none of the reframed messages significantly affected UBI preference (vs. control condition).

## **Universal Basic Income: The Effects of Moral Reframing on UK and Norwegian Citizens**

In many parts of Europe and elsewhere, the idea of local and national governments introducing UBI has become both popularised and polarised. The idea itself is reasonably straightforward: whether working or not, UBI payments from the government would provide every adult citizen with an unconditional but modest monthly sum. To some, this may sound like a modern, technocratic solution aimed at reducing present-day social and economic issues. However, the idea of the state propping up citizens earnings by providing a financial floor dates back centuries (Haagh, 2019; Van Parijs, 1992). From Thomas Paine to Martin Luther King, Jr., several key figures have endorsed basic income programmes of some kind, with the aim of improving existing welfare systems. But despite its long history, UBI has largely failed to establish itself as a legitimate way to lessen the reliance on existing benefits schemes. That is, until now – the threat of job loss from rising levels of automation, along with the ongoing consequences of the COVID-19 pandemic, has recently increased the demand for UBI to be introduced at both the local and national level (Allas et al., 2020; Coombs, 2020; Devlin et al., 2021). This trend of rising support for UBI is uneven though: whether comparing across national populations, age cohorts, or political orientation, UBI preference varies significantly (Gilberstadt, 2020). Given the moral rhetoric that so often accompanies debates over UBI, the technique of moral reframing – whereby a person, initially resistant to a certain issue, has that issue framed in a way that aligns with their moral values – may well help improve intergroup communication and persuasion on this topic (see Fienberg & Willer, 2019). In this study, we aim to create UBI messages couched in specific moral and political values to examine whether doing so improves UK and Norwegians attitudes to UBI.

Across Europe, a large-scale analysis assessed public support for introducing UBI, results showed: 34% support in Norway (lowest ranking), 51% support in the UK (middle



ranking), and 81% support in Lithuania (highest ranking) (Lee, 2018). Here, we chose to examine citizens of Norway and the UK because they each have a sizeable percentage of their populations that do not currently hold favourable to UBI. Also, each has different approaches to social welfare, with Norway providing a more extensive social safety net to its citizens, when compared to the UK (Wilson & Pickett, 2019). Beyond just international differences, though, age cohorts have also been shown to vary in their attitudes to UBI. Younger people were reported as having twice the level of support (67%) than did their older counterparts (33%) in a large-scale poll by Pew Research Centre (Gilberstadt, 2020). So too with political orientation – left-wingers have also been shown to have greater support for UBI when compared with right-wingers (Devlin et al., 2021; Parolin & Siöland, 2020). Collectively these demographic variables only offer an incomplete explanation as to what underpins and motivates these divergent UBI attitudes, though.

Looking beyond just demographics then, moral psychology research has identified moral conviction to be a distinctive domain of attitude strength, one which likely recruits separate psychological processing when evaluating polarising socio-political topics (Skitka, 2010; Skitka & Bauman, 2008; Skitka & Morgan, 2014). Indeed, research on attitudes to controversial topics – such as the Brexit referendum, pro-environmentalism, and abortion rights – has shown that moral measures offer more predictive power than demographic measures (Harper & Hogue, 2019; Milfont et al., 2019; Vaughan et al., 2019). Furthermore, identifying people's underlying moral motivations provides additional insight into what factors are informing people's opinions on topical issues such as UBI. For instance, Koleva et al. (2012) showed that men and women had significantly different levels of disapproval for: pornography use, casual sex, and having a child outside of marriage. Yet this demographic variable of gender offers little explanation as to what exactly is prompting the disapproval. The strongest predictor in the model was in fact the moral value of purity (related, in part, to

spiritual corruption and the emotion of disgust); greater endorsement of this value predicted stronger disapproval of these issues. This moral finding offers more descriptive and explanatory value for those who might hope to then improve political communication on these subjects.

Indeed, recent work examining the moral underpinnings of UBI preferences found that moral values were able to predict UBI preference above and beyond demographic measures. Using both moral and demographic predictors to examine preference for UBI, Green et al. (2021) found that, in Norway, having stronger support for maintaining social hierarchies and social order predicted lower UBI preference. By comparison, demographic measures such as age, education, gender, and political orientation were relatively weak predictors. In the UK, as with the Norwegian sample, valuing the preservation of social order and social hierarchy was found to predict lower preference for UBI. Although, in the UK sample a second moral predictor emerged: greater endorsement of equality predicted higher preference for UBI, while demographic predictors again performed relatively poorly. Here, by creating morally based UBI messages, reframed to align with the values of the target audience, we aim to examine whether such an intervention can increase peoples' UBI preference.

### **Moral Reframing**

To improve messaging on a polarised topic, moral reframing research couches messaging on a given topic in the moral values that align with the target audience. For instance, conservatives who read a morally reframed passage which described gay men and women as 'patriotic Americans' increased their preference for same-sex marriage when compared with those who read a passage advocating for this same topic based on values of equality (Feinberg & Willer, 2015). These morally based reframing exercises are based upon

Moral foundations theory (MFT) (Graham et al., 2013), which argues that the moral domain comprises distinct foundations that universally underpin people's moral beliefs and judgements: care; fairness, loyalty, authority, sanctity, and liberty (see Table 1) (Haidt, 2012; Graham et al., 2009; Graham et al., 2011). When applied to the political domain, MFT research has consistently found that left-wingers tend to base their morality on social justice, and consequently tend endorse care, fairness, and liberty from oppression for marginalised groups (Graham et al., 2009; Haidt, 2012; Haidt & Joseph, 2004). Whereas, right-wingers tend to value maintaining social order, and have been shown to value care and fairness slightly less, but endorse loyalty, authority, sanctity, and economic liberty far more than their left-wing counterparts (Graham et al., 2013; Iyer et al., 2012).

Politically, adopting moral rhetoric to garner support from those who already share one's values can be an effective way of persuading, motivating, and mobilising others (Haidt, 2012; Lakoff, 2010). But if recipients of these moralised arguments do not share the values of the speaker, then espousing morally partisan arguments can produce ineffective and counterproductive outcomes (Garrett & Bankert, 2020). For instance, exposure to oppositional moral arguments on topics such as pro-environmentalism or meat eating has been shown to further entrench a person's existing beliefs rather than change them (Feinberg et al., 2019; Wolsko, 2017). Previous research has found that attitude polarisation and political hostility between left-wing and right-wing groups is, in part, associated with underlying moral divisions (Feinberg & Willer, 2013; Iyer et al., 2012).

Many previous moral reframing studies have previously worked off the assumption that left and right-wing participants' moral foundations are divided by the pattern described above. However, while this pattern has been shown to be fairly robust, endorsement of a given moral foundation is not always divided by left and right-wing orientation. Some studies have shown that political ideology's role in explaining moral endorsement can vary

depending on the culture; and that motivations, emotions, and personality play a more fundamental role (Frimer et al., 2013; Kivikangas et al., 2021). Furthermore, Frimer et al. (2013) suggest that values such as obedience to authority are not unique to conservatives, as liberals are also obedient to authority when they find the authority figure to be legitimate (e.g. civil rights leaders or climate change activist). As such, we avoided making the *a priori* assumption that left-wingers UBI preference would increase when moral messaging endorsed values of care and fairness, or that right-wingers UBI preference would increase when moral messaging endorsed values of loyalty, authority, and sanctity (Haidt, 2012). Instead, our moral messaging was based upon the specific moral values that have predicted UBI attitudes in previous research among UK and Norwegian samples: Support for maintaining social order (Authority Foundation) and support for equality (Green et al., 2021).

Finally, though the focus of morality has dominated the reframing studies mentioned above, a moral reframing intervention by Wolsko (2017) also included a common identity condition when reframing climate change issues. The idea behind the Common Identity Model is that in order to improve intergroup relations which may otherwise feel hostile to one another, groups are encouraged to reconceive of themselves under a superordinate identity, so that incompatible subgroup identities are no longer salient (Nier et al., 2001). Wolsko (2017) found that morally incongruent messages had somewhat of a backfire effect for US liberals who received climate change messages based on the binding foundations, weakening their support for certain climate change issues, relative to the control group. Therefore, by adding an additional identity-based approach it may also hold potential for creating a more inclusive and appealing message to a politically diverse group. Indeed, the common identity condition was shown to improve both liberal and conservative environmental protection intentions above and beyond the other moral reframing conditions. It therefore shows promise as an additional identity-based reframing approach.

Yet despite showing some positive results, the common identity model has also been shown to have differential effects on minority and majority groups (Dixon et al., 2012). Majority groups showed greater preference for a common identity, whereas minority groups showed a greater preference for acknowledging both their own subgroup identity as well as communality within a superordinate identity (Dovidio et al., 2009). One possible reason for these differences comes from the social identity literature which asserts that minority groups prefer to hold onto a dual identity as they are motivated to maintain positively distinct social identities (Tajfel, 1979), and being subsumed within a single superordinate identity can evoke identity threat (Crisp et al., 2006). With regards to the present study there is no obvious minority and majority group in terms of left-wing and right-wing individuals, nevertheless, Europe is regarded as being in one of its most politically divided periods in decades (Vachudova, 2021). As such, any attempt to categorise left and right within a single common identity may well induce identity threat and make any such re-framing attempt seem less rather than more appealing. For this reason, we chose to use a reframing message based on a dual identity model which affirmed both participants political subgroup identity, as well as their common national identity. This was expected to enable participants to feel less identity threat by combining an acknowledgement and respect of their political concerns, in combination with an emphasis on communalities and shared values between all citizens of a given nationality (Glasford & Dovidio, 2011).

### **The Present Research**

By reframing UBI messaging so it endorses specific values or beliefs, we aim to examine whether such an intervention can boost UBI preferences. Specifically, of the moral values which have been identified as being predictive of UBI preference (authority and equality) we test whether reading pro-UBI messaging couched in these terms, or in a dual identity messaging, will increase UBI preference compared to a morally and politically-

neutral control message about UBI. In addition, we also examine whether the effects of these reframed messages on UBI preference is moderated by political orientation. Which is to say, do UBI preferences among these three conditions vary as a function of whether participants are left-wingers or right-wingers? Based on MFT theorising, we might expect that left-wingers would be moved to increase their UBI after reading the equality-based message, whereas right-wingers would be more moved to increase their UBI preferences after reading the authority-based message (see Graham et al., 2013). However, given the previous lack of interactions found between these values and political orientation when predicting UBI (Green et al., 2021), we do not predict there to be a moderating effect of political orientation on the equality or authority message condition (vs. control message condition). Instead, we simply predict that, as a main effect, both the equality and authority message will increase UBI preference (vs control). Previous research found that strong endorsement of the authority foundation predicted lower UBI preference (in the UK and Norway), whereas strong endorsement of equality predicted higher UBI preference (only in the UK) (Green et al., 2021). Irrespective of these divergent patterns of moral preference for UBI, we aimed to morally reframe UBI to align with both these values to test whether each could increase UBI preference as a result. Finally, given that there is no precedent for using a dual identity moral reframing technique, we make no formal predictions about this message's effect on UBI preference. For the UK, there are four conditions: control; equality; authority; dual identity. For Norway, there are three conditions: control; authority; dual identity. The authority and equality findings of Green et al. (2021) determined the use of both equality and authority in the UK sample but just authority in the Norway sample, as both equality and authority predicted UBI preference in the UK, but only the authority foundation predicted UBI preference in Norway.

H1: after reading an equality based UBI message, participants' UBI preference will increase (vs. a morally neutral control message).

H2: after reading an authority based UBI message, participants' UBI preference will increase (vs. a morally neutral control message).

## **Methods**

### **UK Sample**

#### **Participants**

We collected an initial sample of 343 participants, but following data screening the final sample was reduced to 179. Data screening exclusions were made if participants answered an initial attention check at the beginning of the study incorrectly. Exclusions were also made for those who responded “don't know/ not political” to the political orientation measure, or for those who responded “don't know” when asked about their UBI preference. Participants were also excluded if their nationality was outside of the UK, or if they failed to complete any of the relevant survey items. The final sample consisted of 76 males and 103 females, ages ranged from 18 to 72 ( $M = 39.20$ ,  $SD = 13.28$ ). The sample consisted of a politically mixed group of participants: 52% left-of-centre; 3% centre; 45% right-of-centre.

Recruitment was carried out using the crowdsourcing platform Prolific, this has previously been shown to outperform other popular participant recruitment platforms on a several key measures, including response rate, naivety, internal reliability, and dishonesty (Peer et al., 2017). Our sample size was determined by time and budgetary constraints; therefore a power analysis was not carried out.

#### **Materials and Procedure**

In Part 1, participants began by completing a series of demographic items, reporting their age, gender, level of education, and political orientation. In Part 2 participants were randomly assigned to one of four moral reframing conditions: control, equality, authority, or dual identity. The message for each message condition began by explaining what UBI is, it also featured two accompanying photos which illustrated the issue being addressed in whichever condition they featured in. For example, one of the photos in the equality condition depicted a homeless person sat across from two well-dressed people (see Supplementary Materials for the condition messages and photos).

The control condition differed from the other conditions as the message only featured information describing UBI's key features – absent any normative content. The remaining conditions began with the same descriptive text as the control condition, along with an additional short, reframed passage on UBI. For example, the message reframed according to equality described how, “Income inequality is now a central problem of our time”, and how “Introducing UBI would provide a financial foundation (£1000, per month) so nobody falls into poverty”. For the message reframed according to authority values, it described how “Economic and social instability are now central problems of our time”, and how “UBI will help people to take back personal responsibility for their future and maintain traditional working values”. Finally, the dual identity message reframed UBI to emphasise its relevance to all national citizens, whether they held left-wing or right-wing values. Describing how, “Together, as a society, we face a future where many unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Brits vulnerable to unemployment”, and how “UBI will provide support to all its citizens - meaning a better future for everyone in the UK”. This morally or politically reframed section of text made an appeal for introducing UBI couched in whichever moral or political value condition participants were randomly allocated to. In Part 3, participants reported their UBI preference ( $M = 5.27$ ,  $SD = 1.84$ ), and answered



a battery of other exploratory questions relating to UBI and morality, they finished by reading a short debrief message.

## **Results**

To examine the effects of the reframing messages on UBI preference, we conducted a multiple regression analysis entering in: dummy-coded variables representing equality, authority, and dual identity (Control as the reference group), political orientation, and the interaction between political orientation and each of the experimental conditions (see Table 1). The results show that none of the three experimental conditions significantly differed in their UBI preference when compared with the control condition (disconfirming H1 and H2). Political orientation, however, was shown to be significant: those with a more right-wing orientation had lower UBI than those with more left-wing political orientation. But there were no significant interactions between the moral messages and political orientation (See Table 1). The overall model was shown to be significant, although this finding was driven by a large main effect of political orientation.

**Table 1**

*UK Sample Multiple Linear Regression Predicting UBI Preference from Moral Reframing Conditions (and Dual Identity), Political Orientation, and Interaction effects between Moral Reframing Conditions and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)	5.031	.250		20.102	.000
Equality	.320	.358	.075	.895	.372
Authority	.468	.357	.111	1.309	.192
Dual ID	.267	.361	.062	.740	.460
Political Orientation	-.827	.129	-.449	-6.421	.000
Equality X Political Orientation	-.011	.156	-.006	-.072	.943
Authority X Political Orientation	-.057	.152	-.030	-.376	.708
Dual Identity X Political Orientation	-.117	.150	-.063	-.782	.435
Model overview: $R^2 = .202$ , $F(7, 171) = 6.17$ , $p < .001$					

*Note.* Control condition as the reference group. Interaction variables were z-scored.

## **Norwegian Sample**

### **Participants**

All participants were collected via posting the survey link across multiple social media platforms. For data screening, the same exclusion process was applied as the UK sample. From an initial 426 participants, the final sample consisted of 282, of which, 110 were males and 172 were females, with ages ranging from 18 to 86 ( $M = 35.15$ ,  $SD = 15.36$ ). The political orientation of this sample consisted of a roughly equal representation of left and

right-leaning participants: 50% left-of-centre; 13.5% centre; 36.5% right-of-centre. As with the UK sample, recruitment was determined by time and budgetary constraints.

## **Materials and Procedure**

For this sample, the entire survey was translated by a Norwegian researcher and then independently back-translated by a separate Norwegian- and English-speaking researcher. Participants completed the same three-part survey as did the UK sample, including reading the same morally reframing conditions and answering the same UBI preference item ( $M = 4.03$ ,  $SD = 2.07$ ) (see Supplementary Materials for the condition messages and photos).

## **Results**

To examine the effects of the reframing messages on UBI preference, we conducted a multiple regression analysis entering in: dummy-coded variables representing authority and dual identity (Control as the reference group), political orientation, and the interaction between political orientation and each of the experimental conditions (see Table 2). Here too, the results show that neither of the two experimental conditions significantly differed in their UBI preference (vs. control condition) (disconfirming H2). Political orientation was again shown to be significant in the same direction as the UK sample, with those with right-wingers showing significantly lower UBI when compared with left-wingers. However, there were no significant interactions between the moral messages and political orientation (See Table 2). But the overall model was significant, primarily powered by the large main effect of political orientation.

**Table 2**

*Norwegian Sample Multiple Linear Regression Predicting UBI Preference from Moral Reframing Conditions (and Dual Identity), Political Orientation, and Interaction effects between Moral Reframing Conditions and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)	4.018	.164		24.424	.000
Authority	.061	.287	.013	.215	.830
Dual ID	.075	.281	.016	.265	.791
Political Orientation	-.726	.116	-.350	-6.231	.000
Authority X Political Orientation	-.194	.120	-.096	-1.613	.108
Dual Identity X Political Orientation	.091	.128	.043	.713	.477
Model overview: $R^2 = .143$ , $F(7, 274) = 6.51$ , $p < .001$					

*Note.* Control condition as the reference group. Interaction variables were z-scored.

## Discussion

Given the primacy of moral cognition when evaluating important socio-political topics, we aimed to test whether emphasising the values most associated with UBI, we could increase preference for it. Green et al. (2021) found that, in both the UK and Norway, the Authority Foundation predicted UBI preference: those who reported greater endorsement of this value had significantly lower preference for the scheme. Additionally, in the UK sample equality was found to be a significant, positive predictor of UBI preference. However, neither of these morally based messages across either national sample group were found to significantly increase UBI preference (vs. control condition). We also included a dual identity message for both the UK and Norway (Glasford & Dovidio, 2011), which explained how UBI could

benefit national citizens, whether they were left or right-wing. But as with the moral messages, this politically reframed message was also found to have no significant effect on participants UBI preference, in either national sample (vs control condition).

There may be individual or overlapping explanations as to why we found no effect of moral and political reframing UBI on UK and Norwegian citizens. One reason for the overall lack of significant findings in the UK sample may stem from the relatively high baseline UBI preference in the control conditions ( $M = 5.19$ ,  $SD = 1.94$ ), relative to the Norwegian control condition ( $M = 3.91$ ,  $SD = 2.12$ ). Because of this high overall preference, there may have been a ceiling effect wherein the baseline preference for UBI had little room to significantly increase. This would have been especially relevant for left-wingers, who were shown to have significantly higher UBI preferences than right-wingers. Which is to say, left-wingers would have had an even higher UBI preference than the group average, and so even less scope to then raise their preferences further.

However, across both the UK and Norwegian samples, one significant result stood out among all the other null results – in both groups, right-wingers had significantly lower UBI preference than did left-wingers. Given that we found no interactions between political orientation and any of the reframed conditions, it may be that the specific topics addressed in the messages were not those that motivated participants attitude to UBI. Previous research has already revealed the moral values which underpin UBI preference in the UK and Norway. Nonetheless, our framed messages may have lacked the precision to identify the key moral motivation related to this issue. For example, take the authority message, this foundation is described by MFT researchers as being: “related to social order and the obligations of hierarchical relationships” (Haidt et al., 2009, p. 111). But within this definition there lies a lot of scope about what aspects of UBI might connect with this value. In our authority message we chose to focus on how UBI could stabilise the economy, help prevent long-term

unemployment, thereby preserving traditional working values: “In short, as our economy changes and evolves, UBI will help people to take back personal responsibility for their future and maintain traditional working values!” (see supplementary materials for full transcripts of each of the messaging conditions). But while this UBI message aligns with key aspects of the authority foundation, those who highly endorse authority may be focused on other topics that fall within the scope of this foundation. For instance, recent research has found that welfare chauvinism (i.e. supporting economic redistribution but being resistance towards immigrants receiving this support) is associated with negative attitudes to UBI (Parolin & Siöland, 2020). Conceivably this could be the motivation behind the association between maintaining ‘social order’ and UBI preference. Those who strongly endorse the authority foundation may be motivated to resist UBI as they fear it would increase immigration thereby disrupting the *status quo*. If so, we may have been talking *to* the relevant moral value but talking *past* the morally specific UBI concern.

This lack of precision may have affected the equality condition in the UK sample, too. We based our moral messages on previous work by Green et al. (2021) which identified the moral predictors associated with UBI attitudes in the UK and Norway. In this previous study there was an attempt to gain a more granular understanding of the specific aspect of the moral motivators affecting UBI preference. They replaced the single unitary fairness foundation with three separate moral subscales: equality, proportionality/equity, and procedural justice, finding equality to be the significant predictor among these three measures. However, even after distilling down the significant aspect of fairness, there are still different ways in which equality endorsement could be related to UBI attitudes. In the messaging condition we emphasised how everyone gets *equal payments* and how this could give *everyone* a financial floor: “Introducing UBI would provide a financial foundation (£1000, per month) so nobody falls into poverty” (see supplementary materials). However, even within a pro-equality

message there are different interpretations as to what would satisfy someone who values this form of fairness. For some, perhaps equal payments for everyone and an ability to eradicate extreme poverty aligns with their moral goals for equality (as outlined in our message). But for others, maybe endorsing equality means reducing wealth inequality – something UBI cannot do directly as everyone gets the same payment irrespective of income UBI. For those people, programs such as negative income tax which aims to directly reduce wealth inequality through taxing those above a certain income threshold and providing financial aid to those below it would have been a more appealing form of equality messaging (Honkanen, 2014). In terms of both the equality and authority messaging, knowing the abstract moral predictors of UBI was not sufficient to construct messages which target the precise and relevant UBI concerns.

For the dual identity messaging condition, the purpose for this approach was to avoid using moral language which may be divisive to some percentage of any sample and instead aim for a more inclusive message. Instead, by recognizing the values of the subordinate groups (left and right-wingers) but also speaking to the shared identity of the whole sample (national identity), the aim was use dual identity theory as an alternate approach to the reframing intervention (Glasford & Dovidio, 2011). Given the theoretical reasoning behind dual identity theory – and given the political divide we found over UBI preference across both samples – this seemed like a potentially promising approach to reduce some of the political intergroup division. In other words, avoid using moral language that may appeal to only one political orientation while reducing to the other. However, the effectiveness of harnessing a dual identity approach depends on the existing intergroup context, as has been identified by previous researchers (see Baysu et al., 2011; Gavin, 2018). The polarising effect of immigration in both the UK and Norway may have created an intergroup context in which the Left's largely pro-immigration and the Right's largely anti-immigration stance are too

incompatible to coalesce on this topic. Meaning, that without a specific moral message, and instead framing UBI as a way to help the country as a whole, both left and right, this condition may have lacked any identifiable motivation for participants in either sample, whether left or right.

Another possibility for why each of these reframing messages lacked significance, despite UBI being a morally charged topic, is that economic factors may ultimately be determining people's attitudes to UBI. Research by Kozák (2021) has shown that, "UBI's capacity to appeal to the general public seems to be limited by the prosperity of post-industrial societies, rather than the cultural attachment of their population to paid work" (p. 41). Meaning that although positive attitudes to work were negatively associated with UBI preference, ultimately, the more affluent nations found the idea of a radical change to their welfare system unappealing. This research looked at 23 countries in the European Social Survey and seems to offer a plausible economic explanation as to why countries with high Gross domestic Product (GDP) have the lowest national support for UBI, Norway (33.8%) and Sweden (34.8%). Whereas countries with the highest support for UBI, Russia (72.9%) and Lithuania (80.4%) have lower GDP (Lee, 2018). Which is that citizens who feel their country already has an adequate social safety net may be resistant supporting a radical overhaul of their existing system. The present study did not address the role of economic factors in our messaging conditions, but it is possible that these economic concerns subsume any related moral concerns they may also have regarding UBI.

However, it may well be the case that UBI attitudes are influenced by a constellation of factors which our relatively straightforward messaging intervention did not capture. Looking to other recent findings on UBI, some have shown that anti-immigrant sentiment is associated with lower support for UBI in nations with higher GDPs, while trust in political institutions increases UBI support (Parolin & Siöland, 2020; Vlandas, 2021). The picture of



UBI becomes a rather complex one, made up of competing social biases, economic moderators, and political ideologies (Lloyd & Paine, 2021). Which, if true, may act as a barrier to effective moral messaging, as advocating for its introduction based on a single moral value may not sufficiently address all the relevant factors just described.

Future research on morally reframing UBI could potentially still prove to be an effective intervention technique to improve political communication and persuasion. However, to increase the likelihood of this, two key points need to be clarified: the research must know more than just the moral values associated with UBI, while the participants must know more specific (economic) details about the UBI programme in question. To the first point, while identifying the specific moral values that underpin UBI preference is an instructive first step; to construct an effective moral messaging technique, further detail is required. For example, if researchers used the MFQ to identify the relevant Foundations associated with UBI and found Sanctity/Purity negatively predicted UBI preference, what does that entail? Theoretically it could mean that those who strongly endorse purity/sanctity values may be opposed to immigrants receiving UBI (which may be associated with impurity: see Schnall et al, 2008) and therefore be against the idea if that was a possibility. Yet, it could also mean that people hold work as a sacred value and see UBI as polluting their society's work ethic. To avoid this ambiguity, after gathering results from self-report moral measures such as the MFQ, researchers may benefit from following up with semi-structured interviews. This would enable researchers to gather more contextually rich feedback about what specific concerns are related to the relevant moral value. This would also help to address an increasingly common and important criticism of much moral psychology research being based on decontextualised measures (Bloom, 2011). Researchers have pointed out that inferences about people's moral motivation, concerns and values are too often drawn from

measures which are largely stripped of important real-world context (Beal, 2020; Hester et al, 2020; Schein, 2020).

With regards to this critique of decontextualization – in the present study, while participants were given a reasonable amount of information about what UBI is and how it works, details that may prove decisive for people were left ambiguous. For example, we did not specify the exact parameters for who would receive UBI payments, beyond explaining that it would be given to all adult citizens. In part, this is because the details vary across different trials and proposals of UBI have stipulated different parameters, there is no one exact specification for who would and would not receive these payments. Yet this may be a very consequential detail for many people: right-wingers may be in favour of the proposal providing prisoners did not received it; perhaps left-wingers may be in favour of the proposal providing nobody over a certain income threshold received it. By the researchers giving a more exact outline of the programmes details, this would then help to clarify any practical queries that could otherwise obscure participant judgements on this topic.

## **Conclusion**

So much of the discourse on UBI is, at its core, moral in nature. For this reason, a moral reframing intervention may still be an effective way to improve intergroup communication and persuasion on this topic. And as UBI trials continue grow, from South Africa to South Korea, understanding and improving the way advocates, policy makers, and politicians communicate about this will become increasingly consequential.

Our research shows that there is a significant political divide over UBI preference, for future research it will be imperative to understand the moral (and nonmoral) threads that underpin people's attitudes to this programme. It may be that morally, politically, or economically, the threads underlying UBI are too intertwined and complex to lend

themselves to broad moral messages aimed at large groups. However, historically the idea has, at various times, drawn support from both left-wing and right-wing individuals and groups; suggesting that this may still be a tractable problem, if leaders can learn to speak to the concerns and values of their target groups.

## **Chapter 5**

### **The Privacy Mismatch: Evolved Intuitions in a Digital World**

#### **Chapter Prologue**

Chapter 5 shifts the attention away from UBI attitudes and towards online privacy behaviour. Applying the principles of Moral Intuitionism and the functionalist logic of evolutionary psychology which underpinned the previous three chapters, this chapter looks to offer a novel explanation for the privacy paradox based upon the Evolutionary Mismatch Hypothesis. Much as UBI research has largely looked to explain attitudes to UBI through factors like perceived affordability or differences across demographic variables, privacy paradox research often asserts that people's personal data protection choices are made via a series of deliberate, cost-benefit decisions. Here, we argue that most of our decision making is done largely outside of conscious awareness. Furthermore, that the intuitive processes guiding privacy behaviour adapted to a social environment which is far removed from the digital, online environment. Consequently, the mismatch between our evolved privacy intuitions and the novel environment of digital space often produces specific maladaptive behaviours described by the privacy paradox.

## **The Privacy Mismatch: Evolved Intuitions in a Digital World**

“You have zero privacy anyway,” declared Scott McNealy, CEO of Sun Microsystems in 1999, “get over it” (Sprenger, 1999). Two decades later, the amount of public data hoovered up by social networks, geolocalized cellphones, and other smart devices, makes those early days seem quaint. Yet polling indicates that people remain strongly – indeed, increasingly – concerned about online privacy (Auxier et al., 2019). “Get over it”, they have not. Or at least they say they haven’t. Though people express serious concerns about their privacy, these same people do little to protect it (Gerber et al., 2018). This inconsistency – now extensively documented (Kokolakis, 2017) – is known as the *privacy paradox*.

As more of our lives move online and fall under increasingly sophisticated surveillance technologies, these gaps between the public’s professed desire for privacy and their behavior will become more consequential. We argue here that understanding privacy psychology in modern online environments requires looking back to the evolutionary roots of privacy concern. The privacy paradox, we submit, is the consequence of an evolutionary mismatch (Li et al. 2018). Human privacy intuitions emerged in an ancestral environment that differs radically from the digital environment where those intuitions are now being tested.

### **The Privacy Paradox**

Privacy is broadly defined as having control over others’ access to the self (Altman, 1975), but is often divided into different dimensions (Table 1). The privacy paradox focuses specifically on the gap between expressed and revealed preferences when it comes to *informational* privacy. In one study, Facebook users were asked how concerned they would be if strangers could freely access information indicating their sexual and political

orientation. Of those participants reporting the very highest level of concern, 48% nonetheless self-disclosed their sexual orientation, and 47% their political orientation (Acquisti & Gross, 2006). The paradox holds even for those with strong technological knowledge and awareness of privacy risks (Barth et al. 2019), and has been shown across e-commerce, financial services, social networking sites, and mobile app downloads.

There are several ways to understand the paradox. Among the most notable has been the *privacy calculus theory* (Dinev & Hart, 2006): humans, as rational actors, weigh the expected costs of a loss of privacy against the benefits that the disclosure provides. In this view, there is no paradox; rewards derived from self-disclosure may be difficult to articulate but are worthwhile enough to people to justify the privacy costs. Other researchers, more skeptical about the “homo economicus” view of people as entirely rational agents, instead highlight the role of cognitive biases; people’s tendency to discount the future (Hallam & Zanella, 2017), be overly optimistic about their own outcomes compared to others (Cho et al., 2010), and underestimate the risks of things they like versus dislike (Kehr et al., 2015), all result in laxer-than-stated privacy behavior.

The Privacy Paradox likely has many causes. However, we suggest that a more complete account of the Paradox benefits from taking a functionalist approach to why we care about privacy to begin with. We argue that millions of years of complex interpersonal interaction have left humans with a suite of privacy-based intuitions that help regulate both our physical and psychological boundaries. These evolved intuitions are heuristically elicited by a variety of social stimuli and backed by aversive emotional reactions. Yet the effectiveness of these psychological adaptations are curtailed in the novel and rapidly-evolving digital environment. And so, while in the abstract people may rationally recognize threats to their privacy online, the online world fails to elicit the emotional reaction – and thus the motivational force – to reliably compel behavior change. To understand when

privacy violations do and do not evoke strong reactions, it is useful to examine the underlying functions these reactions evolved to serve.

### **The Evolution of Privacy**

Evolutionary theorizing about privacy often draws direct analogies (evolved phenomena that serve common functions) and/or homologies (evolved phenomena that have common origins) between human privacy concern and proto-privacy concerns seen across the non-human animal kingdom (Klopfer & Reubenstein, 1977). For both human and non-human species, controlling the boundaries between self and others serves critical fitness goals. Personal space (the interpersonal distance at which a person feels comfortable) and territoriality (a defendable bounded geographic area) are two common forms of these boundaries. Each involves a safety buffer from threats to the self and vital resources, and are seen recurrently across the animal kingdom (Westin, 1967). Since social interaction is often also crucial to fitness, organisms have faced evolutionary pressures to develop psychological mechanisms to flexibly regulate social boundaries – carefully balancing approach and withdrawal, interaction, and seclusion.

As theory of mind, language, and social complexity increased among humans and our recent ancestors, fitness came to additionally depend on the maintenance of cooperative social relationships – and thus the maintenance of an individual's social reputation (Van Vugt, Roberts & Hardy, 2007). As a result, in addition to regulating access to self and territory, individuals are likely to have benefited from controlling and manipulating access to reputation-relevant information. Given the incentive to manage this information, privacy concern may have evolved to motivate an individual to avoid the threat of unregulated or unwanted access to information about the self.

Supporting this, some observational evidence shows impression management tactics being used by our closest non-human relatives. To establish dominance without fighting, chimpanzees often engage in face-to-face mutual bluff displays. However, chimps involuntarily bare their teeth when frightened, a reflex that undermines a dominant appearance. De Waal (1986) reports chimps turning their backs until this reaction subsides, shielding it from their competitor's view. This is a rudimentary form of informational privacy. However, such tactics are orders of magnitude more elaborate among humans, who not only reliably modify their behavior when they know they are being observed, but carefully cultivate their reputations by strategically manipulating (deception), displaying (signaling), and withholding (privacy) information about themselves.

Integrating these theoretical lines, we thus propose that, for humans, privacy concerns evolved to protect bodily, territorial, and reputational integrity from recurrent ancestral challenges. Within small group environments, psychological mechanisms of privacy concern are thought to have evolved to reflexively respond to two main challenges: avoiding nearby potential threats or avoiding reputation damage. We suggest that adaptive behaviors – such as increasing interpersonal distance or decreasing self-disclosure/exposure – evolved to protect the self and were reliably triggered by a specific set of social and environmental cues.

Norms about what was socially acceptable, and eventually laws about what was legally permissible, emerged to regulate wider social arrangements that balanced the preferences of the individual with the interests of the group. Though this balance had privacy intuitions as their psychological foundation, the diverse local ecologies and histories faced by different societies led to notable cultural variability in privacy norms, even while core privacy concerns remain universal (Altman, 1977). Today's online environment, however, has strayed far from both the ancestral environment to which privacy intuitions adapted, and the cultural environment from which privacy norms emerged.



**Table 1**

*Four dimensions of privacy typology, based on Burgoon's (1982).*

Dimension	Description
Physical privacy	Individuals use spatial distancing and physical barriers to regulate their exposure from surveillance as well as physical proximity to others.
Social privacy	The interactional aspects of privacy, including intimate social engagement with select individuals while having some form of separation from others.
Psychological privacy	The ability of individuals to avoid unwanted interruption and be free to contemplate, concentrate, introspect, etc.
Informational privacy	The ability to regulate the collection and dissemination of information about one's self.

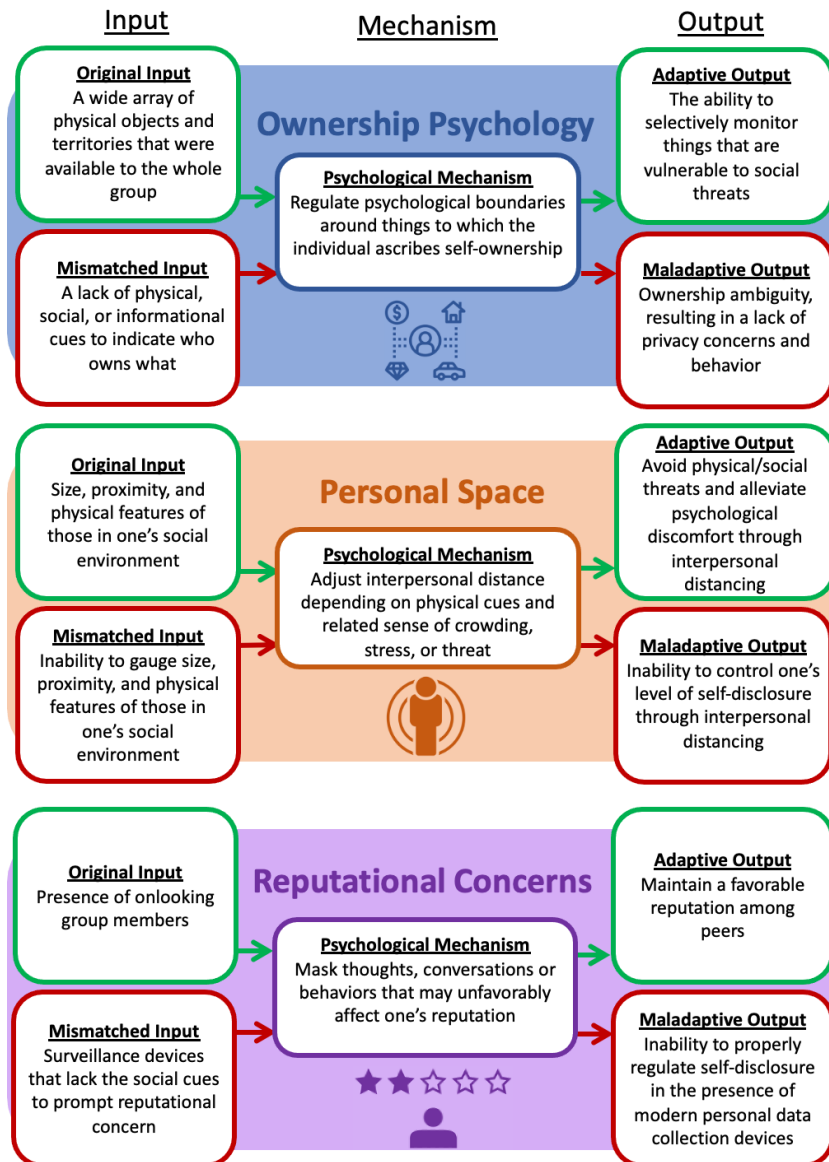
## **Evolutionary Mismatch**

An evolutionary mismatch occurs when an environmental change leaves a once-beneficial trait unable to fulfill its selected purpose (Cofnas, 2016). The fearlessness of birds that evolved on remote islands, far from mammalian predators, becomes maladaptive when mammals are introduced (Lloyd et al. 2012). A taste for fat and sugar, calibrated for an environment where these are scarce, becomes maladaptive when civilization makes them abundant (Li et al., 2018). These examples show the misalignments that occur when a psychology calibrated for one environment then faces another. The arrival of social media, mass facial recognition, and ubiquitous tracking/eavesdropping smartphones has created a

similarly novel environment. This abrupt switch from face-to-face to digital has stripped the social environment of many of the cues required to trigger our privacy violation intuitions (the visceral reaction to noticing a stranger reading your texts over your shoulder, is likely absent when the same information is even more visibly shared online). Our carefully calibrated privacy psychology is left ill-equipped to deal with twenty-first century security challenges. Below we specify three specific psychological mismatches: ownership psychology, personal space, and reputational concern (Figure 1).

**Figure 1**

*The Evolutionary Mismatch Process*



*Note.* Adaptive process within the ancestral environment (green). Maladaptive process within the novel modern environment (red).

## Ownership psychology

Beyond simply possessing things, humans also own things – developing and respecting rules of ownership to improve social coordination (Nancekivell, Friedman & Gelman, 2019). Indeed, the concept of ownership is argued to have evolved in response to the challenge of avoiding recurrent and costly disputes over resources such as territory and food (Boyer, 2015). And while extensive meat-sharing was common among early hunter-gatherer communities, and ownership rare, this scenario was sustained only under strict culturally-enforced sharing norms to support large groups and suppress personal stockpiling. As humans began to live in more permanent settlements such norms were relaxed, allowing the latent ownership psychology to reemerge.

Today, the concept of ownership is present in nearly all existing human languages and cultures, and is shown to emerge early in childhood (Boyer, 2015). Two-year-olds already infer ownership of objects, and four-year-olds can discern ownership based upon investment of labour, refraining from taking resources accordingly (Kanngiesser et al., 2020). In adolescence, the things an individual owns can be enveloped into their identity – creating an 'extended self' (Belk, 2018). We suggest that privacy intuitions evolved to selectively control access not just to the physical self, but also to this extended self: including territory, possessions, even intellectual property.

However, establishing who owns what can be challenging – to do so, people intuitively rely on a complex set of ownership cues. Cues including 'who first possessed an object', or 'who contributed the labor to make/modify it' help intuit ownership (Nancekivell et al., 2019). But unlike interpersonal environments, digital environments often lack these cues. For example, when using a GPS app, who is the first possessor of a person's location data – the user or the app? Who does the user attribute labor investment to – themselves or

the software developers? Such online ambiguity produces an evolutionary mismatch: opaque ownership cues within the digital environment often fail to prompt the privacy intuitions necessary to motivate personal data protection behavior.

## **Personal space**

Through largely unconscious cognitive processing, both human and nonhuman animals are continually navigating their social space so as to maintain a safe and comfortable distance between themselves and others. This space—personal space—provides not just a defense mechanism against incoming attack or collision, but also a level of physical privacy to help regulate stress and emotion (Vagnoni et al., 2018). The size of this safety zone is determined by intrapersonal, interpersonal, and environmental variables. Interpersonal determinants such as hearing aggressive conversations (Vagnoni et al., 2018), viewing emotional faces (Ruggiero et al., 2017), and others' age (Iachini et al., 2016) can all modulate the size of personal space. Yet most non-verbal cues disappear when three-dimensional social environments collapse into two-dimensional online environments.

The emergence of platforms like Twitter and Facebook suddenly enabled people to connect and share with millions worldwide. This stands in stark contrast to the relatively small in-person social networks of our ancestral (or even recent) past. In this new form of technology-mediated communication, users often self-disclose to a large, unseen, and heterogeneous group (Lieberman & Schroeder, 2020). By swapping an observable audience with an imagined one, individuals lose a complex set of social response cues that they would typically and reflexively use to guide their self-disclosing behavior *toward* those perceived as receptive or friendly, and *away* from those perceived as unreceptive or hostile. Consequently, a regrettable late-night tweet becomes more likely when faced with a static screen instead of a thousand expressive onlookers. Without face-to-face interaction, social media interfaces

don't allow us to emotionally register reliable triggers – such as crowding or over-stimulation – of potential social threat. In turn, we fail to reduce our interpersonal exposure--perhaps the most basic form of privacy protection.

### **Reputational concerns**

Whether a paleolithic hunter-gatherer or a modern-day internet user, the impression others form and share about us are consequential. Research from various disciplines has shown how individuals will condition their cooperation or punishment towards others based on their reputation from previous interactions, observations, and third-party gossip. Humans have thus evolved a complex reputation-management psychology.

We suggest that privacy concerns are one component--motivating individuals to control and conceal socially damaging information or behavior. And while social media sites may lack many useful social cues, alerts and notifications do at least remind users of the presence of observers. These gentle reminders are often enough to motivate users to apply some privacy measures, albeit imperfectly, to protect their online reputation. However, an emergent field of technology is now collating enormous amounts of users' data, effectively invisibly.

The 'internet of things' (IoT) refers to a system of interconnected devices, from smart fridges to fitness trackers, that collect and share data via the internet. By 2018, ~18 billion IoT devices worldwide were already in use, amassing user's personal data (Statista, 2020). Many reports of privacy risks and violations – such as eavesdropping home smart speakers – have emerged. Despite this, studies have found that while privacy concerns reduce social media use (Jonzani et al., 2020), they do not affect purchase intentions for IoT devices (Menard & Bot, 2020). From the evolutionary perspective, differences in reputational cues

between IoT devices and social media can account for differences in users' privacy concerns and behaviors.

Unlike on social media, reputational cues are almost entirely absent with IoT devices; once configured these largely silent, faceless, smart devices continuously and imperceptibly collect personal data outside of conscious awareness. In addition, this information is then fed to a faceless corporation's database, rather than to identifiable individuals in one's extended social circle. Therefore, though the IoT may prompt nominal and abstract privacy concerns, without stirring real reputation concerns, users' visceral privacy intuitions remain sidelined.

## **A Future**

For privacy psychology, the last three decades have seen an environmental change that is arguably larger than even the Neolithic revolution 10,000 years ago. In this current environment, online interfaces befuddle intuitions that have otherwise allowed us to adaptively decide what to share, how much, and with whom. The mass, permanent record of our online behavior leaves access of our information – and thus control over our reputations and decisions – to the whims of online power brokers. This leaves us vulnerable to coercive persecution by dissent-averse governments, commercial manipulation by profit-seeking corporations, and criminal exploitation by tech-savvy ne'er-do-wells (Zuboff, 2019).

Examples of the consequences of privacy erosion are accumulating. Data breaches have taken a substantial psychological and human toll (the leaking of account information from adulterous match-making site Ashley Madison provoked divorces, resignations, and suicides). The easily-accessed digital footprints people leave online can often return to sabotage other aspects of their life (one in ten 16-34-year-olds report being rejected from a job due to something they'd posted online [Sherman, 2013]). Surreptitiously acquired personal data on Facebook can be used to sway an electorate (as happened with the political

consulting firm, Cambridge Analytica, and the Trump campaign in 2016's US election). And perhaps most sizably, the broad use of online data that powers China's Social Credit System has already been used to regulate millions of citizens' travel options, apartment rents, medical wait times, and even education quality.

However, our reactions to privacy violations are tied not to these grave consequences, but to our evolved intuitions. This disconnect between reaction and consequence exposes how our privacy psychology can be exploited for power and profit. For instance, even though they soberly and technically explain their privacy policies, technology companies can nonetheless easily coax our data from us by burying the cues that would trigger our evolved privacy concerns. In exchange, companies offer us returns – e.g. the connection of social networks or the titillation of online pornography – that powerfully appeal to evolved desires. Both corporations and governments often appease citizens' civil liberty concerns by removing the triggers of, rather than the actual intrusions behind, privacy concern. These types of solutions exploit our mismatched psychology, quelling our immediate emotional reactions, while leaving the deeper, more rational concerns unaddressed.

Evolutionary mismatches tend to resolve via subsequent evolution, environmental change, or behavioral adaptation (Lloyd et al., 2012). Timescales preclude subsequent evolution. Environmental change, in this context, would entail changing how people experience the internet. Europe's GDPR regulations attempted such user-level changes, but their contractual legalese bloodlessly appealed only to our abstract concerns, failing to ignite our emotional privacy intuitions. Privacy alerts could be reimagined to more viscerally trigger our social intuitions (Calo, 2011). Researchers should measure the effectiveness of these changes for aligning preferences and behavior. However, we are pessimistic.



The sheer scale of privacy management online makes putting the behavioral onus on individual users unrealistic. Similar problems greet bottom-up behavioral adaptations such as editing privacy settings. Even those who are themselves skeptical of the existence of a privacy paradox (e.g. Solove, 2020) recognize that when it comes to privacy, the online environment we've constructed is too vast to be individually managed given our psychological limitations. We weren't built for it.

Given the Privacy Mismatch, efforts to align user's preferences and behavior may prove futile. A more tractable solution could focus on mitigating the negative consequences of people's loose privacy behavior, but data protection efforts face resistance from powerful government and corporate interests. Challenging those interests would require rousing public interest in, and changing social norms about, data privacy. Psychologically, one strategy for lifting an issue to socio-political importance is via "moral piggybacking" – tying privacy to other areas of existing moral concern (Feinberg et al., 2019). Privacy could piggyback on fairness concerns by highlighting the injustice of corporations extracting our personal data for profit, or onto liberty concerns by reminding us that our data fuels mass manipulation through personalization algorithms. Moralizing privacy via piggybacking may rally greater political will for privacy rights.

Obviously, the online environment is vast and diverse. Not all domains will lead to poorly-calibrated oversharing. In fact, certain technologies may provoke mismatches that err in the other direction, affording novel but self-defeating motivations for social withdrawal. For instance, videoconferencing enables asymmetric visibility whereby students, patients, or audience members can unilaterally disable their webcams – rendering them seeing, but unseen. This protects privacy but may undermine other goals by degrading a traditional social experience.

In either case, for something so morally complex, culturally ubiquitous, and increasingly topical, privacy somehow remains understudied in psychology. We hope that the functionalist approach we have outlined here can help close the gap between the paucity of psychological research on privacy, and the important, pervasive, and ever-widening public discussion of it. There are few topics for which the gap is so large.

## GENERAL DISCUSSION

### Summary of Key Empirical Findings

The empirical chapters of this thesis (Papers 1, 2, and 3) had two overarching aims: first, to identify the moral values that predict preference for UBI; second, to test whether UBI messaging, couched in specific moral terms, could increase UBI preference. Previous moral reframing research suggests that when a topic's messaging aligns with the moral values held by a target audience, it is more likely to resonate and persuade (Feinberg & Willer, 2013, 2015, 2019). From an applied perspective, this could help both advocates and policymakers improve the way they communicate about UBI.

Paper 1 began by examining the moral predictors of UBI preference among a US sample, then, using the significant moral predictors to reframe UBI. In Study 1, Sanctity was the only significant moral measure in the model, negatively predicting UBI preference. But when a more granular set of fairness subscales and an Economic Liberty subscale were added in Study 2, Sanctity no longer significantly predicted UBI preference. Instead, two new moral predictors emerged: Equality positively predicted UBI preference, while Economic Liberty negatively predicted it. Then, to test the efficacy of the moral reframing technique on the topic of UBI, Study 3 created two morally framed UBI messages and a morally neutral control message. Integrating the value of either Equality or Economic Liberty into morally reframed UBI messaging significantly increased UBI preference (vs. Control message). Indeed, despite Equality being positively associated with UBI preference and Economic Liberty being negatively associated with it, *both* message conditions were, nevertheless, persuasive.

Looking to explore the moral predictors of UBI preference in cultures beyond the US, Paper 2 examined samples in Norway and the UK. Firstly, in the UK Pilot Study, the only significant moral predictor in the model was the Authority foundation, which negatively predicted UBI preference. Then in Study 1, examining both Norwegians and Brits, endorsement of the Authority foundation again negatively predicted UBI preference, in both national samples. Lastly, Paper 1's only other significant moral predictor was in the UK sample (Study 1), where Equality positively predicted UBI preference.

In Paper 3, again using a Norwegian and UK sample, we examined whether framing UBI messages to align with one of the moral values identified in Paper 2 (Norway: Authority. UK: Authority and Equality) could increase UBI preference (vs. Control message). We also included a Dual Identity message for each sample, this emphasised the way in which, whether left- or right-wing, UBI could help support all national citizens. However, unlike Paper 1, none of the reframing messages in either sample significantly increased UBI preference (vs. Control message).

## **Implications of UBI research**

### ***UBI in the US***

The emergence of Equality as a moral predictor in Study 2 is perhaps unsurprising given that many UBI advocates regard, and indeed promote, the scheme to help alleviate growing rates of social inequality within the US (Hurst et al., 2016; Yang, 2018). This appeal to inequality, then, is likely to be well-received by those who regard inequality as a primary concern and are wary about automation's potential to further increase the rich-poor divide. Certainly many believe that automation will affect future levels of inequality, as a poll found that 69% of US millennials (aged 18-35) and 60% of mid-career respondents (aged 36-50) believe the emergence of new technology will increase inequality and widen the gap between

rich and poor in the US (Reinhart, 2018). Consequently, those who value equality may have greater UBI preference because they see the programme as an effective way to tackle social inequality. Of course, the association found in Study 2 between equality and UBI does not provide a causal link, but it does highlight one possible moral motivation underpinning people's UBI preference: reducing social inequality.

Conversely, Study 2's finding that Economic Liberty negatively predicts UBI preference, suggests that those who prefer the government to largely stay out of the free market economy, are less positive about the potential introduction of UBI to the US. This may be reflecting a prominent meritocratic belief in the US, whereby any citizen can achieve success through their own hard work and determination (Jost et al., 2003; Kraus & Keltner, 2013). From this perspective, economic conservatives often argue that the free market should largely be allowed to operate without government intervention, so that legitimate, merit-based social hierarchies are free to form (Jost & Hunyady, 2005; Pratto et al., 2000; Randazzo & Haidt, 2015). An advocate of economic liberty would, therefore, likely view any attempt from the government to intervene and redistribute wealth through UBI as an infringement on citizens' (economic) liberty.

From these two broadly sketched out perspectives emerge two divergent expectations about the role of the government in relation to social welfare. These expectations are well captured by Berlin's (2017) two concepts of liberty: 'Positive Liberty' and 'Negative Liberty'. Negative liberty is very much represented by those who strongly endorse the measure of economic liberty in our study – this is the more traditional US perspective of liberty, i.e. freedom from outside interference or oppression (Berlin, 2017). In contrast, Positive Liberty relates to having the requirements necessary to achieve one's potential. Here, Berlin was referring to the way in which Negative Liberty alone can be insufficient when social systems do not provide any opportunities for people to realise their potential. With

regards to UBI, it is the proponents of Negative Liberty who argue that government has a duty to *not* impinge on their economic liberty by intervening to redistribute UBI payments (Booth, 2018). However, those who endorse a Positive Liberty perspective regard it as the government's duty to intervene and, in the case of UBI, provide unconditional financial support when many industrious US workers remain systematically disadvantaged (Bregman, 2017; Yang, 2018). These two concepts of liberty likely explain some of the divide seen in Study 2: the Equality finding is underpinned by a belief in Positive Liberty, while the economic liberty finding is underpinned by a belief in Negative Liberty. It is these two ideological perspectives that characterise a central political divide between liberals and conservatives in the US. Conservatives generally support a Negative Liberty, laissez-faire approach when it comes to the government's role in social welfare, whereas, liberals generally support a Positive Liberty, interventionist approach by government.

Notwithstanding these historically divergent political approaches to social welfare, there was found to be a lack of interaction between the moral values and political orientation in Studies 1, 2, and 3. Whether liberal or conservative, those who strongly endorsed Equality favoured UBI, while those who strongly endorsed Economic Liberty do not. This is a relatively unique finding in the moral reframing literature. Most results from previous interventions have been moderated by political orientation: conservatives reading a message couched in the Loyalty, Authority, and/or Sanctity foundations often increase their support for that topic. Liberals reading that same message generally remain unmoved or even reduce their support. Similarly, liberals reading a message couched in the Care and/or Fairness foundations increases liberal attitudes on a given topic, while leaving conservatives unaffected or more against the topic than beforehand (Albertson et al., 2020; Day et al., 2014; Feinberg & Willer, 2013, 2015; Wolsko et al., 2016; Wolsko, 2017). Given that UBI encompasses many issues which US liberals and conservatives, morally and economically

disagree upon, the lack of interaction effects were not just uncommon, they were also unexpected.

A potential explanation for the bipartisan (rather than partisan) appeal of these messages may lie in their lack of politicised moral rhetoric, and, instead, on their emphasis of pragmatic moral rhetoric. Which is to say, our messages focused on the practical utility of UBI, with statements such as “UBI will help ensure that nobody is left in poverty” for the equality message, or by explaining how “UBI will allow people to find work which fulfils their potential and improves their financial independence” for the economic liberty message. These messages described UBI in terms of their equality or economic liberty merits, but they did not tend to veer into the polarising ‘culture war’ aspects of these values. Indeed, recent research showed that messaging which invokes improving racial equality was less persuasive than messaging which promotes improving social class equality (English & Kalla, 2021). The researchers suggest that public policy messages using race-based messaging were more divisive than class-based messages. Consequently, race-based policy messages gained less overall support among both conservative *and* liberal readers. So too with the Equality- and Economic Liberty-based messages; if these had used politically divisive rhetoric UBI (e.g. references to Black Lives Matter or the Tea Party), then the effect seen in Study 3 likely would have been moderated by political orientation. But neither side has a monopoly on the broader and more abstract notions of equality or economic liberty; both values are in fact woven into the overarching ‘American Dream’ narrative (Putnam, 2016; Solt et al., 2016). By avoiding politicised rhetoric in our messages, we may have avoided instigating moral partisanship within the moral reframing technique.

In fact, the inclusion of politicised subject matter within the MFQ has been one of the critiques of the MFT findings about moral differences between the Left and Right. It has been suggested that some items contain political content and could have contributed to the political

moral divisions that MFT research has found using the MFQ (Harper & Rhodes, 2021). For example, using an MFQ item about loyalty to one's country (a predominantly conservative concern) reliably gathers higher endorsement from conservatives (Graham et al., 2009). But researchers found high rates of liberal 'loyalty' endorsement when they flipped the political emphasis and used an item referring to labour union loyalty (a predominantly liberal concern) instead (Voelkel & Brandt, 2019). Which raises two points: theoretically, the moral divisions we have come to expect based on past MFT research may, in part, be an artifact of the phrasing of the MFQ items and not from an underlying partisan moral division. While practically, when using moral framing, it is not just the moral value used in a message which determines political preference, it is the issue it is addressing. In other words, a message based on Authority (a predominately conservative moral value) need not hold appeal to conservatives alone – authority to *whom* may be the deciding factor of the messages appeal. Indeed, messaging that emphasises deference to a liberal authority figure or topic could appeal to liberals, while deference to an apolitical figure or topic may, potentially hold bipartisan appeal.

In Study 3 specifically, the issues we couched UBI on were shown to be effective, yet there were other UBI issues that we could have focused on that would have aligned with equality or economic liberty but may have been more or less effective. For example, in the equality framing, we could have chosen to focus on how nobody gets means tested in order to receive UBI payments, thereby reducing stigma as payments are indiscriminate. The point being that, while our chosen topics were effective, Study 1 and 2 were blunt instruments for identifying the specific moral motivations underpinning UBI preference. In future, before tackling the moral reframing intervention an additional study using qualitative methods would likely have sharpened the focus (and persuasiveness) of the messages. Nevertheless, the implication from the present study is that both economic liberty and equality can be



effective frames for boosting both liberal and conservative UBI preference. Effective persuasion may need to stick to pragmatic values, though, to avoid evoking topics that carry a divisive history.

### ***UBI in the UK and Norway***

The results from Paper 2 indicate that Authority is a key moral concern associated with UBI preference in both the UK and Norway, along with the additional moral concern associated with Equality for the UK sample. Yet, in Paper 3, neither of these moral framings, nor the Dual Identity frame, affected participants' attitudes to UBI (vs. Control condition). As such, the implications that can be drawn from this are limited. Paper 2 has usefully provided information about the underlying moral concerns of UBI in these two national samples. However, unlike Paper 1, couching the benefits of UBI in targeted moral language was not persuasive. Meaning that, at this stage, we are only able to infer that issues relating to social order and maintaining tradition and social hierarchies (Authority), or improving social matters relating to inequality (Equality), are important to Norwegians and Brits.

For those hoping to increase the persuasiveness of moral reframe messages through targeting specific issues in future, these moral predictors still leave a lot of potential ground to cover. And given the ineffectiveness of Paper 3's reframing intervention, the implication appears to be that effective moral messaging for these samples needs to first identify what *specific* issues within these broad moral values are motivating people's UBI preference, rather than making an educated guess. What authority- or equality-based issues in particular are affecting people's UBI preferences? Only after this has been established should researchers attempt to formulate an updated and more targeted moral reframe message about UBI. Of course, another implication might be that for these two national samples, the topic is too complex and divisive to lend itself to broad moral messaging targeted at a general

audience. In which case, one aim may then be to identify the moral predictors of UBI preference among narrower demographics and then construct targeted messages aimed at these specific subgroups.

### ***The Privacy Mismatch***

The implications for Paper 4 remain at the theoretical level for now. The claims made about these specified evolutionary mismatches will next have to be operationalised and empirically tested. Nevertheless, the theorising made in this paper offers a new and distinctly different way to interpret user's failure to value or protect their online personal data. One prominent field of research has focused on the Privacy Calculus theory which explains the privacy paradox phenomenon as resulting from a reasoned, cost-benefit choice. (Chen, 2018; Jozani et al., 2020; Levitt & List, 2008;). This rationalist approach argues that people simply value convenience and online entertainment more than protecting their personal data and are therefore consciously and willingly trading away their privacy (Cooper & Wright, 2018). Based upon this Privacy Calculus perspective, others have then argued that online privacy regulation should therefore be relaxed, because people's revealed preferences demonstrate that privacy protection is not a concern for most internet users (Middleton, 2020; Mueller, 2021; Satell, 2014). Our evolutionary mismatch explanation of the privacy paradox offers an intuitionist rebuttal to this rationalist perspective on privacy behaviour online.

The privacy mismatch argument suggests that people are ill-equipped to deal with the challenges required to manage their privacy online, because digital environments often lack the cues necessary to trigger our privacy intuitions. Take the example of Google Glass; in 2012 this brand of 'smart glasses' were released, enabling the wearer to effortlessly take photos and even video record whatever was in front of them. But almost immediately after release, this form of wearable technology caused a significant public backlash (Eveleth,

2018). People were concerned about the potential privacy violations this product entailed, and wearers of Google Glass were soon pejoratively labelled, ‘Glassholes’, eventually leading Google to halt production by January 2015 (Schuster, 2014). From a Privacy Calculus perspective this makes little sense, as these glasses were basically doing what many social media companies and CCTV had already been doing for years – hoovering up vast amounts of people’s personal interactions. However, from the privacy mismatch perspective this is easily explained: Google Glass had provided people with a visual cue to trigger their interpersonal surveillance intuitions. As a result, people often reported feeling ‘creeped out’ by this and expressed a strong visceral aversion to this type of surveillance technology (Kudina & Verbeek, 2019). In the years following this failed attempt at designing smart glasses, Google, far from giving up on this idea, is now in the process of redesigning the glasses so that, according to Google senior vice-president of devices and services, they “fade into the background” (BBC, 2020). The privacy mismatch argument, then, helps to elucidate the inherent risks involved in these types of surveillance tech becoming ever-present but increasingly imperceptible: when they are out of sight, they are out of mind. And, when they are out of mind, we often fail to behave in accordance with our stated privacy concern; acting more carelessly online than we intended.

### **Synthesising the Moral Foundations, Moral Reframing, and Privacy Research**

After using MFT to understand the moral threads underpinning UBI preference, I had aimed to extend the theory by making the case for a ‘Privacy foundation’. Having developed an understanding of moral psychology through the lens of MFT, I tried to apply the existing theory to understand the ever-growing issue of privacy concern online. If MFT is a taxonomy of the universal moral domain, then what foundation captured privacy concern? Clearly the Liberty foundation and privacy were interconnected: liberty preserves privacy rights, and in turn, privacy provides citizens with the physical and psychological space to be free from

various forms of oppression. But while there is clearly some overlap between privacy and liberty, privacy is morally unique and has its own constellation of nonoverlapping features. For example, imagine a scenario in which someone is house hunting and eventually finds what they believe to be their perfect home. But what if they were then told that, in some Black Mirror-esque twist, the house is fitted with cameras which feed to someone's home across the other side of the world. They will never meet this person, and only this other person will ever see this footage. My guess is that even if you could guarantee these conditions – in principle, almost nobody would be accepting of this scenario. Yet, this reflexive aversion to this proposition appears even though there are no infringements on one's liberty here – you are free to do whatever you like with no constraints or recourse to your reputation. Which is to say, people also value privacy for reasons which have nothing to do with liberty. Privacy also provides the necessary context to nurture psychological features such as self-identity, introspection, self-evaluation, and decision making (Altman, 1975; Foddy & Finighan, 1980). This system development function is argued to allow for personal growth as individuals (and groups) can concentrate, practice, reflect, create, meditate, pray, cry, or engage in any other form of activity that supports personal growth but may otherwise be hindered by public scrutiny.

Based on the belief that privacy is a good candidate for *foundationhood*, I then set about using the formal criteria laid out by Graham et al. (2013) to determine whether this belief was supported by the empirical and theoretical literature. To my surprise, privacy was, and still is, remarkably under-researched within psychology. Nonetheless, I did find empirical and theoretical support each of the five criteria within other related fields of social science. The five criteria are: (1) A common concern in third-party normative judgments; 2) Automatic affective evaluations; 3) Culturally widespread; 4) Evidence of innate preparedness; 5) Evolutionary model demonstrates adaptive advantage (see Graham et al.,

2013). Having found support for the Privacy foundation according to MFTs criteria, next came an epistemic question: would having a Privacy foundation serve to improve the understanding of privacy psychology? Would a six-item subscale added to the existing MFQ help to capture how relevant privacy is to people's moral judgements? As I have already outlined, these broad, context-free measures probably do not capture the real-world complexity of moral judgements, and, therefore, offer limited predictive value or external validity (Bloom, 2011; Hester & Gray, 2020). As with the existing moral foundations questionnaire used for the UBI research in Paper 1, 2, and 3, knowing people's Privacy foundation endorsement, based on a six-item subscale, would not capture the complexity, dynamics, or nuance of privacy attitudes. In fact, privacy, perhaps more than any other moral value, is conceptually hard to define. As Margulis (1977) has previously noted, "theorists do not agree . . . on whether privacy is a behavior, attitude, process, goal, phenomenal state, or what" (p.17). As a unitary term, 'privacy' often lacks the precision and clarity required to allow for a clear, concise, and broadly shared understanding of the concept.

When approaching the topic of privacy, then, I dispensed with the next step of constructing a privacy scale and then getting participants to rate their endorsement on a set of decontextualised items, the way the MFT researchers had done when first creating the original five foundations (Graham et al., 2009; Haidt & Joseph, 2007). However, I did adopt two of MFT's key principles to inform the theorizing in Paper 4, namely: moral intuitionism – intuitions come first, reasoning second – as well as MFT's use of functionalist logic to explain evolutionarily adaptive purpose of privacy (Haidt, 2012). Bringing this perspective to bear on the phenomenon of the privacy paradox, we recognised that a significant proportion of research and theorising on this topic had developed from a 'homo economicus' perspective. In other words, theories like the Privacy Calculus explained people's paradoxical privacy behaviour from the view point that humans were making consistently rational and

narrowly self-interested privacy decisions when online (Kahneman & Thaler, 2006). In contrast, we suggested that a great deal of the choices internet users make about their personal data protection are not being weighed up via a rational cost-benefit calculus. Rather, people often fail to preserve their online privacy because digital environments generally lack the cues necessary to activate our evolved privacy intuitions. We believe this offers an alternate and novel perspective to this phenomenon, one which – at least in theory – is a better fit when trying to explain the inconsistency between peoples stated and revealed preferences.

This same perspective also informed our approach to the UBI research, though it took a different, more empirical, and applied approach. Much of the research on UBI has examined and explained the peoples' UBI attitudes based on demographic factors like education level or gender, or by how affordable people think it is, but overlooking people's underlying moral concerns as a contributing factor (Hoynes & Rothstein, 2019). But as Papers 1 and 2 showed, the ability of intuitive moral foundations to predict people's UBI preference was sizable – greater than demographic predictors, in fact. But it also illustrated the primacy of morality when people make judgements on topics like UBI. It showed that for those who communicate on this topic that, UBI preference is not entirely being decided based on cold economic projections (Martinelli, 2017). And, as Paper 1 showed, just a very brief passage of text which reframes UBI in terms of specific moral values can significantly boost people's UBI preference, not through appealing to people's cold, analytic skills of evaluation, but through appealing to values which reside in our innate psychology, which adapted through thousands of years of social selection pressure (Tomasello et al., 2012). Of course, this is not to suggest that factors like affordability are not important, or that people do not use them to inform their judgements, or even that people are not able to engage in effortful, rational data protection practices when online. Rather, it is to say that evolved moral

intuitionism is what is primarily guiding and motivating people's beliefs and behaviours on these topics. From an applied perspective, this insight could have significant implications for both topics, in terms of how government, online social networking platforms, and advocate groups regulate and communicate on these issues in future.

## **Limitations**

### ***Moral Reframing***

Returning to the critique of MFT made in previous chapters, I would like to highlight the problem of conceiving of moral values as a set of 'dials' that people have set at relatively fixed points (Haidt, 2012). Derived from the logic of MFT, I have theorised that if a select group strongly endorses, say, the Care foundation, then a message built upon this foundation will have a greater chance of connecting with this group, as it matches with their moral concerns. But recently I have come to see this as a flawed way to understand moral judgement. Moral values are not like personality traits; they are not individually based traits that are relatively stable across time and contexts. Quite the opposite – they are a set of norms and values which expressly function to boost cooperation and suppress self-interest, and therefore vary depending on group context and interpersonal dynamics (Curry, 2019; Henrich & Muthukrishna, 2021). By way of example, consider a serial killer – a low scorer on the Care foundation, to be sure. But does that mean that they are unconditionally cold and uncaring towards everyone, all the time? Probably not. They may be cruel to certain people, based on certain beliefs or prejudices they hold, while persevering a 'normal' level of compassion and care for their friends and family. So too with our moral predictor findings: just because a group of participants scored high on Equality, for example, doesn't mean they value equality unconditionally and in all contexts. In terms of moral reframing, this means that although identifying moral predictors can be a useful first step, it cannot guide the focus

or subject of a reframing message; it can only identify this value as being salient to the issue at hand.

Of course, the response here could be to point to the many reframing techniques – including my own in Paper 1 – that have worked using precisely this logic. However, I suspect that these past framings may have worked for one of two reasons, either the moral rhetoric used signalled to the reader that the writer was an ingroup member, thereby boosting preference for this topic via a social identity form of processing (Abrams et al., 1990). Or, because the framed message just happened to address one of the relevant issues that really does matter out of a whole range of topics that may or may not be relevant. Again, to draw this back to the present studies, I suspect that the pragmatic nature of the moral messages in Paper 1 acted as a persuasive message to both liberals and conservatives. However, this approach was used in the Norway and UK intervention, too, yet there it was ineffective. In the context of UBI attitudes, endorsing Authority or Equality could entail many different things. And the focus we chose for each of these messages, though based on these values, was perhaps not targeting the relevant concerns within these values. For example, the Authority message for the UK and Norway was based on maintaining a stable economy and protecting working values through supporting gainful employment. But this may have missed the mark; it may be that some of those scoring high on the authority foundation were more concerned around issues relating to immigration. In short, while identifying relevant moral values may be a useful (and sometimes effective) first step, from the perspective of the UK and Norway, further qualitative research is needed to gather further contextual information which can then inform the precision and content of the subsequent moral messages.

In terms of the moral measures we used, the liberty Economic Liberty scale in Paper 1 was only a two-item scale that was drawn from a larger Liberty scale (see Iyer et al., 2012). Given the relatively low internal reliability score (.58) of this scale, it would have improved



the psychometrics if we had used the entire original scale which had already been developed and validated. Also, we used a self-selecting opportunity sample by advertising the survey on open social media platforms for Study 1 of Paper 1, and in Paper 2 for the UK Pilot Study and the Norwegian sample in Study 1. Although this is probably not a significant issue, it does allow bias in, as it has been reported that online surveys are typically sought out by younger and more politically left-leaning samples. That said, our samples showed an even spread across political orientation and age range, with left and right, young and old both being represented in fairly equal measures.

## **Future Directions**

### ***Using the Moral Foundations Questionnaire***

The criticism I have laid out regarding the decontextualised nature of the MFQ is not to say that the MFQ is useless. As mentioned previously, when placed into a regression model, it can, and has been, a useful first step for gaining insight into which moral values are salient to a specific topic. However, adopting a more granular set of measures for a follow-up study may bring further precision. This was shown to be effective in Paper 1 and 2, as replacing the unitary Fairness foundation measure with three separate subscales of fairness revealed Equality to be the relevant concern associated with UBI preference. For those hoping to use the MFQ to help guide their focus for subsequent moral reframing interventions, this second step of introducing more fine-grained moral measures will likely be informative in designing a more precise moral reframing message. Of course, this does not fix the problem of measuring participants' agreement with contextless statements. To do that will require a qualitative follow-up study, nevertheless, it does provide researchers with a starting point. It can begin by identifying the salient moral values which are relevant to people's judgements on a given topic.

Notably, recent critiques have argued that the MFT's original five-factor model of the moral domain has not been well supported by cross-cultural studies using the MFQ (Curry 2016; Iurino & Saucier, 2020). The Morality-as-Cooperation Questionnaire (MAC-Q) (see Curry et al., 2019) has since been developed using game theory to identify and validate a seven-factor model of cooperation-based morality, with reportedly superior psychometrics (vs. the MFQ) (Curry et al., 2019). This suggests that this may prove to be a better scale for using as an initial examination of the moral values relevant to a specific topic in future.

### ***Morally Reframing UBI***

From an applied perspective, moral reframing interventions hold exciting potential to improve intergroup political communication at a time when it is in short supply (Brady et al., 2019; Guo et al., 2020). As Paper 1 showed, just a very brief intervention in which people read a short section of morally reframed text, can significantly increase UBI preference among a politically diverse audience. Given the effectiveness of the Equality and Economic Liberty framing on US participants, the next stage of research could be to try such messages in the real world. The attention economy of the online environment means that, among the many choices to attend to, people may choose to ignore messages on UBI if they do not deem them to be sufficiently interesting or relevant. Indeed, the way in which one's attention is often divided or shortened whilst online, means that people may need multiple message exposures to achieve the same effect sizes as those in experimental settings. The transferability from lab-based effects to real-world effects is an important next step to examine the effectiveness of moral reframing messages across these different contexts.

Interestingly, recent research has shown that a one-month field experiment using an online video advertising campaign about the climate change emergency was able to significantly affect attitudes to this topic. By synthesising experimental and theoretical work

on climate change communication, including elements of moral- and identity-based framing, Goldberg et al. (2021) designed online videos to appeal to a large sample of Republicans. Historically, Republicans have, on average, been more sceptical and resistant to the idea of man-made climate change (Hornsey et al., 2018). For example, in the past 10 years those reporting being ‘moderately to strongly concerned about global warming’ has risen by 16 percentage points for the US voters as a whole, while only rising by just six percent among republicans (Leiserowitz et al., 2020). Whereas Goldberg et al. (2021) found that their targeted, month-long advertising campaign was able to increase Republicans’ concern about this issue by *13 percentage points*. Given these promising signs from this early field experiment, and on top of the numerous effective lab-based studies, it is curious that so few have adopted this approach. Despite having been offered a cash incentive, Feinberg & Willer (2015) found that when tasked with making a persuasive policy appeal to their political opponents, under ten percent of liberals or conservatives used a moral reframing approach. This maybe because people are somewhat blinkered to other moral perspectives, or perhaps it simply feels distasteful or disingenuous to make moral appeals based on values you yourself do not support.

The promise of the findings in Paper 1, however, is that this need not be the case – improving social/income inequality and boosting financial freedom appear to be moral frames that both liberals *and* conservatives can get behind. For policymakers and UBI advocates alike, this approach may offer one of the most cost and time effective approaches for building consensus on this topic. Future research on morally reframing UBI should look to adopt a similar approach as Goldberg et al. (2021) and develop targeted ads via social media to test whether equality and economic liberty frames can increase UBI preference in real-world settings. As Paper 1 has demonstrably shown, both these frames hold appeal and increase UBI preference among liberal and conservatives. Therefore, they should be reused

on a larger scale to see if these effects replicate in a real-world setting. This is not to ignore my previous suggestions that more qualitative research should be done to gain a deeper and richer understanding of people's attitudes and moral motivations in relation to UBI. Indeed, by taking this approach, these effective message frames could be refined and improved based on this additional qualitative work. This also applies to Paper 3, where the frames *did not* significantly affect UBI preferences. Gaining a richer understanding of peoples' underlying moral motivations for UBI will help to improve the persuasiveness of future UBI messaging.

Once researchers have gathered both quantitative and qualitative information on people's underlying moral motivations, moral reframes should be designed in a stepwise manner. That is, targeted morally reframed messages should begin with appeals that are broad and appeal to the widest groups possible. Then they should begin to get more specific in stages; for example, the first message would invoke broad moral themes, whereas subsequent frames would narrow in on more specific aspects of certain values (using a between-methods design). This would allow researchers to assess where the optimal balance lies between broad moral frames and narrower, topic-specific frames. Too general, and the messages will probably lack the substance to strongly appeal to anyone; too specific, and the appeal will likely increase but to a diminishing number of people. For example, if there were three conditions each with 100 people reading either a broadly-, moderately-, or narrowly-focused UBI message, each rated on a seven-point scale for UBI preference, what would garner the most support overall? Again, from a purely applied perspective the argument could be for the condition with the highest mean increase in UBI preference to be the message which then goes on to be tested in a field study.

Regarding the findings in the UK and Norway (Paper 2 and 3) specifically, the next step should be to design qualitative research, potentially using semi-structured interviews, to gain a better understanding of which specific issues or values underpin the moral predictors

revealed in Paper 2. But if such research reveals that the impetus behind the authority foundation finding is an anti-immigrant sentiment, as suggested by associated sociological studies (see Parolin & Siöland, 2020), then clearly this is not an avenue to explore for moral reframing. Effectiveness is not the only criteria that should be applied when constructing such interventions, ethical concerns should be considered here too. Resistance to UBI by those strongly endorsing the Authority foundation may not necessarily be driven by anti-immigrant sentiment, though. Future qualitative research may find that the moral motivations behind the Authority foundation findings are driven by less problematic concerns. Similarly, qualitative research should also probe the relationship between endorsing equality values and having greater support for UBI. By replacing the Fairness foundation, we were able to narrow down the aspect of fairness associated with UBI preference to equality-based concerns. But further research should investigate what *type* of equality concerns actually predict UBI preference. Is it a drive for improving race, gender, income, or class equality, or indeed some combination of all these issues?

### ***The Privacy Mismatch***

Extending the logic of the evolutionary mismatch theorising could imply that social media platforms should cater to this evolved deficit by installing more visceral cues to activate the same privacy intuitions that guide our interpersonal interactions (Calo, 2011). For instance, images of eyes have been shown to prime people's reputational concerns (see Pfattheicher & Keller, 2015; Vaish et al., 2017) and affect social behaviour. Features such as images of eyes could be added to certain online platforms to prime user's social surveillance concerns, potentially leading to more careful behaviour when sharing personal data online. Although, as we explain in Paper 4, the scalability of such an approach is likely to be hindered on several fronts. As such, psychological interventions aimed at serving this goal are of limited use. I believe that future research in this area should be aimed at raising

awareness and concern about privacy protection online, to then increase user demand on tech companies to improve their privacy practices. An example of technology companies improving their customers privacy can be seen with Apple's iOS14.5 update, which requires users to *opt in* to being tracked by third-parties apps when using their iPhones and iPads. The subsequent user opt-in rate has hovered at about 5%, which illustrates two things: firstly, that tech companies are capable of vastly improve privacy protection for its users. Secondly, that when given clear and straightforward choices, users' revealed preferences show that they *do care* about protecting their privacy (Reichert, 2021).

If the most effective route to improving online privacy is through users demanding more rights for themselves, then psychological research on 'moral piggybacking' (a type of moral reframing) could help to encourage people to re-evaluate their expectations for online privacy (Rozin, 1999). As mentioned in Paper 4, for some, privacy for its own sake is not an appealing prospect. However, by *piggybacking* on other relevant values, this could increase people's motivations to demand for online services which actually meet their expectations (Rhee et al., 2019). For example, social media companies sell people's personal data to advertisers for vast profits while offering the users only paltry 'free' service on their platform. By morally piggybacking on the unfairness of financial inequity, users may then feel motivated to value and protect their data more carefully unless they are going to be reasonably compensated by these tech firms (Feinberg et al., 2019).

Another line of research that stems from our privacy mismatch theorising is on the effects of privacy and self-disclosure while using videoconferencing platforms. Following the COVID-19 pandemic there has been a huge rise in one-to-one and group video chats on platforms such as Zoom and Microsoft Teams, with the functionality to allow for visual anonymity. But how does visual anonymity affect these interactions? Our evolved intuitions have not yet caught some of the challenges presented within the digital space, but that does

not necessarily mean that this evolutionary lag always lead to maladaptive outcomes. The selective visual anonymity of Zoom and other such platforms is a fairly novel feature of modern communication, but it may prove to have beneficial effects. For example, perhaps selective two-way visual anonymity allows dyads to discuss challenging, controversial, or sensitive topics more easily through alleviating the social pressure at particularly stressful moments, turning cameras on again when we feel more relaxed again? Or does this type of technology-mediated communication ultimately erode the quality of interpersonal communication (Sbarra et al., 2019)? Also, how do these privacy practices vary cross-culturally? Earlier research has shown how privacy is culturally universal, while privacy practices themselves vary significantly between different societies (Altman, 1977). For example, individuals in collectivistic cultures have been found to disclose more information so that they can then receive more social support, and so, consequently, they assign greater importance to reducing privacy risks than individuals in individualistic cultures (Trepte et al., 2017). Exploring the way existing privacy norms are interacting with the challenges new technology presents may reveal that different cultural adaptations are producing different cross-cultural outcomes.

## **Final Remarks**

To return to the three key aims I outlined in Chapter 1, this thesis has shown that using moral predictors to understand UBI attitudes offers significant value, as it provides insight into people's considerable underlying moral motivations. Secondly, we have demonstrated the utility of the moral reframing technique for improving UBI attitudes among US participants. Whereas, for UK and Norwegian participants, this reframing technique needs to be refined and contextualised so that researchers can build messages which focus on the specific moral and practical concerns associated with people's UBI attitudes. And finally, we have offered up a novel explanation for the privacy paradox, one which challenges

existing rationalist explanations and instead highlights the role evolved intuitions play when managing (or mismanaging) our online behaviour.

Our evolved psychology has shaped modern social institutions (e.g. trade, private ownership, marriage, social welfare) (Boyer & Petersen, 2018; Petersen, 2012). Both online privacy and UBI are complex issues which have important economic and political factors determining their future; however, understanding the evolved psychology underpinning these issues may be an equally important determining factor. Indeed, building on some of the early findings and theorising made here could help to understand the intuitions driving people's beliefs and behaviours on these topics. Which, in turn, could help to improve communication among law makers, advocate groups, and individuals working with or affected by these issues.



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## Appendix 1

### Paper 1, Appendix A

**Table A1**

*Study 1. Hierarchical Linear Regression, Step Three. Predicting UBI Preference from Demographic Including Political Orientation Moral Foundations, and Interaction effects between Moral Foundations and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
Age	-.019	.012	-.130	-1.570	.119
Gender	-.883	.356	-.191	-2.481	.015
Education	-.104	.148	-.058	-.704	.483
Harm	.052	.297	.017	.174	.862
Fairness	.373	.320	.111	1.166	.246
Loyalty	.108	.321	.041	.335	.738
Authority	-.026	.336	-.011	-.077	.938
Sanctity	-.456	.242	-.253	-1.883	.062
Political Orientation	-.529	.131	-.469	-4.038	.000
Harm*politics	-.117	.132	-.082	-.890	.376
Fairness*politics	.128	.154	.074	.828	.409
Loyalty*politics	-.078	.153	-.059	-.509	.612
Authority*politics	-.175	.161	-.140	-1.092	.278



Sanctity*politics	.188	.112	.202	1.678	.096
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*Note.* All predictor variables were mean-centered. Because of excluded data for those answering “don’t know/not political” on Political Orientation,  $N = 118$  for step three.

## Appendix B

**Table A2**

*Study 2. Hierarchical Linear Regression, Step Three. Predicting UBI Preference from Demographic Including Political Orientation, Moral values, and Interaction effects between Moral Values and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
Age	-.027	.013	-.139	-2.041	.043
Gender	-.159	.293	-.037	-.542	.588
Education	-.156	.113	-.098	-1.380	.170
Harm	.032	.261	.011	.123	.902
Loyalty	.001	.218	.001	.005	.996
Authority	-.133	.255	-.061	-.521	.604
Sanctity	-.085	.159	-.052	-.535	.593
Equity	.201	.156	.111	1.284	.202
Equality	.200	.243	.094	.821	.413
Procedural Fairness	-.171	.188	-.084	-.912	.363
Economic Liberty	-.412	.140	-.238	-2.942	.004
Political Orientation	-.461	.116	-.397	-3.986	.000
Harm*political orientation	-.013	.127	-.009	-.102	.919
Loyalty*political orientation	-.036	.121	-.032	-.302	.763
Authority*political orientation	-.052	.164	-.043	-.315	.753

Sanctity*political orientation	.106	.097	.116	1.087	.279
Equity*political orientation	-.022	.079	-.025	-.271	.787
Equality*political orientation	.066	.141	.064	.469	.640
Procedural*political orientation	-.045	.096	-.044	-.472	.638
Liberty*political orientation	-.025	.077	-.027	-.326	.745

*Note.* All predictor variables were mean-centered. Because of excluded data for those answering “don’t know/not political” on Political Orientation,  $N = 150$  for step three.

## Appendix C

**Table A3**

*Study 3. Multiple Linear Regression Predicting UBI Preference from Moral Reframing Conditions (and Dual Identity), Political Orientation, and Interaction effects between Moral Reframing Conditions and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)	4.521	.238		19.002	.000
Condition=Equality	.612	.336	.134	1.820	.070
Condition=Liberty	.935	.339	.202	2.757	.006
Condition=Dual ID	-.218	.336	-.047	-.647	.519
Political orientation	-.380	.114	-.417	-3.320	.001
Liberty*political orientation	.008	.159	.004	.048	.962
Equality*political orientation	-.201	.160	-.108	-1.255	.211
Dual identity*political orientation	-.248	.152	-.148	-1.632	.104

*Note.* Control condition as the reference group. All predictor variables were mean-centered.

**Table A4**

*Multiple Linear Regression Predicting UBI Preference from Moral Reframing Conditions (Without Dual Identity), Political Orientation, and Interaction effects between Moral Reframing Conditions and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
(Constant)	4.414	.169		26.160	.000
Condition=Equality	.718	.292	.157	2.461	.015
Condition=Liberty	1.041	.295	.225	3.527	.001
Political orientation	-.520	.076	-.571	-6.863	.000
Liberty*political orientation	-.135	.298	-.033	-.452	.652
Equality*political orientation	.324	.294	.080	1.101	.273

*Note.* Control condition as the reference group. All predictor variables were mean-centered.

## Demographic Items Used in Paper 1, 2 and 3

### Demographic items for the Pilot Study and Study 1

Part 1:

- Gender

- ☐ Male (1)
- ☐ Female (2)
- ☐ Prefer not to say (3)

- Age

Please enter your age in digits, E.g. '22'

- Politics

In general, how left-wing or right-wing are you on economic issues (eg. taxes, privatization, government spending)?

In general, how left-wing or right-wing are you on social issues (eg. social inequality, criminal justice system, welfare)?

- ☐ Very left-wing
- ☐ Fairly left-wing
- ☐ Slightly left-wing
- ☐ Centre
- ☐ Slightly right-wing
- ☐ Fairly right-wing
- ☐ Very right-wing
- ☐ Don't know/ not political

- Education

What is your highest level of education?

- ☐ Postgraduate degree (Master's, Ph.D. or D.Phil) or equivalent (6)

- ☐ Undergraduate degree or equivalent (5)
- ☐ City and guilds Level 4/Full technological (or NVQ/SVQ Level 4 or 5, or equivalent) (4)
- ☐ A-level / S-level / A2-level / AS-level (or City and Guilds Level 3/Advanced/Final, or NVQ/SVQ Level 3, or GNVQ/GSVQ Advanced Level, or equivalent) (3)
- ☐ GCSE / CSE / GCE O-level (or City and Guilds Level 1 or 2/Craft/Intermediate, or NVQ/SVQ Level 1 or 2, or GNVQ/GSVQ Foundation or Intermediate Level, or equivalent) (2)
- ☐ No qualifications (1)

## Moral Measures

The original MFQ (available online: [Moral Foundations Theory Homepage \(yourmorals.org\)](http://yourmorals.org)).

The modified version of the MFQ (below). Equality, Equity, and procedural Justice taken from Meindl et al. (2019). Economic liberty scale taken from Iyer et al. (2012)

<i>Subscale</i>	<i>Item Wording</i>
<b><i>Equity</i></b>	<ul style="list-style-type: none"> <li>– Whether or not those who were more productive were rewarded more.</li> <li>– Whether or not a person was rewarded for their hard work.</li> <li>– Whether or not those who contributed more were rewarded more.</li> </ul>
<b><i>Equality</i></b>	<ul style="list-style-type: none"> <li>– Whether or not everyone's needs were met.</li> <li>– Whether or not everyone was treated equally.</li> <li>– Whether or not wealth was distributed equally.</li> </ul>

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*Procedural Justice*

- Whether or not the people who were influenced by a decision had a say in the decision.
- Whether or not the procedure being used to make an important decision was made known to the people affected by the decision.

*Care*

- Whether or not someone cared for people that are weak or vulnerable.
- Whether or not someone suffered emotionally.
- Whether or not someone was unkind.
- Compassion for those who are suffering is the most crucial virtue.
- One of the worst things a person could do is hurt a defenseless animal.
- It can never be right to kill a human being.

*Loyalty*

- Whether or not someone did something to betray his or her group.
- Whether or not someone showed loyalty.
- Whether or not someone's action showed love for his or her country.
- I am proud of my country's history.
- People should be loyal to their family members, even when they have done something wrong.
- It is more important to be a team player than to express oneself.

*Authority*

- Whether or not someone adhered to the traditions of society.
  - Whether or not an action caused chaos or disorder.
  - Whether or not someone showed a lack of respect for authority.
  - Respect for authority is something all children need to learn.
-



- 
- Men and women each have different roles to play in society.
  - If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

*Sanctity*

- Whether or not someone did something disgusting.
- Whether or not someone adhered to standards of decency and purity.
- Whether or not someone acted in a way that God would approve of.
- People should not do things that are disgusting, even if no one is harmed.
- I would call some acts wrong on the grounds that they are unnatural.
- Chastity is an important and valuable virtue.

*Economic Liberty (only used in Paper 1)*

- The government interferes far too much in our everyday lives.
  - The government should do more to advance the common good, even if that means limiting the freedom and choices of individuals. (Reverse scored)
-

## **UBI and Automation Information**

Part 3: in of both the pilot study and Study 1 participants viewed this video after filling out the MFQ but prior to answering any UBI related questions. This video and then the passage directly below were presented to help familiarise participants with what UBI and automation were: <https://youtu.be/vO7b1qi0bqE>

“Please read through this part carefully as the questions that follow will be based on this information:

Finally, we'd like you to get your opinion on the future of automation and its effects on work-life. The term 'Automation' simply refers to a process whereby technology performs a task without human assistance, such as driverless cars for example.

Estimates vary, but some reports claim that between 30 - 50% of UK and US jobs could be at risk of becoming automated by 2030. This means that millions of jobs currently being done by humans may one day be lost to machines. There will also be some new jobs created; nevertheless, many industries and occupations will be disrupted by these changes. People will increasingly be required to adapt and upgrade their training and education as technology advances, and those with lower levels of education are believed to be at greater risk of future unemployment.

In response to the disruptive threat from automation, a scheme called Universal Basic Income (UBI) is being seriously considered by many governments around the world. Please watch the video on the next page explaining UBI. If you feel unsure of anything, please feel free to press replay before moving on.”

## Study 1, Paper 1.

### *Exploratory items. Predicting US UBI Attitudes from Demographics and the Moral Foundations.*

	UBI would make people lazier (1-5)	UBI would make people use drugs & alcohol (1-5)	UBI would make people more creative (1-5)	UBI would make people happier (1-5)	Relying on UBI make me feel: worthless (1-5)	Relying on UBI make me feel: freeloader (1-5)	Relying on UBI make me feel: content (1-5)	Relying on UBI make me want: AI restrictions (1-5)
<i>Descriptives</i>								
Mean	3.60	3.27	3.05	3.16	3.23	3.15	2.58	2.84
SD	1.33	1.41	1.32	1.26	1.37	1.36	1.20	1.41
<i>Predictors</i>								
Age	-.047	.016	-.099	-.151	-.153	-.138	.035	-.172
Gender	-.014	-.101	.008	-.125	.203*	.108	.014	.359***
Education	-.036	-.017	.082	-.142	.075	.074	-.072	.031
Political orien.	.387**	.392**	-.321**	-.189	.032	.191	-.189	.036
Care	-.084	.025	-.067	.073	-.034	-.027	-.084	.223*
Fairness	-.014	-.111	.100	.128	-.081	-.099	.157	-.060
Loyalty	-.040	-.185	.096	-.064	-.010	-.067	-.026	.037
Authority	.005	-.116	.103	.280	-.037	.041	.170	-.015
Sanctity	.277*	.416**	-.447**	-.456**	.337*	.361*	-.151	.087

*Note.* Moral values ranged from 1–6 with higher numbers indicated stronger endorsement of the moral foundations. Each of the DVs are coded such that higher scores indicate greater agreement with the issue/ statement. Values are written as standardised multiple regression coefficients.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### **Paper 1, Study 3.**

Morally reframed messages:

#### **Control Condition**

“As you may already have heard, several large-scale reports claim that around 30% of UK and US jobs are at risk of becoming automated by 2030. This means that millions of jobs currently being done by humans will increasingly be lost to advances in areas such as online retail and driverless vehicles.

To avoid the disruptive threat of unemployment from automation, a scheme called Universal Basic Income (UBI) is being seriously considered by many governments around the world.

Many details of UBI are still under consideration, but the general idea is that every adult citizen - working or not – would receive a modest monthly payment, (roughly \$1000, tax-free). These payments would largely replace the current welfare system, and will likely be paid for by:

- reducing the bureaucracy of the present welfare system
- stimulating the economy through putting money back in the hands of citizens to invest back into the economy
- taxing large corporations who own the automation technology.”



## Equality Condition

[Began with Control message]

“Income inequality is now a central problem of our time. Here in the US, we have seen a growing number of people becoming millionaires and billionaires, meanwhile, millions remain in poverty or work in insecure jobs with unpredictable hours.

Societies become dysfunctional when a few citizens are hugely wealthy whilst millions cannot even afford to look after themselves.

In addition, we now face a future where unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Americans vulnerable to unemployment.

Put simply - our economy is facing enormous technological change over the next decade. Which, in turn, will put enormous pressure on those at the lower end of the social ladder.

Introducing UBI would provide a financial foundation (\$1000, per month) so nobody falls below the poverty line. People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, as our economy changes and evolves, UBI will help ensure that nobody is left in poverty ever

again!”



### **Economic Liberty Condition**

[Began with Control message]

Wage stagnation is a central problem of our time. Here in the US, peoples earnings have consistently failed to keep up with the increasing costs of living. This broken system has left millions of hard working individuals relying on government welfare system for support, and unable to achieve the American dream of improving their life through hard work.

Societies become dysfunctional when citizens work and yet still have no money to put back into the economy.

In addition, we now face a future where many unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Americans relying on welfare programs which have become costly, complex, and often ineffective at helping people to regain independence.

Put simply - our economy is facing enormous technological change over the next decade. Which, in turn, will put enormous pressure on an inefficient welfare system which was not designed to cope with these kind of changes.

Introducing UBI would provide a financial foundation (\$1000, per month) without the complex government bureaucracy, so everyone can take responsibility for shaping their own future. People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, while our economy changes and evolves, UBI will allow people to find work which fulfils their potential and improves their financial independence!



## **Dual Identity Condition**

[Began with Control message]

Together, as a society, we face a future where many unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Americans vulnerable to unemployment. And whether liberal or conservative, everyone recognizes that our society becomes dysfunctional when its citizens no longer feel like they have a stake in society.

Put simply - our economy is facing enormous technological change over the next decade. And while liberal and conservative citizens have some different perspectives on this

issue, both sides ultimately share the same goal of wanting the US to successfully adapt to these upcoming changes.

Introducing UBI would provide a financial foundation (\$1000, per month) so nobody falls below the poverty line and everyone has a pathway to a more secure form of work.

People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, as our economy changes and evolves, UBI will provide support to all its citizens - meaning a better future for everyone in the US!





## Appendix 2

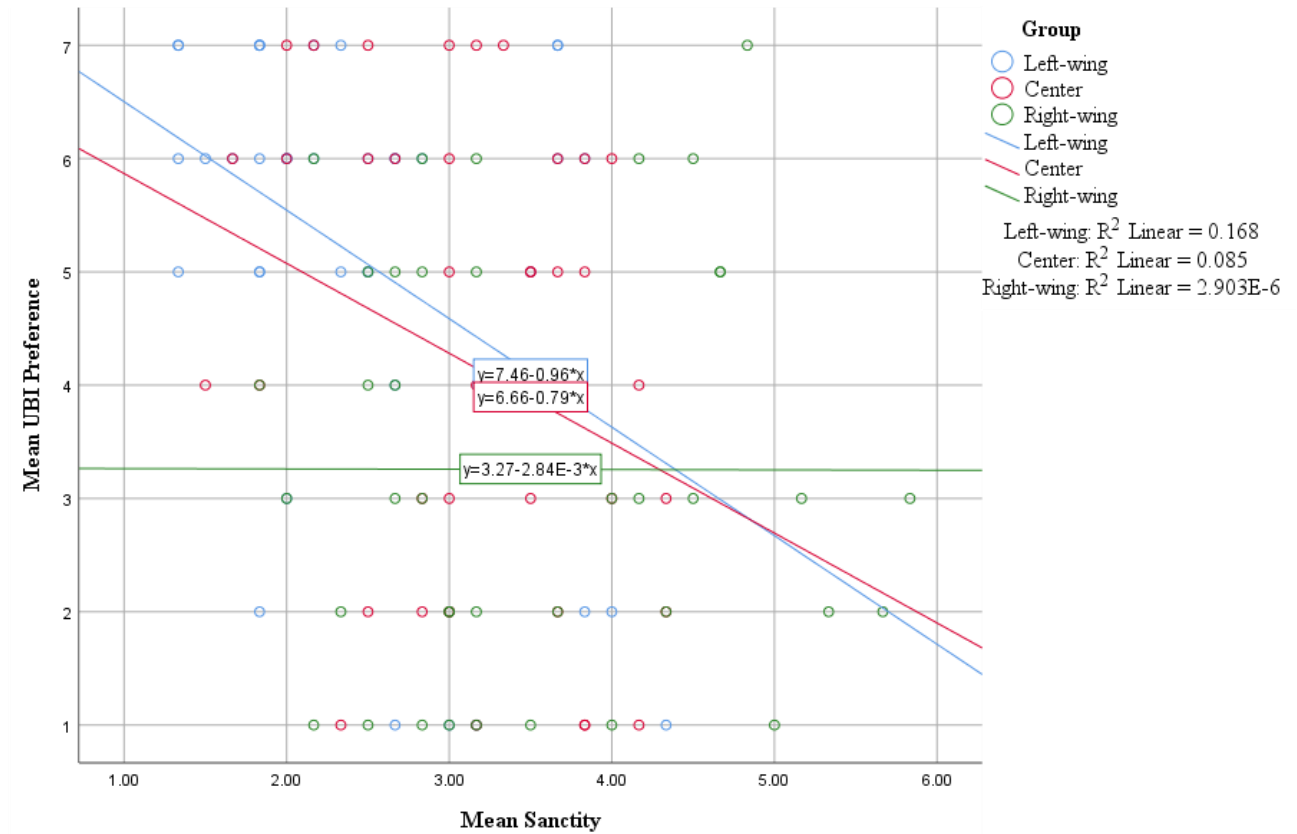
### Paper 2, Appendix A

*Pilot Study, UK Sample, Hierarchical Linear Regression, Step-Three. Predicting UBI Preference from Demographic Including Political Orientation Moral Foundations, and Interaction effects between Moral Foundations and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>
Age	.010	.013	.074	.432
Gender	-.813	.410	-.195	.050
Education	-.025	.123	-.017	.839
Harm	.360	.307	.144	.244
Fairness	.502	.348	.173	.153
Loyalty	-.131	.333	-.055	.696
Authority	<b>-.775</b>	<b>.334</b>	<b>-.382</b>	<b>.022</b>
Sanctity	-.109	.281	-.053	.698
Political Orientation	-.058	.279	-.028	.836
Harm*politics	.177	.227	.086	.438
Fairness*politics	-.103	.240	-.047	.667
Loyalty*politics	-.120	.277	-.061	.666
Authority*politics	-.490	.345	-.236	.158
Sanctity*politics	<b>.609</b>	<b>.252</b>	<b>.326</b>	<b>.017</b>
Model overview	$R^2 = .357, F(14, 102) = 4.04, p < .001$			
R <sup>2</sup> change	$\Delta R^2 = .050, F(6, 102) = 1.33, p = .250$			

*Note.* All interaction variables were *z*-scored. Bold font indicates predictors with significant *p*-values.

## Appendix B



**Figure 1.** Results from Pilot Study 3: mean UBI preference as a function of Sanctity

Foundation endorsement and political ideology. Grouping divided by arranging political orientation in ascending order and splitting into three equal groups ( $n = 39$ ).

## Appendix C

*Study 1, UK Sample, Hierarchical Linear Regression, Step-Three. Predicting UBI Preference from Demographic Including Political Orientation Moral Foundations, and Interaction effects between Moral Foundations and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>
Age	-.009	.012	-.067	.450
Gender	<b>-.723</b>	<b>.335</b>	<b>-.189</b>	<b>.033</b>
Education	<b>.268</b>	<b>.122</b>	<b>.186</b>	<b>.030</b>
Harm	-.011	.309	-.003	.973
Loyalty	.027	.333	.010	.937
Authority	-.589	.301	-.253	.052
Sanctity	.022	.238	.010	.925
Equity	.102	.215	.050	.636
Equality	.313	.247	.146	.207
Procedural	.151	.262	.058	.566
Political Orientation	-.250	.139	-.194	.074
Harm*politics	.001	.206	.001	.996
Loyalty*politics	.065	.263	.034	.804
Authority*politics	-.086	.276	-.045	.756
Sanctity*politics	.165	.231	.085	.475
Equity*politics	-.174	.183	-.095	.342
Equality*politics	.075	.198	.043	.707

Procedural*politics	-.190	.192	-.106	.324
Model overview	$R^2 = .265, F(18, 118) = 2.37, p = .003$			
R <sup>2</sup> change	$\Delta R^2 = .040, F(8, 118) = .80, p = .605$			

*Note.* All interaction variables were *z*-scored. Bold font indicates predictors with significant *p*-values.

## Appendix D

*Study 1, Norwegian Sample, Hierarchical Linear Regression, Step-Three. Predicting UBI Preference from Demographic Including Political Orientation moral Measures, and Interaction effects between moral measures and Political Orientation.*

Variables	<i>B</i>	<i>SE</i>	$\beta$	<i>p</i>
Age	-.006	.016	-.034	.717
Gender	-.423	.374	-.106	.260
Education	-.037	.134	-.024	.784
Harm	.086	.328	.031	.794
Loyalty	-.047	.311	-.019	.879
Authority	-.626	.320	-.290	.053
Sanctity	-.284	.327	-.119	.388
Equity	.169	.238	.074	.480
Equality	.161	.328	.063	.624
Procedural	.145	.261	.056	.580
Political Orientation	-.213	.154	-.167	.169
Harm*politics	.149	.243	.069	.542
Loyalty*politics	-.093	.250	-.052	.710
Authority*politics	-.047	.271	-.027	.862
Sanctity*politics	.292	.215	.184	.176
Equity*politics	-.186	.184	-.099	.315
Equality*politics	.145	.233	.083	.535

Procedural*politics	-.088	.193	-.050	.651
Model overview	$R^2 = .265, F(18, 118) = 2.37, p = .003$			
R <sup>2</sup> change	$\Delta R^2 = .040, F(8, 118) = .80, p = .605$			

*Note.* All interaction variables were *z*-scored. Bold font indicates predictors with significant *p*-values.

## **Appendix 3**

### **Paper 3, Moral Messages**

#### **Control**

As you may already have heard, several large-scale reports claim that around **30%** of UK and US jobs are at risk of becoming automated by 2030. This means that millions of jobs currently being done by humans will increasingly be lost to advances in areas such as online retail and driverless vehicles.

To avoid the disruptive threat of unemployment from automation, a scheme called Universal Basic Income (UBI) is being seriously considered by many governments around the world.

Many details of UBI are still under consideration, but the general idea is that every adult citizen - working or not – would receive a modest monthly payment, (roughly £1000, tax-free). These payments would largely replace the current welfare system, and will likely be paid for by:

- reducing the bureaucracy of the present welfare system
- stimulating the economy through putting money back in the hands of citizens to invest back into the economy
- taxing large corporations who own the automation technology.



## Authority

[Began with Control message]

Economic and social instability are now central problems of our time. Traditional working values and family values are under threat as millions of UK/Norwegian adults are living paycheck-to-paycheck, or worse still, stuck on benefits and unable to contribute to the economy. This creates a dysfunctional environment for upcoming generations and increases the likelihood of producing antisocial behaviours and social disorder.

Societies become dysfunctional when citizens are unable to earn a living, support their family, and contribute to the economy.

In addition, we now face a future where many unskilled and semi-skilled jobs will increasingly become automated, leaving millions more Brits/Norwegians vulnerable to becoming jobless and stuck on benefits.

Put simply - our economy is facing enormous technological change over the next decade, which, in turn, will put enormous pressure on the stability of families, communities,



and the economy.

Introducing UBI would provide a financial foundation (£1000, per month) so that everyone has a pathway to a more secure form of work. People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, as our economy changes and evolves, UBI will help people to take back personal responsibility for their future, and maintain traditional working values!



## Equality

[Began with Control message]

Income inequality is now a central problem of our time. Here in the UK/Norway, we have seen a growing number of people becoming millionaires and billionaires - meanwhile, millions remain in poverty or work in insecure jobs with unpredictable hours.

Societies become dysfunctional when a few citizens are hugely wealthy whilst millions cannot even afford to look after themselves.

In addition, we now face a future where unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Brits/Norwegians vulnerable to unemployment.

Put simply - our economy is facing enormous technological change over the next decade, which, in turn, will put enormous pressure on those at the lower end of the social ladder.

Introducing UBI would provide a financial foundation (£1000, per month) so nobody falls into poverty. People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, as our economy changes and evolves, UBI will help ensure that nobody is left in poverty ever again!



## Dual Identity

[Began with Control message]

Together, as a society, we face a future where many unskilled and semi-skilled jobs will increasingly become automated, leaving millions of Brits vulnerable to unemployment. And whether left-wing or right-wing, everyone recognises that our society becomes dysfunctional when its citizens no longer feel like they have a stake in society

Put simply - our economy is facing enormous technological change over the next decade.

And while left-wing and right-wing citizens have some different perspectives on this issue, both sides ultimately share the same goal of wanting the UK/Norway to successfully adapt to these upcoming changes.

Introducing UBI would provide a financial foundation (£1000, per month) so nobody falls below the poverty line and everyone has a pathway to a more secure form of work. People could: retrain, or improve their education; start their own business; take more time to care of young, elderly, or sick family members, etc. In short, as our economy changes and evolves, UBI will provide support to all its citizens - meaning a better future for everyone in the UK/Norway!



(Or in the case of the Norway sample, this would have been the Norwegian national flag)

