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Human values and basic philosophical beliefs

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ABSTRACT

Objectives: We present the first investigation into the relationship between basic human values and two core lay-belief systems: Free-Will and Mind-Body beliefs.
Methods: We gathered data from two samples (Total N = 509) responding to measures on basic human values, mind-body beliefs, and free-will beliefs.
Results: We found that basic values were substantially related to lay-perceptions about mind-body distinctions and beliefs about free-will. Specifically, we found that Self-Enhancement and Conservatism values were positively related to Monist and Deterministic Beliefs. Interestingly, we found that participants that endorsed Self-Enhancement and Conservatism values were more likely to integrate opposing beliefs and also endorsed Dualistic and Free-Will beliefs, albeit to a lesser extent. Finally, we found that Openness was positively related to both beliefs about mind-body Emergentism and Free-Will.
Conclusions: Overall, our study provides new insights for linking philosophy and psychology, specifically by linking lay philosophical attitudes high-level abstract beliefs and how they may be linked to motivational goals.

1. Introduction

Do we have free will or is all pre-determined? Will something endure after our death or is what we perceive as us simply a product of neurons firing in our brain? Both philosophers (for an introduction see: Chalmers, 2002; Kane, 2005) and psychologists (Feldman & Chandrashekar, 2018; Riekki et al., 2013) have tried to determine the answer to these questions, resulting in a range of explicit theories on the question of free will and mind-body dualism. While academics across disciplines might be arguing about the relative epistemological positions on these issues, each one of us is also confronted with these questions on an intimate personal level. Research investigating individuals' stances on these questions have found a wide range of responses and sometimes individuals might even hold conflicting points of view from a philosophical perspective. These questions, and individuals' answers to them, can be expected to have far reaching consequences about how individuals approach their life and important decisions within them. This can range from comparably simple questions as whether to trust one's senses to complex issues about submitting to higher forces without questioning. At the same time, these questions are also quite abstract and removed from day-to-day activities. Given this intersection of being relevant to major life decisions, yet being of a relative abstract nature, one of the interesting questions is whether, and if so how, these philosophical questions relate to motivational goals studied within psychology.

Schwartz (1992, 2012) proposed a motivational system based on basic human values which distinguishes between two polar motivational axes that give rise to a circular motivational structure. The first axis is defined by *Openness to Change* values (stimulation, self-direction) emphasizing one's independent thoughts, actions, and interests; these are opposed by *Conservatism* values (security, conformity, tradition) emphasizing restricting oneself, the preservation of traditional practices, and upholding the status quo. The second axis is defined by *Self-Enhancement* values (power, achievement) emphasizing on pursuing personal success (even at the expense of others) and the motivation to dominate over others; these are opposed by *Self-Transcendence* values (universalism, benevolence) emphasizing the promotion of well-being of others, society and nature. This circular structure has been widely supported using both self-report and objective data (for a review see: Fischer, 2017) and responses correlate with a wide range of attitudes and behaviors (Arieli et al., 2020; Boer & Fischer, 2013; Maio, 2017; Roccas & Sagiv, 2017). Research has also shown a strong embedding of values among foundational aspects of one's self and personality (Fischer & Karl, 2020; Grankvist & Kajonius, 2015). While some studies have investigated the relationship of philosophical beliefs to individual

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differences that are correlated with values such as personality traits (Yaden & Anderson, 2021), little is known how values, as captured in Schwartz model, are related to individuals' core philosophical beliefs that might underpin their wider philosophical outlook on life. In this study we focus on two central questions within philosophy: The relationship between mind and body and the question of Free Will vs Determinism. We investigate how individuals' responses to these two questions correlate with values as core motivational systems studied by social psychologists.

1.1. The Free Will question

A number of psychological studies have examined individuals' beliefs about Free Will vs Determinism. Free Will captures individual beliefs that humans have full control in their lives, in contrast Determinism captures the belief that both choices and actions of individuals are dependent on previous states and can only occur in one way. This distinction links to philosophical discussions on the nature of Free Will and Determinism that have been central to philosophy since Greek antiquity (Dilman, 1999; Inwagen, 1986) and even in modern times are of central importance for fields such as law when considering responsibilities and rights (Cary, 2007; Grano, 1979).

A range of Free Will measures have been developed to assess individuals' perceptions of Free Will and Determinism. These measures can be grouped coarsely into two separate camps of compatibilism (Free Will beliefs and Determinism beliefs are non-contradictory) and non-compatibilism (Free Will beliefs and Determinism beliefs are contradicting, for example: Viney et al., 1982). Recent surveys amongst professional philosophers have shown an overall endorsement of the compatibilist stance on the Free Will Question (Bourget & Chalmers, 2014). The most commonly used scale that does not pre-suppose non--compatibilism is the Free Will and Determinism Scale (FAD+, Paulhus & Carey, 2011). Building on this scale, Nadelhoffer et al. (2014) recently published the Free-Will Inventory that addresses several shortcomings in the FAD+, for example an intermixing of responsibility items into the Free Will scale. Importantly, the Free-Will Inventory is explicitly agnostic about compatibilism, in contrast to previous measures that operationalized Free Will and Determinism as opposites. This allows the investigation on individual differences that are related to equal endorsement of Free Will and Determinism (while it remains important to acknowledge that this cannot provide insight into individuals' rational for their compatibilist stance).

Free Will beliefs have been shown to be related to self-agency (Aarts & van den Bos, 2011), greater counterfactual thinking (Alquist et al., 2015), and greater intolerance of injustice (for a failed experimental replication, see Buttrick et al., 2020; for supporting evidence from large scale survey data see Martin et al., 2017)), whereas deterministic beliefs have been shown to be related to increased conformity (Alquist et al., 2013) and reduced helping behavior (Baumeister et al., 2009). Related research on individual's perception of their own agency (self-agency) have been shown to relate to greater pro-sociality (Choshen-Hillel & Yaniv, 2011; SimanTov-Nachlieli & Shnabel, 2016) and the need for agency is associated with greater self-determination and hedonism (Ponikiewska et al., 2020).

So far, a single study has partially examined the overlap of some values and Free Will beliefs (Costello et al., 2020). Importantly, this study used an empirically derived seven factor solution based on a pre-publication version of the FAD+. Therefore, their conceptualization of the individual factors does not fully align with either the Free Will Inventory or the FAD+ and should be viewed as tentative. Using these measures, Free Will was related to lower Self-Enhancement values (Power), whereas Fatalistic-Determinism was related to greater Conservatism (Conformity), Self-Enhancement (Power), and lower Openness (Self-Direction). Overall, some of the patterns align neatly with the underlying motivations that organize values. Belief in Free Will prioritize self-agency and self-guided pursuit of thoughts and actions, but also appears to increase awareness of one's responsibility for one's own actions. These beliefs and motivations are associated with both openness values capturing self-direction, but also universalistic values within the Self-Transcendence cluster, which emphasise tolerance and responsibility towards others.

1.2. The mind-body problem

While the nature of the relationship between mind and body has been a longstanding topic of discussion in philosophy (Chalmers, 2002), recent psychological studies investigating the beliefs of lay people have found substantial variation in beliefs around these questions. Riekki et al. (2013) identified three major stances lay-people may take: Monism, Dualism, and Emergentism (for a detailed introduction to the mind-body problem beyond lay-perspectives from a philosophical perspective see: Kim, 2019). Monism expresses the belief that mind and body are made from the same substance or are inseparably linked. Dualism emphasises that mind and body are qualitatively different and might exist independently. Last, Emergentism represents an in-between belief in which mind and body are qualitatively different and not necessarily made from the same substance but are inseparably linked (Riekki et al., 2013). This represents a holistic, non-reductionist view of mental phenomena, which has been likened to other physical processes. O'Connor (2021) provides the illustrative example: "*Consider, for example, a tornado. At any moment, a tornado depends for its existence on dust and debris, and ultimately on whatever micro-entities compose it; and its properties and behaviors likewise depend, one way or another, on the properties and interacting behaviors of its fundamental components. Yet the tornado's identity does not depend on any specific composing micro-entity or configuration, and its features and behaviors appear to differ in kind from those of its most basic constituents, as is reflected in the fact that one can have a rather good understanding of how tornadoes work while being entirely ignorant of particle physics.*" In this sense Emergentism can be placed as an in-between position between Monism and Dualism, where mind and body are neither fully distinct nor fully reducible to each other (Kim, 1999; O'Connor & Wong, 2005).

Beliefs about mind-body relationships have been shown to correlate with a wide range of individual differences. For example, participants higher in Dualism have been found to be more religious (Willard et al., 2020), and endorse less health conscious behavior (Burgmer & Forstmann, 2018; Forstmann et al., 2012). Researchers have indicated that the belief in mind-body Dualism might develop early in children across cultures (potentially to help with Theory of Mind relevant tasks) and might be reduced by Western-style Education (Burr & Hofer, 2002; Chudek et al., 2018). Only one study has so far examined the relationship of the mind-body problem with basic values. Grankvist et al. (2016) studied Swedish undergraduate students and found that participants high in Self-Enhancement endorsed Dualism less compared to participants high on Self-Transcendence who endorsed Dualism more. They interpreted this association by referring to previous studies that had suggested that individuals holding dualist perspectives also engage more in mentalizing, that is they are more inclined to be concerned about what others think and feel (Willard & Norenzayan, 2013). These concerns are central to the motivational goals of Self-Transcendence, which might explain this link. Reversely, believing that the mind is nothing else but a function of chemical processes within a biological brain was associated with greater endorsement of self-enhancement values, implying that individuals endorsing a more materialist interpretation of the mind-body problem are motivated to advance in social hierarchies and emphasise control and dominance. Hence, rejection of a Dualism stance may imply strong materialist motivations in social relations. However, this study was based on a rather small sample and it would be important to explore these associations in a different context and with a larger sample. Importantly, this previous study only investigated Dualism, leaving an open question about the relationship between values and competing lay mind-body beliefs about Monism and

Emergentism. We could speculate that individuals that see mind and body inextricably linked (Monists) might endorse values that highlight self-protection and social advancement (Self-Enhancement and Conservatism). On one hand, such associations would extend these previous findings in the Swedish study, as strong monist perspectives may facilitate materialist views and a protection of one's worldview. On the other hand, individuals that see mind and body as distinct but related (Emergentism) may share the concern with the thoughts and feelings of others (Self-Transcendence), but may also be more open minded and curious about these links and accept the uncertainty that comes with accepting such more complex philosophical perspectives (Openness).

In summary, we explore the relationship of values and two core-aspects of individuals personal philosophical systems namely: beliefs about Free Will vs Determinism and beliefs about mind-body Dualism. By examining the possible links between individuals' basic motivational goals with basic beliefs derived from philosophy, we aim to connect basic motivational patterns with more abstract existential questions that have engaged philosophers for millennia.

2. Study 1 Personal values and Free Will

In our first study, we focus on Free Will beliefs. While previous research has examined the relationship between Free Will beliefs and value related outcomes (for example religiosity, political ideology, and morality: Carey & Paulhus, 2013), to the best of our knowledge, no study has yest investigated to the full spectrum of personal values captured by Schwartz's value theory. Based on the notion that Determinism may be related to an implicit sense of fatalism and conformity, we could expect a positive correlation with Conservatism values that emphasise preservation of time-valued traditions, conformity and security for self and one's surrounding. Given previous associations showing a link between Determinism and reduced helping behavior, we could also predict that Determinism is associated with Self-Enhancement values. In contrast, Free Will is associated with self-agency and increased sense of responsibility, both of which are important components of openness values and self-transcendence values.

3. Methods

3.1. Participants

Participants were students in an introductory course to psychology at a New Zealand University. Overall, 191 participants consented to taking part in the study and reported their values and Free Will beliefs, the majority of which were female (79.1%) and had a mean age of 20.10 (SD = 4.97). Only a minority of our sample was engaged in mind-body or spiritual practices (Mediation = 23.60%, Yoga = 21.50%, Mindfulness = 33.00%, Religion = 16.20%)

3.2. Measures

Participants filled out a range of measures to obscure the purpose of the study (all data for the measures included in the study can be found on the OSF: https://osf.io/5ucwp/?view_only=aa883543ed884e67a8960305f6f75c92). For this study we focused on values and Free Will beliefs.

3.2.1. Values

We measured values with an adapted gender-neutral version of the PVQ-57RR (Schwartz et al., 2012). The overall scale had 57 items and participants reported their agreement with each item on a 1 (Not like me at all) to 6 (Very much like me) Likert-scale. Example items were "It is important to me to form my views independently" and "It is important to me that my country is secure and stable." We calculated the scores for the higher order values by averaging the responses to individual value items within each cluster.

3.2.2. Free Will beliefs

Participants were presented with the 15-item Free Will Inventory (Nadelhoffer et al., 2014) which participants answered on a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. This instrument captures two Free Will belief orientations that are important for our purposes: Free Will (e.g. "How people's lives unfold is completely up to them."), and Determinism (e.g. "People's choices and actions must happen precisely the way they do because of the laws of nature and the way things were in the distant past.").[1] We show the reliability of all measures in Table 1.

4. Results

We initially examined the endorsement of Free Will and deterministic beliefs in our sample using a paired sample *t*-test. We found that in our sample participants expressed significantly higher Free Will ($\widehat{\mu} = 4.44$) compared to Determinism ($\widehat{\mu} = 3.62$) beliefs ($t(190) = -8.52$, $p < .001$, $\widehat{g}_{Hedges} = -0.61$[-0.77,-0.46]).

To examine the relationship between the four higher order values and the three beliefs about Free Will, we fitted a path model in which all values were predicted by all beliefs. To account for multi-variate non-normality of our data we used a robust maximum likelihood estimator. We found that belief in Free Will positively predicted Openness to new experiences ($\beta = .221$, $p = .002$) and Conservatism ($\beta = 0.144$, $p = .041$), but did not predict Self-Enhancement ($\beta = 0.115$, $p = .075$) or Self-Transcendence ($\beta = 0.071$, $p = .309$). In contrast, belief in Determinism positively predicted Self-Enhancement ($\beta = 0.231$, $p = .002$) and Conservatism ($\beta = 0.253$, $p = .001$), but did not predict Self-Transcendence ($\beta = -0.097$, $p = .170$) or Openness to new experiences ($\beta = 0.064$, $p = .354$).

To further explore the basic philosophical orientation of our sample, we examined the relative endorsement of these two philosophical orientations. Interestingly, as can be seen in our visualization of the relative endorsement of the two belief systems against each other in Fig. 1, a substantial number of individuals showed closely matching scores on both dimensions in line with proposed compatibility of these positions. Overall, we found a positive relationship between Free Will and Determinism ($r = 0.21$, $p < .001$).

Table 1
Reliability of measures used in study 1.

	α	ω	GLB	H
Self-Transcendence	.907[.888, .925]	.905[.885, .925]	.962	.924
Self-Enhancement	.828[.791, .866]	.836[.801, .871]	.894	.858
Openness	.876[.851, .902]	.878[.852, .903]	.934	.891
Conservatism	.827[.792, .863]	.825[.788, .862]	.923	.854
Free Will	.801[.757, .846]	.804[.759, .848]	.844	.806
Determinism	.774[.724, .824]	.788[.741, .835]	.849	.867

[1] The scale also captures a variation of mind-body Dualism ("Each person has a non-physical essence that makes that person unique.", or "The fact that we have souls that are distinct from our material bodies is what makes humans unique."). This measure focused strongly on the presence of a soul and human uniqueness which is strongly associated with religious beliefs. Due to the low number of religious individuals in our sample and the relative distinctiveness of this belief system from classic mind-body dualism discussions, we did not include this measure in the analysis. For the interested reader, this measure of dualism was positively correlated with both Free Will ($r = 0.31$, $p < .001$) and Determinism ($r = 0.48$, $p < .001$), which is somewhat unexpected. It also showed significant positive correlations with all value dimensions ($r_{Self\text{-}Transcendence} = 0.19$, $p = .020$; $r_{Openness} = .30$, $p < .001$; $r_{Conservatism} = 0.20$, $p = .020$) except Self-Enhancement ($r = 0.10$, $p = .16$).

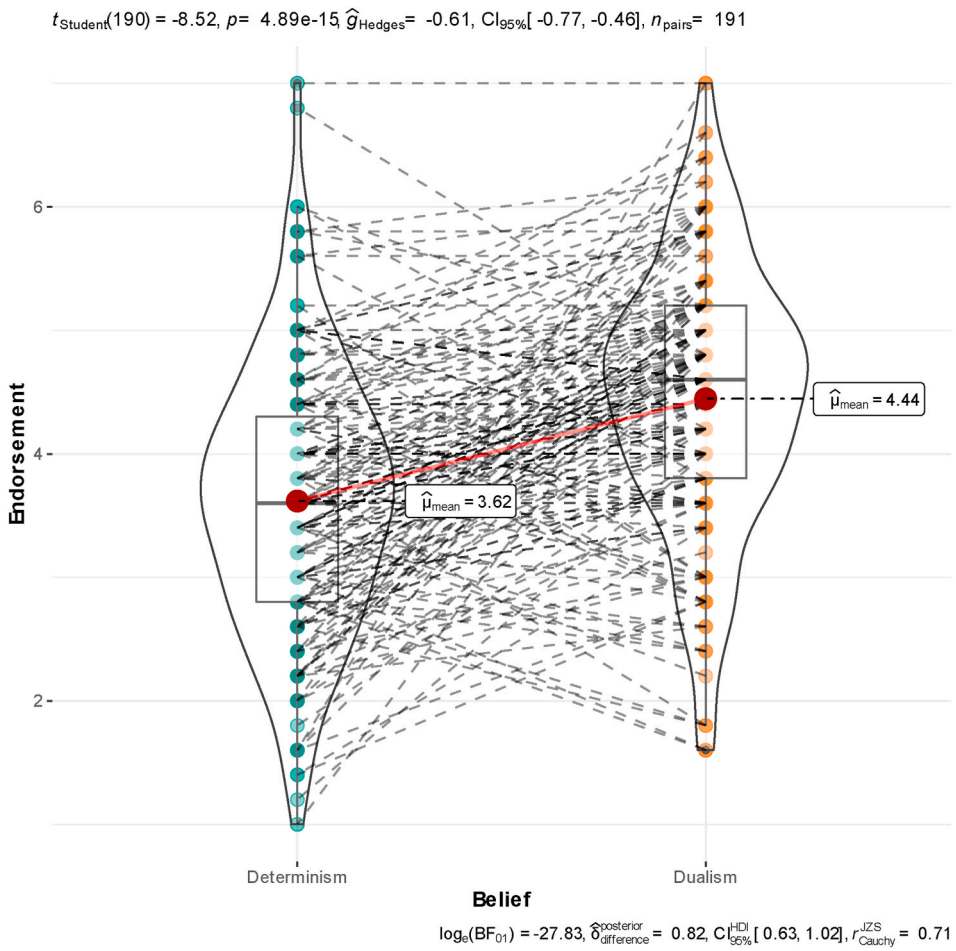

Fig. 1. Endorsement of Free Will belief systems in study 1.

To investigate whether the individual values are related to a compatibilist stance, we computed the absolute difference between a participant's Free Will and Determinism rating to obtain a compatibility score. We rescaled this score so a higher value on this measure indicates smaller distance between participants beliefs in Free Will and Determinism and can be interpreted as participants seeing these approaches as compatible. When correlating this score with the individual value dimensions we found a positive relationship with Conservatism ($r = 0.17$, $p = .02$) and Self-Enhancement ($r = 0.14$, $p = .05$) and a negative relationship with Self-Transcendence ($r = -0.13$, $p = .07$) and Openness ($r = -0.07$, $p = .34$).

5. Discussion

In our first study, we examined the relationship between values and Free Will – Determinism beliefs. We predicted that Determinism would be related to greater Conservatism and Self-Enhancement. We found support for this hypothesis with both Self-Enhancement and Conservatism positively predicted by Determinism. We also predicted that Free Will beliefs would be related to greater Openness and Self-Transcendence. We found partial support for this hypothesis. While Free Will beliefs positively related to Openness, free-will beliefs did not predict Self-Transcendence. Additionally, we found that Free Will also positively predicted Conservatism, albeit to a lower extent. Our results partially mirrored the study by Costello et al. (2020) who (using a different measure) also found positive relationships between Conservatism, Self-Enhancement, and Determinism. This convergent pattern of Determinism being primarily related to Self-Enhancement and Conservatism values raises interesting questions about the underlying mechanistic processes. One aspect worth considering is that both Self-Enhancement and Conservatism are theoretically motivated by Self-Protection/Anxiety Control motivations (Schwartz et al., 2012). It might be that individuals who perceive a strong, unalterable, chain of causality with little room for agency might have a greater need for protection and might therefore adopt values that are aimed at self-protection.

6. Study 2 Mind-body dualism and personal values

Our second study focuses on the mind-body dualism question. This has been explored previously in a Swedish study (Grankvist et al., 2016). We extend this study by including a more complete measure of mind-body dualism lay perspectives and we tested these associations in a larger study. We expect that monists who strongly believe that mind and body are identical will express values that emphasise self-protection and social advancement (Self-Enhancement and Conservatism). Individuals that see mind and body as distinct but related (Emergentism) and individuals that believe in a classic Dualism perspective of mind and body are probably more concerns about the minds of others, hence we expect positive associations with Self-Transcendence values. As these positions may also require some dispensation of uncertainty and curiosity about the distinctiveness of mind and body, we would expect some positive associations with openness values. Given the intermediate position of Emergentism in-between Monism and Dualism, we may expect that the relationships for Emergentism may be somewhat weaker.

6.1. Participants

Participants were students in an introductory course to psychology at a New Zealand University. Overall, 318 participants took part in the study, the majority of which were female (82.70%) and had a mean age of 19.90 (SD = 3.41). As in study 1, a minority of our sample was engaged in mind-body or spiritual practices (Mediation = 18.60%, Yoga = 21.70%, Mindfulness = 33.60%, Religion = 18.60%).

7. Measures

7.1. Mind-body dualism

In addition to the identical personal values questionnaire from study 1, participants also answered the Mind-Body Scale (Riekki et al., 2013), which consists of 25 items that participants rated on a 1 (Strongly Disagree) to 5 (Strongly Agree) scale. The scale measures three factors: Reflective Dualism (e.g. "Minds are in principle independent of bodies, to which they are only temporarily attached."), Monism ("When people talk about their minds, they are really just talking about what their brain is doing."), and Emergentism ("The activity of the mind is based on the brain, but it is also something more than just the outcome of brain activity."). We show the reliability of all measures used in Table 2.

8. Results

We initially examined the three dimensions of mind body belief in our sample (for a visualization see Fig. 2). We found that participants expressed significantly greater Monism ($\widehat{\mu} = 3.15$, $p = .012$) and Emergentism ($\widehat{\mu} = 3.26$, $p < .001$), compared to Dualism ($\widehat{\mu} = 3.00$). Monism and Emergentism scores did not differ significantly. When examining the correlation between the three beliefs, we found a significant negative correlation between Monism and Dualism ($r = -0.24$, $p < .001$) and a non-significant but negative correlation between Monism and Emergentism ($r = -0.06$, $p = .25$), and a significant positive correlation corelation between Dualism and Emergentism ($r = 0.61$, $p < .001$).

To examine the unique relationships between Monism, Dualism, Emergentism, and values, we fitted a path-model in which the four higher-order value dimensions were predicted by all Mind-Body beliefs. Monism significantly positively predicted Self-Enhancement ($\beta = 0.310$, $p < .0001$), Openness ($\beta = 0.182$, $p = .001$), and Conservatism ($\beta = 0.261$, $p < .001$), but not Self-Transcendence ($\beta = 0.070$, $p = .275$). The associations with Self-Enhancement and Conservatism are in line with our predictions, but the association with openness was unexpected. Dualism significantly and positively predicted Self-Enhancement ($\beta = 0.280$, $p < .001$) and Conservatism ($\beta = 0.155$, $p = .027$), but not Self-Transcendence ($\beta = 0.008$, $p = .903$) or Openness ($\beta = 0.064$, $p = .349$). This contradicts the previous results in the Swedish study and is also not aligned with our expectations. Finally, Emergentism positively predicted Openness ($\beta = 0.205$, $p = .009$), but not Self-Enhancement ($\beta = -0.010$, $p = .890$), Self-Transcendence ($\beta = 0.132$, $p = .068$), or Conservatism ($\beta = 0.052$, $p = .485$).

Similar to Study 1, we also created a compatibility score between Monism and Dualism, with higher scores indicating greater similarity of scores on these measures (we excluded Emergentism for this analysis). While none of the correlations were significant, the pattern of correlations between this score and the individual values followed the pattern of Study 1. Participants high on Conservatism ($r = 0.11$, $p = .05$) and Self-Enhancement ($r = 0.10$, $p = .07$) did not strongly distinguish between the two philosophical orientations, whereas participants endorsing Self-Transcendence ($r = -0.08$, $p = .15$) and Openness ($r = -0.01$, $p = .82$) distinguished somewhat more between the two belief sets, although the relationship was not statistically reliable.

Table 2
Reliability of measures used in study 2.

	α	ω	GLB	H
Self-Transcendence	.898[.882, .914]	.897[.880, .913]	.950	.922
Self-Enhancement	.809[.776, .841]	.818[.788, .849]	.871	.854
Openness	.857[.834, .879]	.855[.832, .879]	.923	.882
Conservatism	.860[.837, .883]	.857[.834, .880]	.932	.903
Monism	.692[.640, .744]	.699[.649, .750]	.767	.757
Dualism	.864[.841, .886]	.872[.852, .893]	.903	.898
Emergentism	.874[.853, .896]	.874[.853, .896]	.899	.876

9. Discussion

In our second study we examined the relationship of Schwartz's values with individuals' endorsement of different philosophical positions on the mind-body problem. We predicted that Monists would show greater Self-Enhancement and Conservatism. We found support for this hypothesis. One reasons for the relationship between Monism and Self-Enhancement/Conservatism might be the need of Monists for greater protection in the absence of an enduring non-physical aspect of their self (Heflick et al., 2015; Vail et al., 2019). We also found that Monist beliefs predicted Openness values. While unexpected, the finding that Openness is predicted by Monism could be viewed in light of studies that have shown that high Openness individuals engage in more reflection and private self-consciousness (Niemiec et al., 2010), and show greater activation of brain areas related to self error correction (Brosch et al., 2011). Monist beliefs might heighten this monitoring process due to increased unity of mind and body.

Our second hypothesis was that Emergentism and Dualism would positively predict Openness and Self-Transcendence. We found this supported for the Emergentism – Openness relationship but did not find a significant positive relationship between Dualism and Openness. In contrast, we found that Dualism (although weaker compared to Monism) predicted Self-Enhancement and Conservatism. Our results are diverging from the results reported by Grankvist et al. (2016) who found a negative relationship between Self-Enhancement values and Dualism. One plausible reason might be our differential operationalization of Dualism compared to Grankvist et al. (2016) who operationalized Dualism and Monism as polar opposites.

10. Overall discussion

Our goal for these studies was to examine the relationship between basic values as captured in the universal values structure identified by Schwartz et al. (1992) and core philosophical beliefs held by lay people. We found that basic values were significantly related to both mind-body beliefs and beliefs about Free Will. Taking an overall perspective on philosophical beliefs that restricted individuals both to a physical level (Monism) and restricted their agency (Determinism) were positively related to Self-Protection values (Self-Enhancement and Conservatism). While this supported our initial assumptions, the results revealed a slightly more complex picture because these values also positively related to Dualism and Free Will. One explanation for this might our finding that participants high on Self-Enhancement and Conservatism are more likely to endorse distinct philosophical beliefs (both positively and negatively related concepts), potentially integrating them.

This is especially interesting as previous studies have identified that Monism and Determinism beliefs are also related to outcomes that are commonly associated with these values such as conformity (Alquist et al., 2013). Determinism might increase individual's propensity to see themselves as parts of a larger system and highlight the perceived necessity to conform with their role. Further, deterministic beliefs might also allow individuals to discount moral responsibility while engaging in self-enhancing behavior. In terms of Monism, while life after death might be not philosophically unreconcilable with monist beliefs (for a discussion see: Reichenbach, 1978), lay-people nevertheless seem to perceive them to be exclusive (given the lower endorsement of both

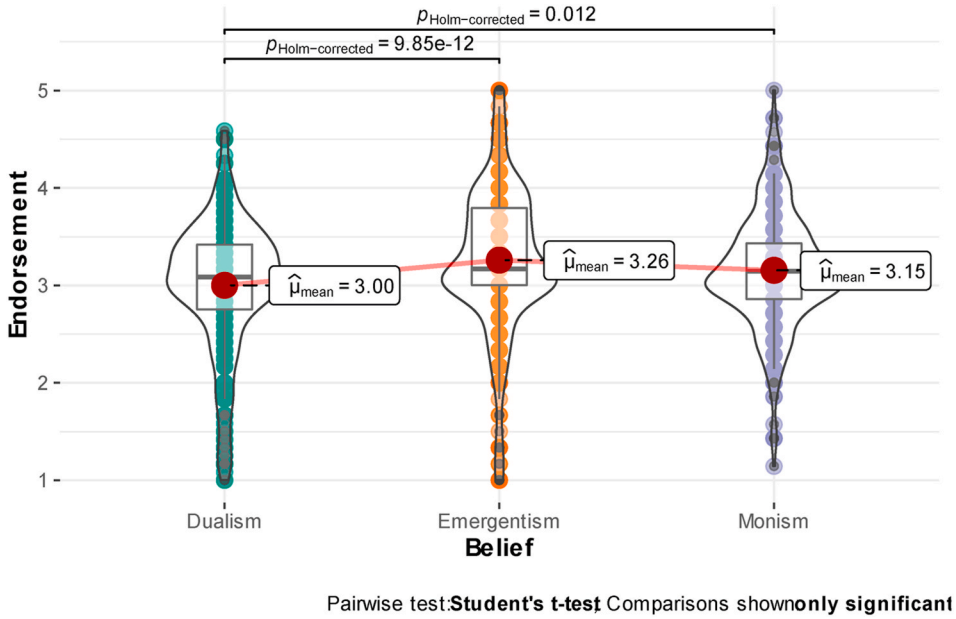

Fig. 2. Mind-Body beliefs.

religious and afterlife believe for monists Riekki et al., 2013). It is therefore possible that individuals that see mind and body as one are more in need of protection as this life is their only shot. Based on this, we would also expect that Monism is related to greater threat sensitivity.

Conversely, values that emphasise growth and independent thought (Openness) were related to greater Emergentism as a more nuanced version of Dualism as well as beliefs in Free Will. Openness might be especially related to these constructs as it captures both values that are dependent on Free Will (Autonomy of Thought and Autonomy of Action). Our finding that Openness is also positively related to Emergentism is interesting as most studies have shown that Openness is negatively related to Dualist rooted beliefs such as religiosity (Saroglou et al., 2004). Nevertheless, Openness has also been found to be positively related to non-traditional spirituality beliefs (Köktürk Dalcali & Erden Melikoğlu, 2021). This indicates that Emergentism might be related to Openness but not expressed as religiosity but rather as spirituality. This highlights the importance of a better understanding of philosophical beliefs as they may be differentially related to human values.

10.1. The question of compatibilism

In our studies we did not only explore the direct relationship of individual values with Free Will and Mind-Body beliefs, but also individuals' perceptions of compatibilism. In line with previous theoretical considerations (Bourget & Chalmers, 2014) and empirical findings (Paulhus & Carey, 2011), participants in our study showed a tendency towards a compatibilist approach to Free Will and Determinism. This supports the notion that lay people tend to hold compatibilist attitudes to Free Will and Determinism, rather than hard incompatibilism stances. Interestingly, we found that compatibilism was significantly and consistently related to individuals value orientations. While participants in our sample endorsed Free Will to a greater extent compared to Determinism, they do not see these orientations as opposing but rather perceive them to be compatible. We found that the perceived compatibility between these positions is related to greater endorsement of Conservatism or Self-Enhancement values.

This result receives additional nuance from our second study in which participants in-line with expectations viewed Monism and Dualism as opposites. Nevertheless, we found a similar pattern to Study 1 when examining the relationship between compatibilist attitudes and values. Participants higher in Conservatism and Self-Enhancement endorsed greater compatibilist attitudes even for these largely opposed concepts within philosophical discussions whereas Openness and Self-Transcendence were negatively related to compatibilism. While this pattern was identical across the two studies, Conservatism showed the only significant effect. This effect might be potentially due to the higher need for cognitive closure experienced by high Conservatism individuals (Calogero et al., 2009). To avoid the potential uncertainty of conflicting constructs, individuals high in Conservatism might construct them as more compatible. Importantly, this effect was more pronounced for Free Will – Determinism which have been discussed as potentially compatible in previous philosophical discussions (Bourget & Chalmers, 2014). This indicates that while high Conservatism exhibit a general tendency for reconciliation of philosophical positions, this effect might be more pronounced for constructs that can be considered as potentially compatible.

10.2. Limitations

Our study clearly has some limitations. Our participants were psychology students who may have lay perspective that may be divergent from the wider population. Alternatively, these issues might have been phrased in ways that were not understandable or relevant for our population. Future studies may include additional or diverse measures and possibly also test for the comprehension of these positions to rule out random responding. Experimental studies that manipulate the salience of motivations and then measure questions on the salience of philosophical beliefs and orientations may also shed light on whether activating values may influence the salience of specific philosophical beliefs. Alternatively, manipulating the salience of philosophical beliefs could test whether these temporarily increase certain motivations. As we started our article off emphasizing that philosophical beliefs have real-world behavioral implications, future observational studies may also explore how value-guided behaviors in real world contexts may relate to the endorsement of specific philosophical beliefs. Additionally, future research could integrate measures of Free Will – Determinism and mind-body dualism to examine the combined relationship with values as these measures have been shown to overlap (Forstmann & Burgmer, 2018). Nevertheless, our approach parallels other studies that have used these scales in comparable samples, hence, our findings provide novel insights into these fundamental questions that have fascinated humans since the beginnings of philosophy. Finally, given the range of measures that have

been developed in past research (especially for Free Will) future research could investigate how the results from the current study replicate across these measures.

11. Conclusion

Overall, our current study shows that basic values can be understood through the lens of individuals basic philosophical beliefs and vice-versa, basic values may contribute to how individuals approach existential questions about life. With this initial study, we hope to raise further interest in how individuals transfer abstract philosophical beliefs that they hold into more concrete motivational goals captured in the basic values.

Author declaration

All authors have seen and approved the final version of the manuscript being submitted. The manuscript is the authors' original work, hasn't received prior publication and isn't under consideration for publication elsewhere.

References

Aarts, H., & van den Bos, K. (2011). On the Foundations of beliefs in free will: Intentional binding and unconscious priming in self-agency. *Psychological Science, 22*(4), 532–537. https://doi.org/10.1177/0956797611399294

Alquist, J. L., Ainsworth, S. E., & Baumeister, R. F. (2013). Determined to conform: Disbelief in free will increases conformity. *Journal of Experimental Social Psychology, 49*(1), 80–86. https://doi.org/10.1016/j.jesp.2012.08.015

Alquist, J. L., Ainsworth, S. E., Baumeister, R. F., Daly, M., & Stillman, T. F. (2015). The making of might-have-beens: Effects of free will belief on counterfactual thinking. *Personality and Social Psychology Bulletin, 41*(2), 268–283. https://doi.org/10.1177/0146167214563673

Arieli, S., Sagiv, L., & Roccas, S. (2020). Values at work: The impact of personal values in organisations. *Applied Psychology, 69*(2), 230–275. https://doi.org/10.1111/apps.12181

Baumeister, R. F., Masicampo, E. J., & DeWall, C. N. (2009). Prosocial benefits of feeling free: Disbelief in free will increases aggression and reduces helpfulness. *Personality and Social Psychology Bulletin, 35*(2), 260–268. https://doi.org/10.1177/0146167208327217

Boer, D., & Fischer, R. (2013). How and when do personal values guide our attitudes and sociality? Explaining cross-cultural variability in attitude–value linkages. *Psychological Bulletin, 139*(5), 1113–1147. https://doi.org/10.1037/a0031347

Bourget, D., & Chalmers, D. J. (2014). What do philosophers believe? *Philosophical Studies, 170*(3), 465–500. https://doi.org/10.1007/s11098-013-0259-7

Brosch, T., Coppin, G., Scherer, K. R., Schwartz, S., & Sander, D. (2011). Generating value (s): Psychological value hierarchies reflect context-dependent sensitivity of the reward system. *Social Neuroscience, 6*(2), 198–208. https://doi.org/10.1080/17470919.2010.506754

Burgmer, P., & Forstmann, M. (2018). Mind-body dualism and health revisited: How belief in dualism shapes health behavior. *Social Psychology, 49*(4), 219–230. https://doi.org/10.1027/1864-9335/a000344

Burr, J. E., & Hofer, B. K. (2002). Personal epistemology and theory of mind: Deciphering young children's beliefs about knowledge and knowing. *New Ideas in Psychology, 20*(2), 199–224. https://doi.org/10.1016/S0732-118X(02)00010-7

Buttrick, N. R., Aczel, B., Aeschbach, L. F., Bakos, B. E., Brühlmann, F., Claypool, H. M., Hüffmeier, J., Kovacs, M., Schuepfer, K., Szecsi, P., Szuts, A., Szöke, O., Thomae, M., Torka, A.-K., Walker, R. J., & Wood, M. J. (2020). Many labs 5: Registered replication of Vohs and Schooler (2008), experiment 1. *Advances in Methods and Practices in Psychological Science, 3*(3), 429–438. https://doi.org/10.1177/2515245920917931

Calogero, R. M., Bardi, A., & Sutton, R. M. (2009). A need basis for values: Associations between the need for cognitive closure and value priorities. *Personality and Individual Differences, 46*(2), 154–159. https://doi.org/10.1016/j.paid.2008.09.019

Carey, J. M., & Paulhus, D. L. (2013). Worldview implications of believing in free will and/or determinism: Politics, morality, and punitiveness. *Journal of Personality, 81*(2), 130–141. https://doi.org/10.1111/j.1467-6494.2012.00799.x

Cary, P. (2007). A brief history of the concept of free will: Issues that are and are not germane to legal reasoning. *Behavioral Sciences & the Law, 25*(2), 165–181. https://doi.org/10.1002/bsl.748

Chalmers, D. J. (2002). *Philosophy of mind: Classical and contemporary readings*. USA: Oxford University Press.

Choshen-Hillel, S., & Yaniv, I. (2011). Agency and the construction of social preference: Between inequality aversion and prosocial behavior. *Journal of Personality and Social Psychology, 101*(6), 1253–1261. https://doi.org/10.1037/a0024557

Chudek, M., McNamara, R. A., Birch, S., Bloom, P., & Henrich, J. (2018). Do minds switch bodies? Dualist interpretations across ages and societies. *Religion, Brain & Behavior, 8*(4), 354–368. https://doi.org/10.1080/2153599X.2017.1377757

Costello, T. H., Bowes, S. M., & Lilienfeld, S. O. (2020). Escape from Freedom": Authoritarianism-related traits, political ideology, personality, and belief in free will/determinism. *Journal of Research in Personality, 86*, Article 103957. https://doi.org/10.1016/j.jrp.2020.103957

Dilman, I. (1999). *Free will: An historical and philosophical introduction*. Routledge. https://doi.org/10.4324/9780203002384

Feldman, G., & Chandrashekar, S. P. (2018). Laypersons' beliefs and intuitions about free will and determinism: New insights linking the social psychology and experimental philosophy paradigms. *Social Psychological and Personality Science, 9*(5), 539–549. https://doi.org/10.1177/1948550617713254

Fischer, R. (2017). *Personality, values, culture: An evolutionary approach*. Cambridge University Press. https://doi.org/10.1017/9781316091944

Fischer, R., & Karl, J. A. (2020). The network architecture of individual differences: Personality, reward-sensitivity, and values. *Personality and Individual Differences, 160*(1), Article 109922. https://doi.org/10.1016/j.paid.2020.109922

Forstmann, M., & Burgmer, P. (2018). A free will needs a free mind: Belief in substance dualism and reductive physicalism differentially predict belief in free will and determinism. *Consciousness and Cognition, 63*, 280–293. https://doi.org/10.1016/j.concog.2018.07.003

Forstmann, M., Burgmer, P., & Mussweiler, T. (2012). The mind is willing, but the flesh is weak": The effects of mind-body dualism on health behavior. *Psychological Science, 23*(10), 1239–1245. https://doi.org/10.1177/0956797612442392

Grankvist, G., & Kajonius, P. (2015). Personality traits and values: A replication with a Swedish sample. *International Journal of Personality Psychology, 1*, 8–14.

Grankvist, G., Kajonius, P., & Persson, B. (2016). The relationship between mind-body dualism and personal values. *International Journal of Psychological Studies, 8*(2), 126–132.

Grano, J. D. (1979). Voluntariness, free will, and the law of confessions. *Virginia Law Review, 65*(5), 859–945. https://doi.org/10.2307/1072509

Heflick, N. A., Goldenberg, J. L., Hart, J., & Kamp, S.-M. (2015). Death awareness and body–self dualism: A why and how of afterlife belief. *European Journal of Social Psychology, 45*(2), 267–275. https://doi.org/10.1002/ejsp.2075

Inwagen, P. van (1986). *An Essay on free will (Revised ed)*. Oxford University Press.

Kane, R. (2005). *A contemporary introduction to free will*. Oxford University Press.

Kim, J. (1999). Making sense of emergence. *Philosophical Studies, 95*(1), 3–36. https://doi.org/10.1023/A:1004563122154

Kim, J. (2019). *Philosophy of mind* (3rd ed.). Routledge. https://doi.org/10.4324/9780429494857

Köktürk Dalcali, B., & Erden Melikoğlu, S. (2021). The relationship between nursing students' perceptions of spirituality and spiritual care and their personal values. *Journal of Religion and Health*. https://doi.org/10.1007/s10943-021-01355-x

Maio, G. R. (2017). *The psychology of human values*. Routledge, Taylor & Francis Group.

Martin, N. D., Rigoni, D., & Vohs, K. D. (2017). Free will beliefs predict attitudes toward unethical behavior and criminal punishment. *Proceedings of the National Academy of Sciences, 114*(28), 7325–7330.

Nadelhoffer, T., Shepard, J., Nahmias, E., Sripada, C., & Ross, L. T. (2014). The free will inventory: Measuring beliefs about agency and responsibility. *Consciousness and Cognition, 25*, 27–41. https://doi.org/10.1016/j.concog.2014.01.006

Niemiec, C. P., Brown, K. W., Kashdan, T. B., Cozzolino, P. J., Breen, W. E., Levesque-Bristol, C., & Ryan, R. M. (2010). Being present in the face of existential threat: The role of trait mindfulness in reducing defensive responses to mortality salience. *Journal of Personality and Social Psychology, 99*(2), 344–365. https://doi.org/10.1037/a0019388

O'Connor, T. (2021). Emergent properties. In E. N. Zalta (Ed.), *The stanford Encyclopedia of philosophy (Winter 2021)*. Metaphysics Research Lab, Stanford University. https://plato.stanford.edu/archives/win2021/entries/properties-emergent/.

O'Connor, T., & Wong, H. Y. (2005). The metaphysics of emergence. *Noûs, 39*(4), 658–678.

Paulhus, D. L., & Carey, J. M. (2011). The FAD–plus: Measuring lay beliefs regarding free will and related constructs. *Journal of Personality Assessment, 93*(1), 96–104. https://doi.org/10.1080/00223891.2010.528483

Ponikiewska, K., Cieciuch, J., & Strus, W. (2020). In search of convergence between the main dimensions of interpersonal and basic human values in the context of personality traits. *Personality and Individual Differences, 162*, Article 110003. https://doi.org/10.1016/j.paid.2020.110003

Reichenbach, B. R. (1978). Monism and the possibility of Life after death. *Religious Studies, 14*(1), 27–34. https://doi.org/10.1017/S0034412500010465

Riekki, T., Lindeman, M., & Lipsanen, J. (2013). Conceptions about the mind-body problem and their relations to afterlife beliefs, paranormal beliefs, religiosity, and ontological confusions. *Advances in Cognitive Psychology, 9*(3), 112–120. https://doi.org/10.2478/v10053-008-0138-5

Roccas, S., & Sagiv, L. (Eds.). (2017). *Values and behavior: Taking a cross cultural perspective* (1st ed.). Springer International Publishing : Imprint: Springer. https://doi.org/10.1007/978-3-319-56352-7.

Saroglou, V., Delpierre, V., & Dernelle, R. (2004). Values and religiosity: A meta-analysis of studies using Schwartz's model. *Personality and Individual Differences, 37*(4), 721–734. https://doi.org/10.1016/j.paid.2003.10.005

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology, 25*, 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6

Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture, 2*(1). https://doi.org/10.9707/2307-0919.1116

Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of*

Personality and Social Psychology, 103(4), 663–688. https://doi.org/10.1037/a0029393

SimanTov-Nachlieli, I., & Shnabel, N. (2016). Addressing Israelis' and Palestinians' basic needs for agency and positive moral identity facilitates mutual prosociality. In *A social psychology perspective on the Israeli-Palestinian conflict: Celebrating the legacy of Daniel Bar-Tal* (pp. 253–262). Springer International Publishing AG. https://doi.org/10.1007/978-3-319-24841-7_17.

Vail, K. E., Soenke, M., & Waggoner, B. (2019). Chapter 11—terror management theory and religious belief. In C. Routledge, & M. Vess (Eds.), *Handbook of terror management theory* (pp. 259–285). Academic Press. https://doi.org/10.1016/B978-0-12-811844-3.00011-1.

Viney, W., Waldman, D. A., & Barchilon, J. (1982). Attitudes toward punishment in relation to beliefs in free will and determinism. *Human Relations, 35*(11), 939–949. https://doi.org/10.1177/001872678203501101

Willard, A. K., Cingl, L., & Norenzayan, A. (2020). Cognitive biases and religious belief: A path model replication in the Czech Republic and Slovakia with a focus on anthropomorphism. *Social Psychological and Personality Science, 11*(1), 97–106. https://doi.org/10.1177/1948550619841629

Willard, A. K., & Norenzayan, A. (2013). Cognitive biases explain religious belief, paranormal belief, and belief in life's purpose. *Cognition, 129*(2), 379–391. https://doi.org/10.1016/j.cognition.2013.07.016

Yaden, D. B., & Anderson, D. E. (2021). The psychology of philosophy: Associating philosophical views with psychological traits in professional philosophers. *Philosophical Psychology, 34*(5), 721–755. https://doi.org/10.1080/09515089.2021.1915972