Moral Vitalism: Seeing Good and Evil as Real, Agentic Forces

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Abstract

Moral vitalism refers to a tendency to view good and evil as actual forces that can influence people and events. We introduce a scale designed to assess the belief in moral vitalism. High scorers on the scale endorse items such as "There are underlying forces of good and evil in this world." After establishing the reliability and criterion validity of the scale (Studies 1, 2a, and 2b), we examined the predictive validity of the moral vitalism scale, showing that "moral vitalists" worry about being possessed by evil (Study 3), being contaminated through contact with evil people (Study 4), and forfeiting their own mental purity (Study 5). We discuss the nature of moral vitalism and the implications of the construct for understanding the role of metaphysical lay theories about the nature of good and evil in moral reasoning.

> This is a transcendent evil that wants to destroy everything we stand for and believe in.
>
> —Senator John McCain, September 3, 2008

When Senator McCain invoked the concept of evil to explain the threat posed by Islamic extremists, he was using the term as more than a mere description or label. Instead, he envisioned a metaphysically real, agentic force that could produce palpable consequences. We suggest that such remarks reflect a belief in "moral vitalism," a mode of thinking that assumes that good and evil are active *forces* that can exert a profound influence on people and events. In introducing the concept of moral vitalism, our broad aim is to uncover an important dimension of moral understanding that manifests itself within everyday moral cognition. We aim to show that people's metaphysical lay theories about the nature of good and evil provide important insights into moral reasoning and provide a theoretical framework from which to generate a range of novel research questions. Furthermore, we suggest that although moral vitalism is independent of religious and political beliefs, it may be reinforced or reified within certain religious or political contexts, thus offering new insights into religious and political cognition.

The Nature of Moral Vitalism

Moral vitalism embraces the dual beliefs that forces of good and evil (a) actually exist and (b) may cause moral and immoral events to occur. Moral vitalistic thinking is attractive because it provides a convenient explanation for why good and bad things happen, as well as what makes people good or bad (cf. Staub, 1989, 2003; Zimbardo, 2007). It thus acts as a lay theory (e.g., Heider, 1958; Kelly, 1955) or heuristic for navigating the complex world of moral judgment and behavior. Like other lay theories, moral vitalism may often be largely implicit and poorly articulated. As such, vitalistic thinkers may impute power, force, and intentionality to good and evil, yet be unable to justify why or how this is the case. They may assume that good and evil are actual objective phenomena that are manifested in the world, yet remain incapable of specifying where. Furthermore, vitalistic thinkers may rely on assumptions regarding the agentic nature of good and evil in their moral reasoning, yet lack insight into how these assumptions shape their moral understanding.

Our moral vitalism formulation shares similarities with work on the role of imperceptible agentic forces in human

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understanding. Vital forces, energies, power, "soul-stuff," or spirits are not only evident within many traditional belief systems (Atran et al., 2002; Frazer, 1890/1959; Mauss 1902/1972; Tylor 1871/1974) but also play a central role in early scientific and psychological theorizing (Jung 1917/1983; Bechtel & Richardson, 1998). More recently, these beliefs have been observed in children's understanding of biology (Inagaki & Hatano, 2004; Morris, Taplin, & Gelman, 2000) as well as adult thinking about natural (Lindeman & Saher, 2007) and psychological (Cashmore, 2010) events. Research has demonstrated that people think about all manner of things, extending from germs to interpersonal influence, in ways that presume the existence of causal forces or essences that may be transferred through contagion (physical contact) or similarity ("like produces like"; Nemeroff, 1995; Nemeroff & Rozin, 2000; Rozin & Nemeroff, 1990). This work has demonstrated that people are motivated to protect their personal and social identities from undesirable forces or essences (Douglas, 1966; Nemeroff & Rozin, 1994).

By examining these beliefs within people's moral understanding, we extend this previous work in two ways. First, moral vitalism refers to a belief in moral forces that are not necessarily embodied in objects or people. Previous research has tended to locate forces, energies, or essences within biological entities (Inagaki & Hatano, 2004; Morris et al., 2000), people, or objects (Nemeroff & Rozin, 1994), linking these magical concepts to the identity of their material source. Our approach broadens this conceptualization to include also moral forces that may exist independently of people or objects but have the capacity to enter, infect, and contaminate them. In this way, our approach subsumes a focus on beliefs in supernatural agents or entities such as gods and souls (e.g., Atran & Norenzayan, 2004; Bering, 2002, 2006; Boyer, 2003; Epley, Akalis, Waytz, & Cacioppo, 2008; Gray & Wegner, 2010) but does so by examining a more basic underlying belief in moral forces. From this perspective, then, good and evil, as well as gods and devils, become useful for explaining events in the world and specifically observed behavior.

Second, by examining such magical beliefs within the moral domain, we focus on cases where causal forces or essences are dichotomized. Concepts of vital force, mana, or essence (Jung 1917/1983; Nemeroff & Rozin, 1994; Bechtel & Richardson, 1998) do not necessitate the existence of a polar opposite. When used as a heuristic for distinguishing right from wrong and good from evil, however, such forces are intuitively separated into opposing categories, capturing the perceived causal influence of pure good and pure evil on the natural world (cf. Haidt & Algoe, 2004). Based on this perceived reality, moral judgments are more likely to be "black and white," and moral beliefs are likened to objective facts. This is consistent with previous work showing that people do tend to objectify their moral beliefs (Goodwin & Darley, 2008, 2012) and view their moral beliefs as universal

facts (Skitka, Bauman, & Sargis, 2005). Furthermore, consistent with previous work showing a negativity bias in contagion concerns (Rozin & Royzman, 2001; see also Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), we expect that people are more sensitive to the influence of the forces of evil than the forces of good. Indeed, this bias is also evident in people's tendency to attribute external agency to random events when they have negative as compared with positive outcomes (Morewedge, 2009).

Moral Vitalism and Moral Judgment

If people vary in their beliefs about the existence of good and evil forces in the world around them, then the influence of these beliefs should be evident across critical domains of social judgment. Specifically, we argue that moral vitalism may provide important insights into when and why some people engage in the protection of their personal identities, extending from physical contact with immoral others to mentally entertaining immoral thoughts.

The concept of moral vitalism may help to explain when and why contagion concerns may be evident in interpersonal relationships. Previous work has highlighted that people use concepts of contagion in their thinking about interpersonal influence (Nemeroff, 1995; Nemeroff & Rozin, 1994). Nonmaterial essences—"soul stuff," "personal energy," or "vibes"—are transferred through either direct (e.g., hand shake) or indirect (e.g., wearing a sweater) physical contact with another individual. We argue that when people endorse a belief in forces of good and evil, they will be more likely to avoid either direct or indirect contact with immoral others as concerns over moral contagion, and contamination are especially salient for these individuals.

Moreover, for moral vitalists contamination concerns may also extend beyond the domain of physical contact with immoral others to include concerns over one's own immoral thoughts and behavior. In the tradition of concerns with "spirit possession" (Cohen, 2008; Cohen & Barrett, 2008), we suggest that moral vitalists may view immoral essences—the forces of evil—as having the capacity to "infect" and corrupt people's minds and bodies. Consistent with the notion that the "self" is understood to be permeable and therefore vulnerable to outside influences (Rozin, Nemeroff, Horowitz, Gordon, & Voet, 1995), moral vitalists feel that they are susceptible to the forces of evil when engaging in immoral behavior or entertaining immoral thoughts. In this way, moral vitalists tend to moralize their own mental states (cf. Cohen & Rozin, 2001) making mental purity (i.e., the absence of immoral and therefore dangerous thoughts) particularly important. Our approach thus shares some similarities to the law of similarity in sympathetic magic (Nemeroff & Rozin, 2000; Rozin & Nemeroff, 2002), where representations of things (including mental representations grounded in words or names; see also Piaget, 1974) share the same deeper properties as their referents. From this perspective, thinking

about infidelity is just as bad as actually committing the act, and both the act and the thought increase vulnerability to corruption and contamination (see Herba & Rachman, 2007, for a similar approach to mental contamination).

In the current research, our aim was to explore the nature of moral vitalism and validate a brief measure of moral vitalistic beliefs. To this end, we began by developing and validating a self-report measure of moral vitalism (Studies 1, 2a, and 2b). We then sought to demonstrate the predictive validity of moral vitalism by focusing on the key domains of moral cognition which theoretically should be closely linked to such beliefs. We first sought explicit evidence that moral vitalists see the world as containing moral forces that may possess people and influence them in morally important ways (Study 3). Building on this evidence, we next examined whether moral vitalists may seek to protect themselves from being contaminated by those who are possessed by the forces of evil (Study 4). Finally, we assessed whether these concerns over possession and contamination might also be apparent in moral vitalists' preferences for maintaining mental purity (Study 5).

Study 1: Development and Psychometric Properties of the Moral Vitalism Scale

We asked 615 Australian undergraduate students (431 Female, $M^{age} = 22$) to respond to 16 items that we developed to tap beliefs about good and evil. These included items relating to the vitalistic causality of good and evil (e.g., "Either the forces of good or the forces of evil are responsible for most of the events in the world today") and the naturalness of good and evil (e.g., "Good and evil are aspects of the natural world"). We also included other items focusing on beliefs about good and evil that we argue are distinct, or at least not directly related, to a belief in moral vitalism. To this end, we included items tapping beliefs that good and evil are human constructs (e.g., "Good and evil are human constructions," "There is nothing that is really good or really evil in this world; it's all a matter of perspective"). By showing that these beliefs are separate from moral vitalism, it was our aim to demonstrate that moral vitalists see good and evil as real and not simply an artifact of how people think about the world. In addition, we also included items tapping beliefs about whether good and evil are mutually exclusive (e.g., "Something can't be both good and evil—it is either one or the other") or can easily co-exist ("Good and evil co-exist—one cannot exist without the other"). By showing that these beliefs are separate from moral vitalism, it was our aim to demonstrate that moral vitalists do not simply see good and evil in a "black and white," either/or way, but that they see good and evil as agentic forces that exist in the world. Respondents indicated their agreement with each item on scales ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

Table 1. Factor Loading of the Moral Vitalism Scale Items, Study 1.

Moral vitalism items	Factor loading
1. There are underlying forces of good and evil in this world	.86
2. Either the forces of good or the forces of evil are responsible for most of the events in the world today	.85
3. The forces of good and evil often motivate human behavior	.84
4. People need to be aware of the good and evil that are in this world today	.69
5. Good and evil are aspects of the natural world	.66

We used principal axis factoring with a direct oblimin rotation to examine the factor structure of these 16 items. This revealed three factors with eigenvalues greater than 1, explaining 29%, 10%, and 6% of the variance, respectively. Inspection of the pattern matrix revealed 5 items relating to vitalistic causality, and naturalness had high loadings on the first factor (>.58) and did not load on the other factors. The second factor was defined by items relating to the belief that good and evil are human constructs, while the third factor was defined by items related to the mutual exclusiveness of good and evil. Four items did not load on any factor. Inspection of the structure matrix revealed a similar picture, with the 5 focal items showing high loads on the first factor (>.56) and also the greatest differentiation across factors. The correlation between the first and second factors was substantial ($r = .56$), but remaining factor intercorrelations were low ($-.1 < r < 0$). Structural equation modeling was performed on the 12 items with substantive loadings. The three-factor solution showed acceptable fit (root mean square error approximation [RMSEA] = .06, comparative fit index [CFI] = .97, goodness of fit index [GFI] = .96), but this was not the case for the two-factor solution (RMSEA = .12, CFI = .83, GFI = .87) or the one-factor solution (RMSEA = .17, CFI = .67, GFI = .75).

The results of these analyses led us to retain the five items with high loadings on the first factor as our moral vitalism scale. A principal components analysis on these items revealed a one-factor solution accounting for 62% of the variance, with all items loading above .66 (see Table 1).

We cross-validated the five-item scale by administering the moral vitalism scale online to a sample of 634 Spanish undergraduates (408 Female, $M^{age} = 32$). A confirmatory factor analysis (CFA) conducted in AMOS 20 demonstrated good model fit for a one-factor solution (CFI = .979, GFI = .985, root mean square residual [RMR] = .078, RMSEA = .079).

To assess test–retest reliability, we administered the five-item scale to a subset of the above sample of Spanish undergraduates ($N = 141$, 113 Female, $M^{age} = 34$) at two time points separated by 3 months. Internal consistency at both

time points was acceptable (αs = .77, .82), as was temporal stability, $r(139) = .73$, $p < .001$, 95% confidence interval (CI) = [0.64, 0.80].

Study 2a: Convergent and Discriminant Validity: Ideology, Cognitive Style, and the Moral Vitalism Scale

Moral vitalism should be related to some constructs but not others. For example, moral vitalism's emphasis on the objective reality of good and evil should produce a relationship with religiosity. Given the focus on clearly defined concepts of good and evil, we also expected a moderate association with the tendency to evaluate (i.e., the use of objective standards for measuring others' behavior) and a need for structure (i.e., a preference for order and clarity). As such, we also expected an association with conservatism, given links between these political beliefs and preferences for certainty and structure (Jost, Glaser, Kruglanski, & Sulloway, 2003). Although both measures of moral vitalism and biological essentialism share a focus on beliefs in underlying properties, we predicted that there should only be a weak relationship between them, given the different focus of each measure (i.e., morality vs. biology). We did not predict any association with need for cognition (i.e., the use of complex as opposed to simplistic explanations for events and behavior) as moral vitalism is not solely about simplistic explanations but rather a certain kind of explanation for events and behavior.

We included these measures in the same sample of 634 Spanish undergraduates reported above. As can be seen in Table 2, the correlations largely supported our expectations. Moderate relationships between moral vitalism and both conservatism and religiosity indicate that it is related to these constructs but not reducible to them. As expected, moral vitalism was most strongly associated with the need to evaluate, suggesting that high scorers on moral vitalism are also likely to have strong opinions and engage in value-based evaluation. This sits comfortably with the idea that moral vitalism is linked to a tendency to objectify good and evil and therefore experience a sense of moral certainty on important issues. Moral vitalism was moderately associated with a need for structure, consistent with our argument that it is a useful heuristic which helps to make sense of, and therefore provides structure to, the moral domain. Moral vitalism was independent of the need for cognition. Finally, there was a weak relationship with gender.[1]

Study 2b: Convergent and Discriminant Validity: Cognitive Ability, Analytic Reasoning, and the Moral Vitalism Scale

In Study 2b, we sought to determine whether there was any relationship between moral vitalism and cognitive ability. To

Table 2. Correlations Between Moral Vitalism and Other Constructs, Study 2a.

Measure	n	Moral vitalism [95% CI]
Right-wing authoritarianism (Hodson & Costello, 2007)	549	.21*** [0.13, 0.29]
Religiosity (Cohen, Malka, Rozin, & Cherfas, 2006)	533	.20*** [0.12, 0.28]
Need to evaluate (Jarvis & Petty, 1996)	549	.31*** [0.23, 0.38]
Biological essentialism (Bastian & Haslam, 2006)	634	.16*** [0.08, 0.24]
Need for cognition (Cacioppo & Petty, 1984)	549	.07 [−0.01, 0.15]
Need for structure (Neuberg & Newsom, 1993)	634	.16*** [0.08, 0.24]
Political orientation on social issues (left/liberal = 1; right/conservative = 7)	533	.20*** [0.12, 0.28]
Gender (male = 1; female = 2)	594	.11** [0.03, 0.19]

Note. CI = confidence interval.
**$p < .01$. ***$p < .001$.

many people, maintaining beliefs that there are forces of good and evil in the world may be taken as a sign of low cognitive ability. This is in contrast, however, with the apparent tendency for many high-functioning individuals to rely on moral vitalistic understanding. For this reason, we predicted that moral vitalism should be unrelated to cognitive ability. We also examined the relationship between moral vitalism and analytic thinking. Previous work has demonstrated that analytic thinking promotes religious disbelief (Gervais & Norenzayan, 2012). This is because a belief in supernatural agents relies on the use of heuristics or intuitive cognitive processes which are undermined by analytic processing (Barrett, 2000; Boyer, 2008). Just so, moral vitalism is a heuristic that is used to navigate the moral domain and that relies on intuitive cognitive processes (i.e., the attribution of good and evil forces). Consistent with this, we predicted that endorsement of moral vitalism should be related to less analytic thinking, but not lower cognitive ability.

Method

Participants. We recruited 208 North Americans via Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011) in exchange for a small fee. Six participants did not finish the survey and were dropped from the data set, leaving 202 participants (110 female, $M^{age} = 37.9$).

Procedures and measures. Participants first completed the Cognitive Reflection Task (Frederick, 2005), which contains three problems that require participants to analytically override an intuitive, yet incorrect, response to obtain a correct

Table 3. Correlations Between Measures, Study 2b.

	1 [95% CI]	2 [95% CI]	3 [95% CI]	4 [95% CI]
1. Moral vitalism				
2. Religiosity	.57*** [0.47, 0.66]			
3. Intrinsic religiosity	.54*** [0.43, 0.63]	.88*** [0.85, 0.91]		
4. Analytic thinking	−.27*** [−0.39, −0.14]	−.22** [−0.35, −0.09]	−.25*** [−0.38, −0.12]	
5. Cognitive ability	−.10 [−0.24, 0.04]	−.21** [−0.34, −0.07]	−.20** [−0.33, −0.06]	.23*** [0.10, 0.36]

Note. CI = confidence interval.
**p < .01. ***p < .001.

response. This task was designed to specifically measure analytic processing and was used by Gervais and Norenzayan (2012, Study 1). A measure of analytic thinking was constructed by summing the number of correct answers (between 0 and 3 with higher scores indicating more analytic processing; $M = 1.22$; $SD = 1.19$).

Participants next completed the Over Claiming Questionnaire (OCQ; Paulhus, Harms, Bruce, & Lysy, 2003) measuring the tendency to claim familiarity with a range of general knowledge items. The measure includes both facts and foils (false "facts") allowing for a measure of accuracy to be calculated (claimed familiarity with facts [hits] minus claimed familiarity with foils [misses]; $M = 0.47$; $SD = 0.23$). Accuracy has been reliably linked to cognitive ability (Paulhus & Harms, 2004).

Participants then completed the moral vitalism scale ($M = 3.83$; $SD = 1.39$; $\alpha = .89$) and two measures of religiosity, one taken from Cohen, Malka, Rozin, and Cherfas (2006) consisting of 4 items ("how religious are you?" "how spiritual are you?" "how committed to your religious practices are you?" "how strong are your religious beliefs?"; $1 = not\ at\ all$, $6 = very\ much\ so$; $M = 3.39$; $SD = 1.73$; $\alpha = .94$), the other, a measure of intrinsic religiosity taken from Hoge (1972) and used by Gervais and Norenzayan (2012, Study 1; 10 items; $1 = strongly\ disagree$, $7 = strongly\ agree$; $M = 3.77$; $SD = 1.66$; $\alpha = .91$).

Results and discussion. As can be seen in Table 3, the association between moral vitalism and cognitive ability as measured by the OCQ was very weak and did not approach traditional levels of statistical significance, $r(200) = −.10$, $p = .15$, 95% CI = [−0.24, 0.04]; however, it was negatively related to a reduced reliance on analytic thinking, $r(200) = −.27$, $p < .001$, 95% CI = [−0.39, −0.14].[2] We replicated the association between intrinsic religiosity and reduced analytic thinking found by Gervais and Norenzayan (2012), $r(200) = −.25$, $p < .001$, 95% CI = [−0.38, −0.12]. Analytic thinking was also negatively associated with Cohen et al.'s (2006)

religiosity scale, $r(200) = −.22$, $p < .01$, 95% CI = [−0.35, −0.09]. We also found that intrinsic religiosity was associated with reduced cognitive ability, $r(200) = −.20$, $p < .01$, 95% CI = [−0.33, −0.06], as was the other measure of religiosity, $r(200) = −.21$, $p < .01$, 95% CI = [−0.34, −0.07]. Finally, as in Study 2a, moral vitalism was positively associated with intrinsic religiosity, $r(200) = .54$, $p < .001$, 95% CI = [0.43, 0.63], and the other measure of religiosity, $r(200) = .57$, $p < .001$, 95% CI = [0.47, 0.66].

The findings demonstrate that moral vitalism is largely unrelated to cognitive ability, but consistent with previous (and current) findings for a tendency to believe in supernatural agents (i.e., religiosity), it is related to reduced analytic thinking. This significant association also provides reassurance that any lack of association between moral vitalism and cognitive ability is unrelated to poor sample reliability or low power.

Establishing the Criterion Validity of Moral Vitalism

With this evidence of convergent and discriminant validity in hand, we sought to establish the predictive validity of moral vitalism across three domains of moral cognition. Focusing on moral judgments, which theoretically should be uniquely related to these beliefs, we examined whether moral vitalists are concerned about the possibility of spirit possession (Study 3), moral contagion (Study 4), and mental purity (Study 5).

Study 3: Moral Vitalism and Spirit Possession?

In Study 3, we sought explicit evidence that moral vitalists see the world as containing moral forces that can invade and possess people and which in turn have implications for behavior. We recruited 223 North Americans (101 Female, $M^{age} = 22$) who completed an online survey on Mechanical

Table 4. Correlations Between Measures, Study 3.

	1 [95% CI]	2 [95% CI]	3 [95% CI]	4 [95% CI]	5 [95% CI]	6 [95% CI]	7 [95% CI]
1. Moral vitalism							
2. Religious fundamentalism	.66*** [0.58, 0.73]						
3. Intrinsic religiosity	.60*** [0.51, 0.68]	.87*** [0.83, 0.90]					
4. Belief in pure good	.47*** [0.36, 0.57]	.27*** [0.14, 0.39]	.34*** [0.22, 0.45]				
5. Belief in pure evil	.61*** [0.52, 0.69]	.45*** [0.34, 0.55]	.34*** [0.22, 0.45]	.36*** [0.24, 0.47]			
6. Dangerous	.65*** [0.57, 0.72]	.77*** [0.71, 0.82]	.74*** [0.67, 0.79]	.29*** [0.17, 0.41]	.37*** [0.25, 0.48]		
7. Possessed	.48*** [0.37, 0.58]	.56*** [0.46, 0.64]	.53*** [0.43, 0.62]	.19** [0.06, 0.31]	.33*** [0.21, 0.44]	.72*** [0.65, 0.78]	
8. Character change	.54*** [0.44, 0.63]	.63*** [0.54, 0.70]	.55*** [0.45, 0.64]	.20** [0.07, 0.32]	.40*** [0.28, 0.51]	.64*** [0.56, 0.71]	.55*** [0.45, 0.64]

Note. CI = confidence interval.
**$p < .01$. ***$p < .001$.

Turk and were paid a small fee for participation. They first completed the moral vitalism scale ($M = 3.86$; $SD = 1.39$; $\alpha = .94$). They then completed several control variables. This included the belief in pure evil and pure good scale (Webster & Saucier, 2013) which contains two separate scales (1 = *disagree very strongly*, 7 = *agree very strongly*) capturing beliefs about whether people can be purely evil ($M = 4.41$; $SD = 1.38$; $\alpha = .97$) or purely good ($M = 5.05$; $SD = 0.87$; $\alpha = .92$). Participants also completed a measure of religious fundamentalism (Altemeyer & Hunsberger, 2004; −4 = *very strongly disagree*, +4 = *very strongly agree*; $M = 3.88$; $SD = 2.41$; $\alpha = .97$) and the same measure of intrinsic religiosity used in Study 2b ($M = 3.62$; $SD = 1.48$; $\alpha = .89$). Participants then read the following two vignettes:

Soul Vignette: John is hanging out with his friends. They are all young and rather adventurous, but generally good people. As part of a dare, his friends bet him $10 dollars to sign a piece of paper which states that he has sold his soul to the devil. John agrees to the dare, and his friends post the signed sheet of paper on the Internet.

Séance Vignette: Kristen is at home with a few of her friends. They are all young and rather adventurous, but generally good people. For fun they decide to look up information on the Internet about how to conduct a séance with the idea of contacting the spirit world. They then hold the séance.

For each vignette, participants were then asked to indicate whether they believed that what John/Kristen did was dangerous (1 = *not at all*; 7 = *very much so*) and whether they believed that John/Kristen was at risk of being possessed by evil (0 = *no*; 1 = *yes*). They were also asked to make a character assessment of John/Kristen by responding to the following statement: "as a

result of his actions John/Kristen may think or act in the following ways" (have lustful thoughts, tell a lie, cheat, become aggressive, treat others unfairly: 1 = *not at all likely*; 7 = *very likely*). We combined these responses to form an index of character change. Because responses across both vignettes were highly correlated for all measures ($rs > .43$ $ps < .001$), we collapsed responses to questions relating to dangerousness ($M = 3.03$, $SD = 2.04$), possession likelihood ($M = 0.22$, $SD = 0.38$), and character change ($M = 3.11$, $SD = 1.50$).

Results and Discussion

The correlations between each of the variables can be seen in Table 4. Moral vitalism was related to the perception that John/Kristen's actions were dangerous and that he or she would likely be possessed by evil. These concerns were also evident in how John/Kristen's character would be affected by his or her actions: either selling their soul to the devil or participating in a séance. This demonstrates that moral vitalists believe that selling ones soul to the devil or contacting the spirit world through a séance has the very real implication of leading to possession by evil, and once possessed, that one's character is likely to be adversely affected, leading to more immoral (and less moral) behavior.

To determine whether moral vitalism was a unique predictor of these beliefs, we conducted a series of regressions comparing moral vitalism to the control variables (see Table 5). This revealed that moral vitalism continued to make a significant independent contribution in predicting perceived dangerousness ($\beta = .28$, $p < .001$, 95% CI = [0.15, 0.41]), possession likelihood ($\beta = .21$, $p = .021$, 95% CI = [0.03, 0.39]), and character change ($\beta = .21$, $p = .012$, 95% CI = [0.05, 0.38]). This demonstrates that moral vitalistic beliefs

Table 5. Regression Models Predicting Each Dependent Variable, Study 3.

	Dangerous	Possessed	Character change
ANOVA[a]	$F(5, 196) = 69.61$***	$F(5, 200) = 22.77$***	$F(5, 194) = 30.00$***
Individual beta weights (95% CI)			
1. Moral vitalism	.28*** [0.15, 0.41]	.21* [0.03, 0.39]	.21* [0.05, 0.38]
2. Religious fundamentalism	.35*** [0.16, 0.55]	.27* [0.02, 0.53]	.49*** [0.25, 0.73]
3. Intrinsic religiosity	.29** [0.11, 0.47]	.19 [−0.05, 0.43]	−.03 [−0.26, 0.20]
4. Belief in pure good	−.02 [−0.12, 0.08]	−.06 [−0.19, 0.07]	−.04 [−0.17, 0.08]
5. Belief in pure evil	−.05 [−0.16, 0.06]	.06 [−0.09, 0.20]	.10 [−0.03, 0.23]

Note. CI = confidence interval.
[a]Degrees of freedom change due to missing data.
*$p < .05$. **$p < .01$.***$p < .001$.

play a unique role in predicting peoples' beliefs about spirit possession and its implications.

Study 4: Moral Vitalism and Moral Contagion

Study 3 demonstrated that moral vitalism is associated with an explicit belief in the possibility of spirit possession and that being possessed has implications for one's character and future behavior. Extending this, in Study 4, we examine whether moral vitalism might be associated with contagion concerns. Specifically, we ask whether moral vitalists will display an aversion to having indirect or secondary contact (i.e., touching something that has been in contact with another person) with those who may be possessed by evil.

One hundred fourteen first-year psychology students from an Australian university (79 Female, M^{age} = 19.56) were recruited for the study and received course credit for participation. Approximately half of the sample indicated no religious identification ($n = 46$), with the other majority indicating they were Christian ($n = 58$). A few indicated they belonged to eastern religions (Buddhist = 5; Hindu = 3; Islam = 2). Participants completed the measure of moral vitalism ($M = 3.90$; $SD = 1.06$; α = .79). They also completed the same measure of biological essentialism as in Study 2a (Bastian & Haslam, 2006, 2008), which involves four items (1 = *strongly disagree*, 6 = *strongly agree*) related to the biological basis of human differences (e.g., "Whether someone is one kind of person or another is determined by their biological make-up"; $M = 3.25$; $SD = 1.05$; α = .85). They then completed a measure of individual differences in disgust sensitivity (Haidt, McCauley, & Rozin, 1994; 0 = *strongly disagree/not at all disgusting*, 4 = *strongly agree/extremely disgusting*; $M = 2.06$; $SD = 0.54$; α = .85).

Contagion Concerns

To assess participant concerns over moral contagion, we asked participants to consider eating a chocolate biscuit or an apple from an Australian supermarket chain. All ratings were made on a scale from 0 (*not at all disgusting*) to 4 (*extremely disgusting*). The first two questions asked participants to rate any disgust associated with eating these items (e.g., "Eating a washed green apple from Coles"). The next two asked participants how disgusting it would be if they had been laying on the floor (e.g., "Eating an unwashed green apple laying on the floor at Coles"). Next, participants considered how disgusting it would be to eat the items after they had been recovered from a thief (e.g., "Eating an unwashed green apple that had been stolen from Coles, but recovered from the thief"). Finally, participants learnt that the items had been taken from the shopping basket of a convicted child molester (e.g., "Eating an unwashed green apple from Coles that had been recovered from the shopping basket of a convicted child molester, before he had been apprehended in the store by police"). Although the apple was described as unwashed in the contagion items, the chocolate biscuit was described as still in its wrapping. This allowed us to ensure that any concerns were related to the transfer of moral essences, rather than concerns about the transfer of germs.

Results and Discussion

Correlations between all measures and the contagion items are presented in Table 6. Moral vitalism was especially associated with feeling disgusted about the idea of consuming food products that had been in contact with immoral others; however, unexpectedly it was also associated with disgust over eating uncontaminated items. Disgust sensitivity was also related to feeling disgust over having contact with biologically contaminated (floor) and morally contaminated (thief, child molester) items.

To determine whether moral vitalism was uniquely associated with concerns over moral contagion, we conducted a series of regressions (see Table 7). We first collapsed across the apple and biscuit examples as there was little difference in the patterns of associations and responses for both items were highly correlated (clean: $r = .63$, $p < .001$, 95% CI = [0.51, 0.73]; floor: $r = .52$, $p < .001$, 95% CI = [0.37, 0.64]; thief: $r = .65$, $p < .001$, 95% CI = [0.53, 0.75]; child molester: $r = .81$, $p < .001$, 95% CI = [0.74, 0.87]). We then regressed

Table 6. Correlations Between Measures, Study 4.

		1 [95% CI]	2 [95% CI]	3 [95% CI]	M	SD
1.	Moral vitalism					
2.	Biological essentialism	.03 [−0.16, 0.21]				
3.	Disgust sensitivity	.24* [0.06, 0.41]	−.02 [−0.20, 0.17]			
4.	Clean biscuits	.24** [0.06, 0.41]	.05 [−0.14, 0.23]	.05 [−0.14, 0.23]	0.14	0.52
5.	Clean apple	.22* [0.04, 0.39]	.03 [−0.16, 0.21]	.08 [−0.11, 0.26]	0.11	0.54
6.	Floor biscuits	.24* [0.06, 0.41]	.09 [−0.10, 0.27]	.21* [0.03, 0.38]	1.29	1.25
7.	Floor apple	.27** [0.09, 0.43]	.05 [−0.14, 0.23]	.48*** [0.33, 0.61]	2.23	1.01
8.	Thief biscuits	.38*** [0.21, 0.53]	.12 [−0.07, 0.30]	.37*** [0.20, 0.52]	1.31	1.39
9.	Thief apple	.31*** [0.13, 0.47]	.04 [−0.15, 0.22]	.48*** [0.33, 0.61]	2.05	1.17
10.	Molester biscuits	.38*** [0.21, 0.53]	.17 [−0.01, 0.35]	.37*** [0.20, 0.52]	1.78	1.61
11.	Molester apple	.32*** [0.15, 0.48]	.08 [−0.11, 0.26]	.43*** [0.27, 0.57]	2.32	1.34

Note. CI = confidence interval.
*p < .05. **p < .01. ***p < .001.

Table 7. Regression Models Predicting Each Dependent Variable, Study 4.

		Thief	Child molester
ANOVA[a]		$F(5, 104) = 11.67$***	$F(5, 104) = 9.74$***
Individual beta weights (95% CI)			
1.	Moral vitalism	.25** [0.08, 0.41]	.29*** [0.12, 0.46]
2.	Disgust sensitivity	.36*** [0.19, 0.51]	.32*** [0.15, 0.48]
3.	Biological essentialism	.06 [−0.10, 0.22]	.11 [−0.05, 0.28]
4.	Clean item disgust	.05 [−0.11, 0.21]	−.16 [−0.32, 0.01]
5.	Floor item disgust	.22** [0.05, 0.38]	.21* [0.04, 0.38]

Note. CI = confidence interval.
[a]Degrees of freedom change due to missing data.
*p < .05. **p < .01. ***p < .001.

moral vitalism onto the combination of the thief items, controlling for disgust sensitivity, biological essentialism, and disgust ratings for the clean items and the floor items. The analysis revealed that moral vitalism was uniquely associated with disgust about consuming items handled by a thief (β = .25, p = .004, 95% CI = [0.08, 0.41]). This same model revealed a unique association between moral vitalism and disgust about consuming items handled by a child molester (β = .29, p = .001, 95% CI = [0.12, 0.46]).

The findings demonstrate that moral vitalism is associated with moral contagion concerns. This is evidenced by moral vitalists' increased feelings of disgust at the thought of having indirect or secondary contact (through the consumption of contaminated food) with immoral others.

Study 5: Moral Vitalism and Mental Purity

If moral vitalism is associated with concerns over spirit possession, contagion, and contamination, it may also be linked to concerns about mental purity. That is, guarding against impure thoughts should be important for those who fear the possibility of being possessed by the forces of evil. We tested this possibility in Study 5. Specifically, we examined whether moral vitalists may be especially threatened by having impure thoughts and whether they would seek to avoid such thoughts by implementing strategies for controlling them. To induce impure thoughts, we used Wegner's (1994) ironic thought control paradigm which consists of asking people not to think about target thoughts—a procedure that has been shown to have the ironic effect of increasing the target thoughts. After the thought induction period, participants reported the extent to which they (a) attributed their intrusive impure thoughts to external forces of good and evil and (b) desired information designed to help fend off unwanted thoughts in the future.

One hundred thirteen Americans[3] participated (64 Female, M^{age} = 33). Participants completed the study on Mechanical Turk for a small fee. To ensure that the impure thought manipulation (which referred to "sin") was meaningful to all participants, only self-identified Christians participated. Participants completed measures of moral vitalism (M = 4.39; SD = 1.01; α = .78) and religiosity (M = 4.68; SD = 1.47; α = .89). They also completed a measure of political orientation toward social issues ("Please indicate your political beliefs from left/liberal to right/conservative on social issues; e.g., immigration, homosexual marriage, abortion"; 1 = *left/liberal*; 7 = *right/conservative;* M = 3.79; SD = 1.77).

Participants learned that the 2-min timer on their computer screen would guide their participation in the next phase

of the experiment. In the impure thought condition, they read the following:

Take a moment to think about something you've felt guilty about and represents a "sin of the flesh"—something bodily that you enjoyed doing in the moment but felt guilty about doing or feels "dirty" to think about. In the box below, write what that sin is (remember all your information is totally anonymous and we'll never ask you for any identifying information). Most people in this exercise think of something sexual when they think of a sin about the body. Some people would rather not write out exactly the experience they are thinking of—if this applies to you and the "dirty" thought/sin is of a sexual nature, please just type "Yes" in the textbox. Otherwise please write what the sin is in your own words.

In the control condition they read the following:

Take a moment to think about a U.S. president you like and respect. It can be any president in U.S. history. Please write the name of that president in the box below.

The instructions then encouraged the participant to "let your mind wander and think about anything, with one caveat: Please try to not think about the sin/president you identified above." There was a box on the screen and participants put a "1" in the box every time they thought of the sin/president. Participants learned that although there were no right or wrong answers, they should be honest. Participants then started the timer and continued for 2 min.

At the end of the 2 min, the computer prompted participants to indicate whether they believed their thoughts had been influenced by the forces of good and evil ("If forced to choose, did you think the forces of good and evil were influencing your thoughts?" 0 = *no*; 1 = *yes*). Participants then read that the research team had obtained several key readings on stream of consciousness thought and specifically on thought control and mental flexibility. The first article was "Letting your thoughts rule: How to maintain an open and flexible mind." Participants read that

this article gives a science-based account of empirically-validated methods to open one's mind to whatever influences are in the surrounding environment. Letting your thoughts rule takes consistent practice and has roots in specific forms of meditation and trance. With sufficient patience, one can learn to "unlearn" the automatic controls we put in place on our own minds.

The second article was "Strategies to control your thoughts: Five ways to keep unwanted thoughts at bay." Participants read that

this article takes a very different approach to understanding stream of conscious thought. Based on recent neuroscientific studies of individuals in fMRI settings, researchers have developed a series of online routines that people can follow each day to reduce unwanted thoughts. The routines are simple yet require focus and endurance.

Participants then rated the extent to which they would like to (a) read each of the articles and (b) learn more about the articles (1 = *not at all*; 5 = *totally*). Responses to how much participants would like to read and learn more about each article revealed a strong correlation in all conditions (rs > .61, ps < .001), so we formed a composite index of information seeking (Controlling thoughts: $M = 2.92$; $SD = 1.04$; Letting thoughts rule: $M = 2.78$; $SD = 0.97$).

Results and Discussion

To test the prediction that moral vitalists would claim that good or evil forces had influenced their intrusive thoughts, we conducted a binary logistic regression. A significant interaction of moral vitalism and thought suppression condition ($B = .97$, odds ratio [OR] = 2.64, Wald $\chi^2 = 8.06$, $p = .005$, 95% CI(B) = [0.30, 1.64]) qualified a main effect of moral vitalism ($B = .91$, OR = 2.50, Wald $\chi^2 = 7.50$, $p < .01$, 95% CI(B) = [0.26, 1.57]). The interaction effect remained significant (ps < .003) when controlling for religiosity or political orientation (Bs < .20). The interaction reflected the fact that moral vitalism predicted the degree to which good or evil forces had influenced participants intrusive thoughts in the impure thought condition, ($B = 1.90$, OR = 6.57, Wald $\chi^2 = 9.34$, $p = .002$, 95% CI(B) = [0.66, 3.15]) but not in the control condition ($B = -.03$, OR = 0.98, Wald $\chi^2 = .009$, $p = .925$, 95% CI(B) = [−0.57, 0.52]). There was no effect of suppression condition ($B = .02$, OR = 1.02, Wald $\chi^2 = .01$, $p = .93$, 95% CI(B) = [−0.46, 0.50]). Apparently, when moral vitalists experience intrusive impure thoughts, they are especially prone to conclude that these thoughts have been influenced by the forces of good or evil.

To determine whether moral vitalists were more likely to seek information about material that promised to assist them to better control their intrusive thoughts after thinking about impure thoughts, we regressed moral vitalism, condition, and their interaction onto information seeking for the "Strategies to control your thoughts" article. There was the predicted interaction of moral vitalism and thought suppression condition ($\beta = .29$, $p = .003$, 95% CI = [0.10, 0.48]), but there were no main effects of either moral vitalism ($\beta = .07$, $p = .49$, 95% CI = [−0.12, 0.25]) or condition ($\beta = .07$, $p = .44$, 95% CI = [−0.11, 0.25]). Moral vitalism was related to increased information seeking in the impure thoughts condition ($\beta = .36$, $p = .018$, 95% CI = [0.06, 0.65]), but this effect merely approached significance in the control condition ($\beta = -.24$, $p = .067$, 95% CI = [−.44, 0.02]). The interaction effect remained significant (ps < .005) when controlling for religiosity or political orientation (βs < .10). No effects emerged when the outcome measure was information seeking for the "Letting your thoughts rule" article (ps > .13).

These findings suggest that when moral vitalists experience impure thoughts, they become concerned that forces of evil are overtaking them, and they accordingly become motivated to vanquish these forces by seeking out information that might enable them to better control their thoughts. Critically, moral vitalists displayed no such interest in the article related to letting thoughts rule, demonstrating that it was specifically thought control that was of interest to them rather than articles about thoughts in general. These findings support our contention that moral vitalists strive to ensure the purity of their thought processes by taking active steps to ward off unwelcome impure thoughts.

General Discussion

Moral vitalists believe that good and evil are real forces that are capable of causing morally relevant events in the world. Here, we developed a brief measure of moral vitalism and, drawing on evidence gathered from different countries, provided initial evidence for its reliability and validity (Studies 1, 2a, and 2b). We then explored the criterion validity of moral vitalism, showing that moral vitalists understand the world as containing moral forces that can possess and influence people (Study 3). Building on this, we demonstrated that moral vitalists seek to protect themselves from being contaminated by those who are likely possessed by the forces of evil (Study 4) and that concerns about contamination and possession are also evident in concerns over one's own mental purity (Study 5). Taken together, the evidence supports a new dimension of moral cognition—the belief that agentic forces of good and evil exist in the natural world—and validates a brief measure that captures these beliefs and predicts theoretically relevant judgments in the moral domain.

What Is the Contribution of Moral Vitalism?

By introducing the concept of moral vitalism, we have aimed to provide novel and important insights into moral cognition. Specifically, we show that some individuals hold beliefs that good and evil forces exist, that these forces can inhabit people and act as agents that cause morally significant thoughts and behavior. Moreover, we sought to identify pathways through which these moral forces are understood to act, showing that moral vitalists appear to believe that possession by these forces may occur through physical contact (i.e., law of contagion) or by engaging with good or evil ideas and actions (i.e., law of similarity: Nemeroff & Rozin, 1994).

We believe that moral vitalism makes a significant theoretical contribution to previous work across a number of fields. Specifically, it integrates work that has focused on subtle beliefs in non-material essences (i.e., the contagion concept; Nemeroff & Rozin, 1994) and links it to work focusing on supernatural agents (Atran & Norenzayan, 2004; Bering, 2002; Boyer, 2003) and spirit possession (Cohen, 2008). Furthermore, it builds upon research that has identified beliefs

in vitalistic energy (Inagaki & Hatano, 2004) and moral elevation and purity (Haidt & Algoe, 2004). In this way, moral vitalism represents a new construct capable of capturing metaphysical beliefs about good and evil which also has strong theoretical links to a broad number of established fields focusing on moral cognition and magical thinking.

It is important to note that although moral vitalism aligns moderately with religiosity (e.g., intrinsic religiosity, religious fundamentalism) and right-wing political attitudes (e.g., right-wing authoritarianism), we show that moral vitalism predicts phenomena under consideration independently from these constructs. We want to be clear, however, that the contribution of moral vitalism is not limited to its capacity to predict unique variance. In contrast to measures of specific political attitudes or religious practice and belief, moral vitalism represents a construct that is transportable between religious and political contexts. It thus presents a capacity for direct comparison of core beliefs across religious and political divides. Moral vitalism may capture beliefs in good and evil supernatural agents but is not defined by a belief in a specific supernatural entity. It may also capture beliefs in good and evil metaphysical forces that are not linked to a belief in such agents. We argue, however, that in all cases, moral vitalism is the common underlying lay belief which links these various approaches to understanding the moral and natural worlds. As such, beyond providing for broad comparisons, moral vitalism provides a theoretical model from which to develop novel psychological insights.

By focusing on a core belief in forces of good and evil, the concept of moral vitalism also opens the door to novel research endeavors that seek to understand the developmental trajectory of such beliefs, how proximate or distal factors may serve to inculcate or motivate the formation of these beliefs, and avenues through which these beliefs may be challenged or reinforced.

Limitations and Future Directions

The current studies present evidence gathered from different countries attesting to the nature and social implications of moral vitalism. Drawing from these diverse samples, we show that moral vitalism taps valid and reliable differences in how people understand the nature of good and evil. Even so, the current studies have several limitations. For example, we have focused on mostly Western participants. Cross-cultural research would be able to establish the validity of the moral vitalism measure in other more diverse contexts. As we demonstrate, the endorsement of these beliefs may be lower in some contexts, such as those with large numbers of Buddhists or in highly secular contexts. Nonetheless, we have shown that the moral vitalism scale is a valid measure for both religious and non-religious participants and that it remains valid across a number of contexts (e.g., Spain, Australia, and America).

Although we provide strong evidence for individual differences in the endorsement of moral vitalism as a lay theory, we did not manipulate these beliefs to establish causal relationships. Whether moral vitalism can be successfully primed remains an open question. Although we theorize moral vitalism as a lay theory, which traditionally have been shown to shift according to conceptual prompts (see No et al., 2008), we believe that moral vitalism may not be easily primed. This is because beliefs about the nature of good and evil cut to the very core of a person's worldview, making any adjustment to this belief potentially disruptive and existentially challenging.

We have shown that moral vitalism is related to a range of theoretically important metaphysical and moral judgments, including possession by evil and concerns over moral contagion and mental purity. It is also likely that moral vitalism is related to other phenomena. Previous work has demonstrated that purity concerns are evident within some people's moral reasoning (Haidt & Algoe, 2004) and have been demonstrated as an important foundation in moral judgment (Graham, Haidt, & Nosek, 2009). Other work has shown that some people view their moral principles as objective facts, and this is especially evident when they ground those principles in the existence of a supernatural being (Goodwin & Darley, 2008). Moral vitalism may play an important role in explaining and amplifying these effects, leading people to consider issues of purity in moral decision making and to view their moral judgments as grounded in an objective and underlying reality. In this way, moral vitalism may also help explain when and why people may respond to others actions with moral outrage (Tetlock, Kristel, Elson, Green, & Lerner, 2000).

Summary

In the current research, we have introduced a new construct—moral vitalism—and developed a short measure to capture individual differences in the tendency to embrace a belief in moral vitalism. We believe this construct will highlight a core belief that may be especially important in understanding how people react and respond within the moral domain. Our findings suggest that moral vitalists embrace a naive model of "spirit possession" in understanding the effects of good and evil on psychological processes. With this model in hand, they believe that good and evil are real, causally potent forces that can possess and contaminate people. As such, moral vitalism represents a core belief that underlies a range of beliefs in good and evil supernatural entities and spiritual forces providing the capacity for integrative insights across a broad spectrum of religious and political orientations. We hope that the moral vitalism construct will provide a useful tool for research on individual differences in social cognition.

Acknowledgment

Notes

1. We note that gender was not strongly associated with moral vitalism in any of our studies and that controlling for gender did not affect any of the results reported. For this reason, we have not reported any gender effects in our studies.
2. When we regressed both cognitive ability and analytic thinking onto moral vitalism, analytic thinking remained negatively related to moral vitalism, $\beta = -.26$, $t(199) = -3.74$, $p < .001$, while cognitive ability was not related, $\beta = -.04$, $t(199) = -.60$, $p = .55$.
3. Fourteen participants were dropped because they did not follow experimental instructions.

Supplemental Material

The online supplemental material is available at http://pspb.sagepub.com/supplemental.

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