# Humanities & Social Sciences Communications



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https://doi.org/10.1057/s41599-024-02684-4

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# Integrating the humanities and the social sciences: six approaches and case studies

The social sciences are still young, and their interaction with older siblings such as philosophy and theology is still necessarily tentative. This paper outlines three ways in which humanistic disciplines such as philosophy and theology might inform the social sciences and three in which the social sciences might inform the humanities in turn, proceeding in each case by way of brief "case studies" to exemplify the relation. This typology is illustrative rather than exhaustive, but each of its halves nonetheless roughly tracks the development of a research project in the social sciences and humanities, respectively. In the first direction, (1) the humanities can help the social sciences identify new directions and scope for their inquiry; (2) provide conceptual clarity for constructs that the social sciences elect to study; and (3) enrich & clarify the interpretation of empirical results. Moving in the opposite direction, the social sciences can help (4) furnish new data for humanistic reflection; (5) confirm (or challenge) claims from the humanities; and (6) develop and assess interventions for achieving the goods highlighted by humanistic inquiry.

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n 1917, Max Weber famously proclaimed that "the enterprise of science as a vocation is determined by the fact that science has entered a stage of specialization that has no precedent" (Weber, 2004: p. 7). Weber did not introduce this fragmentation as a cause for lament; on the contrary, he insisted, "Only rigorous specialization can give the scholar the feeling for what may be the one and only time in his life, that here he has achieved something that will *last*." Nonetheless, he recognized that scientific specialization posed significant challenges for intellectual work of any ambition or scope: "With every piece of work that strays into neighboring territory...we must resign ourselves to the realization that the best we can hope for is to provide the expert with useful *questions* of the sort that he may not easily discover for himself from his own vantage point" (Weber, 2004: p. 7).

This galloping specialization has only accelerated since Weber's day—by some measures, there are now 176 distinct scientific subfields, including astronomy, atmospheric sciences, and automotive engineering (Ioannidis et al., 2019). And the humanities have by no means been immune from the pressure to specialize: particularly in the Anglosphere, it is rare today for a humanist—out of expedience, we'll restrict ourselves to philosophers and theologians—to publish on more than a handful of her discipline's classic problems, both from the sheer mass of publications in even relatively narrow sub-fields, and owing to the academic incentives for hiring and promotion. Not that all philosophers and theologians are happy about this situation: both disciplines are full of internal hand-wringing about the fragmentation of their sub-disciplines and the intellectual impover-ishment it imposes.<sup>1</sup>

In this situation of deep, Weberian specialization, it is perhaps no great surprise that even sciences closely adjacent to the humanities—"social sciences," such as psychology, sociology, or social epidemiology—have had relatively little time or energy for opening a conversation with their seemingly strange neighbors. Some corners of the humanities—philosophy in particular—have made relatively greater progress in engaging with the findings of the social sciences, but on the whole, the lines of communication between these disparate disciplines have been few and fragmentary.

The social sciences are still young, and their interaction with older siblings such as philosophy and theology is still necessarily tentative. However, a broad paradigm for dialogue in some specific areas is now coming into focus, guided by the broad conviction that (as Mark Alfano nicely put it, riffing on Kant's famous line about intuitions and concepts): "Moral philosophy without psychological content is empty, whereas psychological investigation without philosophical insight is blind" (2016: p. 1).<sup>2</sup> Where Weber had proposed a clean division between the sciences' "facts" and the humanities' "values"—"non-overlapping magisteria," to borrow a phrase from Gould (1997)—Alfano's maxim points to the essential complementarity of the humanities' and social sciences' distinctive methods. If humanists make claims about the actual world, they must do so responsibly, with due attention to specialists' empirical inquiry. And conversely, social scientists must recognize that their concepts are rarely pellucid, their measurements are always partial, and their data is never self-interpreting, so that they can frequently profit from the analytical rigor and hermeneutical insight in which the humanities specialize.

Below, we outline three ways in which humanistic disciplines such as philosophy or theology might inform the social sciences and three in which the social sciences might inform them in turn, proceeding in each case by way of brief "case studies" to exemplify the relation. Our choice of philosophy and theology is doubly practical: these are the two humanistic disciplines in which we are most at home, as well as fields in which there has

already been a fair amount both of engagement with the social sciences and methodological reflection on that engagement. These could and should be expanded by reference to other corners of the humanities. For a sketch of how a dialogue of this sort might proceed between the fields of economics and literature in particular, cf. Morson and Shapiro (2017). So too, we have chosen case studies that both reflect our own areas of expertise and furnish clear instances of the kinds of interdisciplinary interaction that we hope to highlight in each section.

This typology is illustrative rather than exhaustive, but each of its halves nonetheless roughly tracks the development of a research project in the social sciences and humanities, respectively. In the first direction, (1) the humanities can help the social sciences identify new directions and scope for their inquiry; (2) provide conceptual clarity for constructs that the social sciences elect to study; and (3) enrich & clarify the interpretation of empirical results. Moving in the opposite direction, the social sciences can help (4) furnish new data for humanistic reflection; (5) confirm (or challenge) claims from the humanities; and (6) develop and assess interventions for achieving the goods highlighted by humanistic inquiry.

#### Guiding inquiry: life satisfaction and eudaimonia

The humanities can help guide, direct, and motivate the research inquiries of the various social sciences. For instance, recent debates over the measurement of well-being have been explicit, if often imperfectly, influenced by ancient moral philosophy, especially in the "eudaimonistic" tradition. We will argue that although the drawing upon Aristotle's understanding of flourishing has clearly already shaped empirical well-being research, deeper engagement with his actual views might enrich empirical work yet further. More specifically, we'll consider two cases of this kind of philosophical influence on psychometrics (Helliwell, 2021; Ryff et al., 2021), the former drawing on classical eudaimonism to defend a central role for the assessment of "life satisfaction" in well-being research and in global development work, and the latter doing so to contrast "hedonic well-being" with "eudaimonic well-being" or "challenged thriving.'

John Helliwell is the editor of the UN's World Happiness Report, an annual analysis of subjective well-being in 160 countries (Helliwell, 2021). In the Report, "happiness" is assessed using measures of self-reported experiences of positive and negative emotion and "life evaluation," assessed by asking respondents where they would place their lives (ranging from "best" to "worst") on a ladder (cf. Cantril, 1965).

Helliwell (2021) has recently drawn on Aristotle, in particular, to argue that measures of life evaluation or life satisfaction ought to be given priority over other measures of well-being, such as GDP per capita or in contemporary policy debates. He argues that the most important tools for measuring happiness are "the evaluations that individuals make of the quality of their own lives," and goes on to quote Julia Annas (from her classic survey of ancient ethics) as noting that "ancient ethical philosophy 'gets its grip on the individual at this point of reflection: am I satisfied with my life as a whole, and the way it has developed and promises to develop?" (2021: 29, quoting Annas, 1993: p. 28). This intuition motivates Aristotle's startling insistence, citing Priam's tragic death amid the downfall of Troy, that even a flourishing life cannot be regarded as "supremely blessed (makarios)" unless it comes to a good end (1934: 1.9.11, p. 47). For Helliwell, measures of "life satisfaction" are Aristotelian precisely to the extent that they invite respondents to consider, not merely their current or recent mood (as questions about "happiness" might suggest), but their lives as a whole.

Helliwell notes two further senses in which life-satisfaction research is broadly Aristotelian. First, he suggests that life satisfaction measures follow Aristotle in allowing "that a good life is likely to combine elements of the viewpoints later identified as Epicurean and Stoic," i.e., to involve both external goods and internal goods such as character and virtue (Helliwell, 2021: 30, cf. Aristotle, 1934: 1.8.15–16, p. 43). And second, Aristotle insisted "that the right answers [to questions about the good life] require evidence as much as introspection" (Helliwell, 2021: p. 30, citing Aristotle, 1934: 1.8.9–13, p. 41).

However "Aristotelian" Helliwell's approach might be an inspiration, though, Aristotle would hardly have approved of mass surveys of life satisfaction as a supposedly adequate tool for gauging the flourishing of an individual or population. After all, he took it that most people ("the many") mistakenly believed that the good life consists of pleasure (1934: 1.4.1–3, p. 11). Aristotle is unapologetically elitist in insisting that a flourishing life is characterized most fundamentally by "the active exercise of one's soul's faculties in conformity with virtue," or (put the same point in somewhat different words) "in conformity with reason" (1934: 1.7.15, p. 33).

To his credit, Helliwell is up-front about discounting Aristotle's "emphasis on excellence and purpose," but an account of well-being that brackets the centrality of virtue is not Aristotelian, nor meaningfully eudaimonist in any classical sense. Indeed, precisely because they accepted the intuitive requirement that the human good must be good for one's life as a whole, and not simply for the passing moment, even the supposedly hedonistic Epicureans had to embrace revisionary accounts of pleasure. For Epicurus, the pleasures that are *really* pleasant turn out to be the refined pleasures of intellectual engagement and virtuous friendship, which he summarized as a state of being undisturbed in the soul (*ataraxia*) (Annas, 1993: pp. 334–50).

A more eudaimonistic—and arguably more adequate approach to assessing well-being would distinguish in a finergrained way among distinct domains—between, say, the external goods of health and wealth and the internal goods of character, meaning, and achievement-and would perhaps discount the former in view of the relatively greater importance of the latter (Symons and VanderWeele, 2023). This is precisely what Ryff et al. (2021) propose in distinguishing between "eudaimonic wellbeing" or "challenged thriving," and "hedonic well-being" (defined to include life satisfaction, positive affect, and the absence of negative affect). They take the former category to assess the dimensions of flourishing which they claim all the ancient eudaimonists gave pride of place, such as "autonomy," "personal growth," "positive relations with others," or "purpose in life" (2021: pp. 99-100; cf. also Ryff's earlier work on this topic, in Ryff 1989 or Ryff & Keyes, 1995). This approach has the advantage of teasing apart two relatively distinct domains of flourishing, which differ significantly both in their demographic distribution (Ryff et al., 2021: pp. 101-109) and in their effects on other domains, such as physical health (Ryff et al., 2021: pp. 110-115).

Nonetheless, the absence from their description of the eudaimonic well-being of *the* central concept of classical eudaimonism, namely the virtues, is striking. Neither Aristotle, Zeno, nor Epicurus would have regarded autonomy or purpose in life as intrinsic goods in themselves; Hitler, after all, enjoyed a high degree of both for much of his public life, but we presumably would not want to say that he was flourishing in that period. Rather, eudaimonists would regard all of those qualities as valuable to the extent that they were shaped by the virtues, paradigmatically of wisdom, courage, temperance, and justice. We might thus hypothesize that measures of "eudaimonic well-being" would be more valuable—and more predictive of other well-being

outcomes—to the extent that they incorporated, not merely the thin "character strengths" beloved of much recent psychology, but the more robust excellences of character captured in the classical conception of virtue (cf. Ng and Tay, 2020; VanderWeele, 2022).

In short, the empirical study of well-being has clearly been greatly facilitated by attention to the insights of ancient moral philosophy, particularly the philosophy of Aristotle, who emphasized the diversity of goods that compose a flourishing life. Nonetheless, well-being assessment and subsequent empirical research would be more properly "eudaimonic" to the extent that it incorporated sustained attention to the virtues as such, and not merely to some of the qualities with which they are associated. Insights from the humanities—from philosophy, from theology, from history—have and almost inevitably will continue to inform, motivate, and direct research in the empirical social sciences.

#### Clarifying constructs: hope and optimism

For a second way in which the humanities might contribute to the social sciences, consider their role in shaping construct definitions of traits or behaviors, which profoundly shape empirical research, but are sometimes under-theorized or imprecisely defined by the social scientists who employ them. We should of course heed Aristotle's caution not to insist on greater precision in any inquiry than its subject-matter admits (Aristotle, 1934: 1.3.1-2, p. 7); the boundaries between human emotions or dispositions will typically be fuzzier than those distinguishing atoms in the chemical table of elements. Nonetheless, in avoiding the error of artificial precision, we ought not to license the opposite error of avoidable vagueness. For example, the terms "hope" and "optimism" are sometimes used interchangeably in ordinary language, which has arguably obscured social-scientific inquiry on these topics as well. Research on hope has been dominated by Snyder's influential definition of hope as "the cognitive energy and pathways for goals" (1995: p. 355). The items in Snyder's accompanying measure of hope include the following: "There are lots of ways around any problem"; "I've been pretty successful in life"; or "I meet the goals that I set for myself."

Notice that all of these items imply a strong expectation on the part of the respondent that the future will in fact turn out well, or even that it already has, combined with a strong sense that the respondent has the capacities and drive to bring about the desired future (Snyder, 1995: p. 357). While Snyder explicitly distinguishes his conceptualization of hope from the related trait of "optimism," his construct definition and many of the items in his measure of hope in fact seem principally to capture an optimistic future outlook, albeit with a high degree of "self-efficacy." Snyder's hopeful person exemplifies what we might call "warranted optimism" or "agential optimism," in contrast with "unwarranted" or "passive optimism."

Snyder's conflation of hope with an optimistic outlook has a long history. In the 17th century, René Descartes, one of the founding figures of modern European philosophy, described hope as "a disposition of the soul to be convinced that what it desires will come to pass" (1989: p. 110). Snyder might seem to be on firm ground, then, in identifying hope as the confidence in one's ability to identify the pathways to some goal, but this definition arguably screens out the most important aspects of the virtue of hope, which, as Dickinson (1983) put it, "sweetest in the gale is heard." What about situations in which no pathway to success is evident, and so no confidence is warranted? What about when the diagnosis is terminal or the jail sentence is life without parole?

It is striking, for instance, how prominent the theme of "hope" is in Viktor Frankl's *Man's Search for Meaning*, his memoir of his time in Auschwitz, notwithstanding his frank assessment of how bleak his future prospects were, once he was inside the

concentration camp. "I said," Frankl wrote, "that to the impartial the future must seem hopeless...Each of us could guess for himself how small were his chances of survival...But I also told [the others] that, in spite of that, I had no intention of losing hope and giving up" (1989: p. 103). Frankl would have been out of his mind to affirm that "there [were] lots of ways around any problem" in Auschwitz; to any sane person, by far the likeliest outcome was misery and torture ending only with his murder. Nonetheless, Frankl was determined to fix his mind and will on a possible, future good, and that disposition helped sustain him through the agonizing years of his captivity. It would have been cruel mockery to tell Frankl to believe that he would escape, but the hope he cultivated did not require that belief; indeed, it was more, not less, truly hopeful for the bleakness of his situation.

If Frankl's conception of hope as a disposition to be cultivated even, and perhaps especially, in the face of overwhelming odds and seemingly unendurable suffering makes no sense in light of the Descartes-Snyder model of hope, it fits well with the theory of hope developed by Thomas Aguinas (1225-1274). In one of the philosophical passages of his Summa Theologiae, Aquinas distinguished hope's particular object with reference to four conditions: "First, that it is something good...Secondly, that it is future...Thirdly, that it must be something arduous and difficult to obtain, for we do not speak of anyone hoping for trifles, which are in one's power to have at any time...Fourthly, this difficult thing is something possible to obtain: for one does not hope for that which one cannot get at all" (1888: 1-2.40.1). For Aquinas, then, hope is the desire for a future good which is difficult but possible to obtain. We can be hopeful in Aquinas's (or Dickinson's) sense about probable outcomes, to be sure, but hope never matters more to us than when the prognosis is grim, the outlook poor, the options few.

Incorporating philosophical and theological insights into social-scientific research would better conceptually distinguish hope from optimism. This greater clarity could give rise to more precise construct definitions and thus also more adequate and distinct measure development and so enable better empirical research on these topics. The use of philosophical resources to refine construct definitions and to clarify the logical relations between those definitions and survey items designed to capture them may have considerable potential to improve measure development in the social sciences. The humanities have a real contribution to make in providing conceptual clarity for constructs that the social sciences aim to study.

## Enriching interpretation: explaining and understanding marriage

The humanities can also enrich the interpretation of insights from the social sciences, by alerting them to the intrinsic limitations of their methods and bringing other disciplinary insights. Wilhelm Dilthey proposed long ago that we distinguish between "explanation (*Erklärung*)" and "understanding (*Verstehen*)." Dilthey's paradigms for explanation are drawn from the natural sciences' penchant for reduction: in physics, the mechanics or chemistry of medium-sized dry goods are explained in terms of interacting elementary particles, and appeals to such obscure entities are justified by their adequacy in simplifying both theory and description (2002: p. 107).

Much work in contemporary social science aspires to this sort of rigorous—indeed, predictive—reduction. For instance, consider the question, "Why has monogamy prevailed over polygamy as a marriage form?" This question, among many others, is given illuminating treatment by Henrich (2020). As Henrich shows, there are quite practical reasons for the gradual pressure away from polygamy (especially "polygyny," one husband with

multiple wives) and toward monogamy. This is above all a function of polygyny's "math problem": when men are allowed to take multiple wives, elite men tend to take many (think of King Solomon's 700 wives and 300 concubines, 1 Kings 11:3), leaving a glut of less successful men who can't find even one spouse (Henrich, 2020: pp. 263-64). This is a dangerous situation, since unmarried men will often be less productive and more prone to reckless or criminal behavior than their married peers, while wives and children in polygynous families receive less investment of effort and concern from their husbands and spouses than those in monogamous families (Henrich, 2020: pp. 268-84). Monogamy solves the math problem more elegantly than polygyny can. Henrich's game-theoretic account of marriage's slow evolution toward monogamy provides a paradigm of an impersonal account: it offers a vision of marriage from the outside, as an adaptive strategy on which societies naturally converge over time without any deliberate or reflective understanding. Most crucially, this kind of bottom-up explanation makes no reference to any perspective from within the institution of marriage itself.

This sort of reductive social-scientific account explains a great deal-but not everything. Indeed, much that lies closest to the heart of human life is screened out entirely by its method of "explanation," which Dilthey opposed to "understanding (Verstehen)," an incommensurable and equally important mode of inquiry concerned with "spiritual (geistlich) objects" which are grounded in "lived experience (Erlebnis)" and which are proper to the human sciences or "Geisteswissenschaften (sciences of mind)." The natural sciences aspire to a "view from nowhere," as Nagel (1989) put it, an account of the world from which subjectivity has been expunged; they can depict only what McDowell called "the space of nature...the realm of law" (1996: xiv-xv). Restricting accounts of human psychology and behavior to this sort of reductive explanation encourages what Mary Midgley called the spirit of "nothing-buttery," in which apparently reasonable, noble, or loving acts are debunked as "nothing but" lust, greed, or the libido dominandi (Midgley, 2005: p. 203). This is that "cold philosophy," which Keats lamented must in the end "unweave the rainbow" (1820: p. 41).

Happily, we are not limited to Dilthey's *Erklärung*, for there are also the *Geisteswissenschaften*, which concern themselves with a subjectivity-saturated world, Sellars's (1963) "logical space of reasons," in which one is "able to justify what one says." As Dilthey puts it, "the procedure of understanding is grounded in the realization that the external reality that constitutes its objects is totally different from the objects of the natural sciences. Spirit has objectified itself in the former, purposes have been embodied in them, values have been actualized in them" (2002: p. 141).

More recently, Roger Scruton (2014) made the distinction between "explaining" and "understanding"—interpreted in terms of a "cognitive dualism," and rooted variously in the thought of Dilthey, Sellars, and Kant, among others—central to his entire philosophical project. "Persons are objects," Scruton notes, "but they are also subjects...This means that, while we often attempt to explain people in the way we explain other objects in our environment—in terms of cause and effect, laws of motion, and physical makeup—we also have another kind of access to their past and future conduct. In addition to *explaining* their behavior, we seek to *understand* it" (2014: p. 32).

As Scruton argued elsewhere, the distinction between explanation and understanding is particularly crucial in the case of an institution such as marriage: "Anthropologists can tell us why the vow of love is useful to us and why it has been selected by our social evolution. But they have no special ability to trace its roots in human experience or to enable us to understand what happens to the moral life when the vow disappears and erotic commitment is replaced by the sexual handshake" (2006: p. 13). Even if the

impersonal, evolutionary account succeeds in explaining why monogamy should eventually prevail within populations of sexually dimorphous primates with slow-developing children, that in itself provides us no access to the *reasons* for which men and women enter into marriage, and which sustain their commitment to it. In this case, neglecting the work of understanding entirely in favor of explanation will be, not merely incomplete, but fundamentally misleading.

To begin, an account that reduces human behavior to genetically driven appetite cannot make sense of basic facts about the human experience of sexual desire. As Scruton emphasizes, the experience of sexual desire is arguably not in the first instance "a desire for sensations," notwithstanding the determination of much empirical psychology to treat it as such.<sup>6</sup> Rather, it is a desire for a person-not for "his or her body, conceived as an object in the physical world, but the person conceived as an incarnate subject, in whom the light of self-consciousness shines and who confronts me eye to eye, and I to I" (2006: p. 15). It is precisely because sexual desire properly aims at a communion of subjects that it takes as its focus, not the genitals, but the face, and particularly the eyes, the soul's windows. It is also why we instinctively class rape, not with being spat upon, but with murder-it is not the unwanted contact with another's bodily fluids that makes it a desecration, but the forcible reduction of another's free personhood to the status of a mere, passive object (2006: p. 17).

The anthropologist's perspective allows us to explain why lifelong monogamy is an advantageous reproductive strategy, but the internal perspective allows us to understand the reasons that make that institution intelligible to its members. In this case, the two perspectives are not merely complementary, but mutually reinforcing. As Scruton observes, while "the inner, sacramental character of marriage is reinforced by its external function" of socializing sex and nurturing children, it is equally true that the external function is sustained by the internal commitments, so that "societies in which the vow of marriage is giving way to the contract for sexual pleasure are also rapidly ceasing to reproduce themselves" (2006: pp. 19, 24).

Much more could be said on this controversial topic. However, it is clear that by appealing to different levels of explanation and, in particular, those concerning teleology and the reasons agents give for commitments and actions, our understanding of empirical research can be enriched. It is of course true that some social scientists (e.g., anthropologists engaged in the "thick descriptions" characteristic of participant-observer research) are also skilled practitioners of Dilthey's Verstehen; particular methods need have no necessary or non-transferrable connection to particular academic disciplines. In principle, then, the exchanges we describe in this section could occur within the social sciences, for instance between anthropology and psychology or economics. (For a proposal along these lines, cf. Haidt, 2012: p. 143). Nonetheless, it is equally true that many humanists specialize in the descriptions of forms of life which Dilthey singled out as the hallmark of Verstehen, and that social scientists principally engaged in Erklärung neglect the other's contributions at their own peril. While we have given a single example here concerning appeal to more philosophical forms of reasoning, likewise interpretation of data from the empirical social sciences can be enriched by a deeper and more philosophical exposition of relevant concepts, by theological frameworks, and by historical understanding and context.

#### Furnishing new data: situationism and the virtues

Let's now turn to three ways in which the social sciences might inform the work of the humanities, first by furnishing data and evidence that may itself prompt new directions of reflection and inquiry within the humanities. In the section "Guiding Inquiry" above, we saw that moral philosophy, especially but by no means only in the West, has been centrally concerned with virtues and vices as key dimensions of a flourishing life (Dahlsgaard et al., 2005). In recent decades, however, findings from social psychology have sparked a wide-ranging debate among philosophers about how common the virtues and vices actually are. The "situationist" literature in social psychology, as it has come to be called, has been construed by many psychologists and philosophers alike as challenging the notion that most people possess stable virtues or vices, or even global character traits of any sort.

The situationist literature is vast and varied, but a few wellestablished findings will suffice to give its flavor:

- Helping: Experimental subjects are much less likely to help
  a distressed stranger if they are being hurried by a third
  party (Darly and Batson, 1973) or are sitting with a third
  party who refuses to help (Latané and Rodin, 1969), but
  much more likely to help if they have just emerged from a
  bathroom or found a dime in a phone booth (Isen and
  Levin, 1972).
- Generosity: Psychologists visited a Moroccan marketplace and had volunteers play cooperation games amid the stalls, either during the regular call to prayer (obligatory for all Muslims five times daily) or between calls. "During the call to prayer, 100 percent of the shopkeepers gave all of the money [they had won] to charity. At other times, the percentage of participants giving it all to charity dropped to 59 percent" (Henrich, 2020: p. 126, discussing Duhaime, 2015).
- Harming: Stanley Milgram found that a large majority of his test subjects could be pressured by a white-coated "supervisor" into administering what they (wrongly) believed to be painful electric shocks to a total stranger (in fact an actor bellowing convincing howls of agony and pleas for mercy), and that, across several trials, 65% were even willing to administer a deadly, 450-volt shock (Milgram, 1974). Nonetheless, though participants in Milgram's experiments could be pressured into cruel behavior, hardly any embraced it with verve—in other versions of Milgram's experiment in which no pressure was applied to administer shocks, almost none did (Miller, 2016a: p. 97).

All of these findings are examples of the wider field of "social priming," and so need to be handled carefully: priming experiments have been a central focus of the recent "replication crisis" in psychology, and many seem to presuppose rather implausible accounts of human motivation. Nonetheless, in the cases above, the experiments (or close approximations to them) have been replicated, and the underlying mechanisms seem plausible: for instance, it is hardly a novel idea that social pressure, especially from authority figures or their metonymies (e.g., religious symbols), profoundly shapes human behavior for good and for ill, even if most of us typically underestimate how strongly such external factors influence us.

The data and experiments provided important new material for philosophical reflection and debate. In the late 1990s, two philosophers, Gilbert Harman and John Doris, launched the situationist debate in moral philosophy by arguing that this sort of finding provided strong evidence against the existence of any global character traits, including virtues or vices. In their view, most human behavior is instead the product of situational factors, many of them unnoticed by the agents in question (Harman, 1999; Doris, 2002; Alfano, 2014). A more moderate situationism has been developed by Christian Miller, for whom situationist

findings indicate that most of us possess neither virtues nor vices, but rather what he calls "mixed traits," which incline us to, e.g., honesty in some highly specified situations, and to dishonesty in others (Miller, 2013: p. 111). Miller argues that situational factors activate "surprising dispositions" in each of us, such as a disposition to "harm others in order to obey the instructions of a legitimate authority" (activated in the Milgram experiments) or to help others in order to alleviate embarrassment (activated in the bathroom experiment) (Miller, 2016b: p. 61).

Counter-intuitive as it might seem, the thesis that virtues and vices are rare was a relatively mainstream position in the ancient and medieval worlds. Aristotle, for instance, took for granted that the virtues are rare, insisting that "the many... do not abstain from bad acts because of their baseness but through fear of punishment" (1934: 1179b7–13; Curzer, 2012: p. 333). And, as Thomas Osborne notes, "Following Aristotle, Thomas [Aquinas] thinks although some agents are virtuous and others are vicious, there are many agents who are neither. Continent agents act well, but they think about what they should not do because their desires are disordered. Incontinent agents act poorly, but they are generally aware of what they should do" (Osborne, 2014: p. 77, cf. Aquinas 1953: q. 3, art. 9, ad 7).

Why then has the situationist literature struck such a nerve among contemporary moral philosophers, many of whom are reluctant to take refuge, with Aristotle and Aquinas, in the rarity of the virtues as a response to situationism? A key factor in motivating the situationist debates is perhaps the democratic and egalitarian convictions of most philosophers in the modern West. These convictions come to the surface of Robert Adams's seminal contribution to this debate: "If I do not adopt [the rarity response to situationism], that is because I believe it is important to find moral excellence in imperfect human lives and because I disagree with ancient views about the kind of integration human virtue can and should have" (2006: p. 119).

Whatever the precise motives for their reluctance, some social psychologists and philosophers alike have nonetheless reasonably cautioned against over-interpreting the results of situationist experiments. Further consideration of the data and results of the empirical research can once again help guide philosophical reflection. In an important meta-analysis of 286 experimental studies of helping behavior, for instance, Lefevor et al. (2017) observed that, while there is substantial evidence that situational factors influence rates of helping, those factors can only explain part of the differences across individuals. So, while "there was a significant difference in the odds of helping between experimental and control groups (OR = 2.25, k = 286, 95% CI [2.08, 2.43], z = 20.41, p < 0.001)" (indicating that situational factors played an important role in shaping helping behavior), roughly 42% of participants across all control groups still engaged in helping behavior without any specifiable situational prompt. Moreover, even in experimental settings designed to discourage helping behavior (e.g., the unhelpful bystander, the hurrying authority figure), roughly 39% of participants still helped, compared with 58% of participants in the control groups (Levefor et al., 2017: pp. 240-43). Situational factors clearly influence helping behavior, but by no means determine it.

This sort of mixed result is standard in the situationist literature—recall the aforementioned finding that the call to prayer increased Muslim shopkeepers' charitable giving to 100%, but did so from a relatively high floor of 59% (cf. p. 17 above). While situational factors or the "surprising dispositions" they activate matter a great deal, they are not the whole story; the experimental evidence for helping behaviors suggests that situations and personal traits—whether an evolved disposition to help conspecifics, a developed virtue of benevolence, or something in-between—both contribute to observed patterns of morally significant

behaviors such as helping or charitable giving. Owen Flanagan sums up the implications of these mixed findings as follows: "There are dispositions and there are situations. They interact in complex ways" (2016: p. 49).

The data that have come out of experimental psychology on character and virtue has contributed to our understanding of the prevalence and distribution of the virtues and has informed a lively philosophical debate about the place of the virtues, and of moral character more broadly, within human action. Philosophical and theological reflection on the topic of how to cultivate virtue has tended to rely heavily on a given author's own experiences or observations (Doris, 1998: p. 512; Healy, 2014: pp. 73–99). The social sciences can provide a helpful supplement to anecdotal experience by documenting and describing representative distributions of patterns and behaviors. (For a largely successful interaction along these lines, cf. the essays collected in Snow, 2014). More broadly, the empirical social sciences can contribute to, and supplement, knowledge in ways that are useful for reflection and scholarship within the humanities.

## Corroborating or disconfirming philosophical and theological claims: religion and public health

Besides furnishing grist for the humanistic mill, the social sciences can also provide evidence for or against a range of empirical claims that humanists are wont to make. For instance, students of religion, both within and without religious communities, naturally take an interest in the effects of various religious practices (e.g., attending corporate worship, communal fellowship and support, the confession of sin, private prayer and Scripture reading, etc.) not only on the believer's eternal destiny but also on flourishing in the present. For example, Miroslav Volf's Flourishing (2015) offers a thoughtful treatment of the ways in which a life of faith can become a pathway to flourishing. Volf emphasizes that each of the great world religions (e.g., Christianity, Islam, Judaism, Buddhism, Hinduism, etc.) "teaches that we live our ordinary lives well when we have a purpose that transcends the goods of ordinary life and when this purpose regulates care for the goods of ordinary life" (2015: p. 72).

World religions, then, predict that their followers will generally experience not only transcendent or eternal flourishing, but also "ordinary flourishing" (Volf, 2015: p. 44). This prediction, however, is in deep tension, Volf notes, with the contention of some students of religion, that, far from upholding the goods of ordinary life, "religion poisons everything" (2015: p. 76, quoting Hitchens, 2007). Volf in fact partially concedes this objection, noting, "Religions have a genuine and indispensable gift to give, but they often get corrupted; they malfunction, and the gift turns into poison" (2015: p. 76). These malfunctions can produce religious hypocrites or violent zealots, but in each case, Volf cautions, we must remember that abuses do not abrogate a thing's proper use (2015: pp. 76–77).

It is of course true that religious communities often betray their own teachings and best aspirations, and true as well that religious practices are vulnerable to "characteristic damage," the vices to which their virtues leave them vulnerable (cf. Winner, 2018: 14 et passim). Nonetheless, Volf's discussion of this issue leaves an interesting and important question hanging, namely: how does religious practice affect "ordinary flourishing" in general, rather than in its ideals and in its deformations? Without a clear answer to this question, Volf hasn't refuted the "New Atheists" challenge so much as dodged it.

Volf's silence on this point is particularly striking, given that there is a large and growing empirical literature (mostly from Western contexts) on the relation of religious practice to human flourishing. Let's distinguish, with Volf, among three domains of flourishing: "life being led well" (a virtuous or moral life, we might say); "life going well" (a prosperous, healthy, productive life); and "life feeling good" (a life of subjective happiness, joy, pleasure, etc.) (2015: p. 75). What is that state of the empirical evidence for the bearing of religious practice on each of them?

First, regarding "a life well led," a great deal of evidence suggests that religious belief and practice generally make participants less prone to delinquency and crime (Johnson et al., 2001; Johnson, 2011), fairer and more honest (Tan et al., 2008; Ruffle and Sossis, 2006; Haidt, 2012: pp. 308-309), and more generous in their dealings with others (Brooks, 2007). 10 Second, regarding "a life going well," the data is again abundant, and its trend is clear: those who attend religious services at least weekly are about 34% less likely to binge drink than those who never attend (Chen et al., 2020a), while adolescents who attend services regularly have a 33% lower risk of illegal drug use and a 40% lower risk of contracting an STD compared to never-attenders (Chen and VanderWeele, 2018). Regular attenders are also about 50% less likely to divorce (Li et al., 2018), 27% less likely to become depressed, and five times less likely to commit suicide than nonattenders (Li et al., 2016a; VanderWeele et al., 2016), and, in fact, 33% less likely to die (over sixteen years of follow-up) than nonattenders (Chen et al., 2020b; Li et al., 2016b). Finally, there is strong evidence that religious participation contributes to a "life that feels good," a happy or joyful life: religious practitioners consistently report higher levels of meaning and purpose in their lives than non-practitioners (Chen et al., 2020a), as well as higher levels of overall life satisfaction (Lim and Putnam, 2010). While questions of causality and directionality are almost always open to dispute, the research on this topic has become increasingly rigorous, employing data over time and principles of causal inference to evaluate evidence (cf. VanderWeele, 2017; Koenig et al., 2024; Fruehwirth et al., 2019; Giles et al., 2023).

Of course, many of these findings may well generalize across religions, including "primary" or "pre-Axial Age" religions. (On the transition from primary or archaic religion to "secondary," "world," or "axial age" religion, cf. esp. Jaspers, 1953; Bellah, 2017).

Belief in a post-mortem final judgment according to one's deeds, for instance, seems to have originated in Middle Kingdom Egypt (cf. *The Egyptian Book of the Dead* 1895: ch. 125; Assmann, 2005: Kindle loc. 1471–75), where it appears already to have served to discipline the lives of believers anticipating it (Assmann, 2005: Kindle loc. 1614).

Even religious practices that rightly horrify us today might have once been a source of Durkheimian social cohesion. When King Mesha of Moab sacrificed his eldest son on the walls of his besieged city, for instance, his troops apparently flew into a frenzy which turned the tide of the Israelite advance (cf. 2 Kings 3:26–27). Indeed, it seems reasonable to think that much of what social scientists or theologians alike study under the rubric of "religion" is emphatically a natural phenomenon, which unites us to one another by uniting each of us to some conception of divinity or transcendence (cf. Haidt, 2012: p. 303).

World religions typically have their own internal strategies for relating religion as a "natural" phenomenon to their own claims to a relatively fuller measure of the truth of things. Mahayana Buddhists, for instance, characteristically regard spiritual traditions other than the Dharma as the "compassionate skillful means" employed by the Buddha in one of his many "transformation bodies" so as to nudge wayward sentient beings closer to ultimate truth (Williams 2008: p. 181). For the Christian theologian Karl Barth, by contrast, "natural" religion is "sublated" (in Hegel's sense of a development that at once preserves and transforms its predecessor) in the rites revealed to Israel and brought to their fullness in Christ (Barth, 2007: Kindle loc. 887; cf. Hegel, 1878: 1.4.3).

The empirical social sciences can help contribute evidence towards corroborating claims that theologians or philosophers may take as self-evident. In some cases, the data may play out as expected, but in other cases, this may not be so. <sup>11</sup> Often, however, empirical research is needed to confirm or challenge intuitive but ultimately empirically testable convictions. Many confessional thinkers might well be less than enthusiastic about social scientists' accounts of religious community, either because of their apparent reduction of grace to nature, or because the results do not confirm some of their prior convictions. Nonetheless, we think that these tensions provide an important opportunity for deepened reflection on their part.

## Establishing effective interventions: how can we promote forgiveness?

For our final category of social-scientific influence on the humanities, let's consider an area in which there is some agreement about a desired goal, but a need for greater clarity in how to bring it about. For instance, many agree that forgiveness—understood as the replacement of one wronged of ill-will for good-will towards the offender—is an important good both for individuals and for their broader communities (VanderWeele, 2018). Importantly, forgiveness in this sense is not to be confused with condoning the offense, reconciling with the offender, or even foregoing punishment for the offense (Worthington, 2013).

With regard to its desirability, there is a growing body of evidence that suggests that being forgiving is associated with improved outcomes across a range of public health measures, including, for example, less depression and less anxiety, and possibly better physical health (Wade et al., 2014; Toussaint et al., 2015; Long et al., 2020). For religious believers across many traditions, forgiveness is a spiritual duty; Christians, for instance, regularly pray that God would "forgive us our debts as we forgive our debtors" (Matt. 6:12). Finally, many today also recognize that forgiveness—or related concepts such as "reconciliation"—is of deep social and political relevance in societies seeking to heal from past traumas, whether in post-Communist Balkan republics (Volf, 1996), post-apartheid South Africa (Forster, 2019), or post-genocide Rwanda and Burundi (Katangole and Rice, 2008).

Nonetheless, despite their crucial role in fostering forgiveness at a societal level, there is little agreement among religious or political leaders about how best to pursue the aim of promoting forgiveness. Recent psychological research, however, has produced a number of experimentally validated interventions to help people become more forgiving. These draw on decades of work in clinical psychology on the processes by which people come to forgive, with different models outlining analogous stages on the path to forgiveness. Despite their differences in emphasis and ordering, for instance, both Enright's Process Model and Worthington's REACH model underscore the importance of forgiveness by uncovering negative feelings about the offense, deciding to pursue forgiveness for a specific instance, developing empathy for the offending person, and maintaining one's forgiveness over time (Enright and Fitzgibbons, 2000; Worthington, 2013). The development of these models draws upon insights from psychology and constitutes a contribution of the social sciences to a topic that is of deep interest to humanists.

Numerous randomized trials now indicate that interventions based on these models are effective not only in promoting forgiveness, but also in decreasing depression and anxiety, and increasing hope (Wade et al., 2014). These interventions have been shown to be effective with groups as diverse as adult incest survivors, parents who have adopted special needs children, and inpatients struggling with alcohol and drug addiction (Freedman and Enright, 1996; Baskin et al., 2011; Lin et al., 2004). These forgiveness interventions have also been simplified into a do-it-yourself work-book format, with evidence now of effectiveness in promoting forgiveness, decreasing depression and anxiety, and increasing flourishing (Harper et al., 2014; Ho et al., 2023).

There could be substantial societal-wide potential to employ these interventions on a population-wide basis, with the expectation of not only promoting forgiveness but also important health outcomes within communities (VanderWeele, 2018). Given that we have acknowledged above, however, that many people act well due only to a fear of punishment, some might worry that successfully increasing forgiveness in society might have the unintended side-effect of encouraging more bad behavior. 12 In part, this concern highlights the need for conceptual clarity about the construct being promoted; if, as we suggested above, following Worthington (2013), offering forgiveness is not inconsistent with punishing the wrongdoer (say, with an eye to the wrongdoer's reform and amendment of life, or to the deterrence of future wrongdoing), then there is no reason in principle that offenders should perceive an increase in forgiveness as a license for further bad behavior. Nonetheless, this too is ultimately an empirical matter, which would certainly merit close attention in an effort to promote forgiveness using the kinds of intervention discussed above.

This is of course but one example, but similar intervention development and evaluation routinely takes place for a variety of health and economic outcomes. Moreover, further work could be done to employ these approaches for intervention development for various other psychological, social, and even spiritual goods. The social sciences thus clearly have and can play an important role in the development and evaluation of the effectiveness of interventions for achieving various agreed-upon goods.

#### Conclusion

In this paper, we have considered various ways in which disciplines can contribute to and enrich the understanding of knowledge by drawing upon knowledge and perspectives from other disciplines. In particular, we have proposed that the humanities contribute to the social sciences by (1) identifying new directions and scope for their inquiry; (2) providing conceptual clarity for constructs that the social sciences elect to study; and (3) enriching & clarifying the interpretation of empirical results. In the reverse direction, the social sciences can help (4) furnish new data for humanistic reflection; (5) confirm (or challenge) claims from the humanities; and (6) develop and assess interventions for achieving the goods highlighted by humanistic inquiry.

In principle, however, all of these modes may work in either direction. Fully developing this suggestion would require another paper, but it is nevertheless worthwhile to briefly highlight some examples. First, it is not only the case that ideas from the humanities can motivate new topics of inquiry within the sciences, but the reverse unquestionably takes place as well. One arena in which this is clearest concerns ethics. New technologies emerging from scientific advances, such as genetic manipulation or in the rise of social media, present a host of new ethical considerations for which the humanities are needed to provide reflection and insight. Here science itself prompts new scholarship and inquiry within the humanities. Second, some conceptual distinctions arising from the social sciences have arguably helped provide conceptual clarity in the humanities. One such example may be a distinction in the clinical psychology literature drawn between "decisional forgiveness" and "emotional forgiveness," the former consisting of replacing ill-will towards the offender with good-will and the latter being more of an affective state, the replacing of negative feelings and emotions towards the offender with positive emotions (cf. Worthington, 2013). Characteristically decisional forgiveness precedes emotional forgiveness. The distinction, arising from the social science research on this topic, is arguably helpful in theological or philosophical contexts in making sense of the notion of a "command" to forgive (cf. Lk. 17:3–4, Col. 3:14). One's emotions are not fully within one's control but if the command to forgive is understood as pertaining to decisional forgiveness, such commands become coherent. In this case, a conceptual distinction from the social sciences sheds light on issues of theological interpretation.

Third, while it will often be ideas and scholarship from the humanities that enrich the interpretation of the sciences, sometimes this too can operate in the reverse direction. For instance, Christian theology has traditionally been much concerned with the nature of human distinctiveness, often thematized in terms of the nature of the "image of God" which Genesis 1:26-28 suggests is a unique property of human beings. However, recent advances in evolutionary psychology and comparative primatology have greatly enriched our empirical understanding of how humans compare to our nearest evolutionary relatives. Some researchers, such as the primatologist Frans de Waal (1996), emphasize continuity, highlighting apes' remarkable capacities for social emotions and instrumental reasoning; others, such as Noam Chomsky and Robert Berwick or Michael Tomasello, emphasize discontinuity, highlighting the absence of non-human primates of hierarchically ordered language or "joint intentionality," each of which is key ingredients in our species' sui generis capacities for social learning and cultural transmission (Chomsky and Berwick, 2016; Tomasello, 2018; cf. also Henrich, 2015). Attending to the work of these scientists would greatly enrich theological reflection on the image of God, as well as other sub-topics within theological anthropology.

Fourth, knowledge from the humanities might help supplement that which is acquired in the social sciences. For example, Muthukrishna et al. have argued that psychology needs to in part reconstitute itself as "a historical science" so as to understand "past processes, environments, and constraints that led to [present-day] psychology" (2021: p. 717). In such cases, historical knowledge may contribute to advances within the social sciences. Fifth, the humanities themselves might sometimes challenge claims from scientific disciplines in part by showing that certain claims themselves are not employing the relevant concepts appropriately, as is perhaps taking place concerning certain controversies within neuroscience concerning mental phenomena such as intentionality or qualia (Bennett and Hacker, 2013). Sixth, the humanities themselves can sometimes give rise to interventions to improve human well-being. Spiritual practices arising from the richness of the world's religious traditions might provide powerful approaches to improving human well-being (Yaden et al., 2020). While the empirical evaluation of these practices requires tools from the social sciences, the form of the interventions being studied might well be taken from insights from the humanities.

While specialization has undoubtedly led to innumerable advances—advances that simply could not have been achieved without the development of specialized expertise—there is also the danger of specialization leading to knowledge that is too fragmentary. The various academic disciplines have become estranged, and the time is ripe for reconciliation. We have proposed, in this paper, some concrete ways in which this might occur. This is only a preliminary sketch, but we hope that further work along these lines might contribute to a genuine synthesis of the humanities and social sciences.

#### Data availability

Data sharing is also not applicable to this research as no data were generated or analyzed.

Received: 7 July 2022; Accepted: 18 January 2024; Published online: 08 February 2024

## Notes

- 1 In philosophy, cf. MacIntyre's (1982) treatment of the destructive effects on both disciplines of the modern divorce between ethics and the philosophy of mind. An analogous lament from within the theological disciplines can be found in Hays and Davis (2003): xv: "What we were doing...was assembling a group of fifteen specialists to function corporately as a 'Complete Theologian."
- 2 For the Kantian source-text, cf. Kant, 1998: A 51/B 75. Alfano's book offers a helpful recent overview of the current state of philosophical engagement with the social sciences, to which might also be added (Flanagan, 2016; Miller, 2013).
- 3 "Even though an optimist may believe that 'things will work out,' that optimist may lack the pathways cognitions important in reaching one's goals. Therefore, an optimist may be stuck when blocked from a goal, whereas the high-hope person should produce new routes when the original path to a goal is blocked" (1995: p. 356).
- 4 As other examples of the use of insights from the philosophical and theological literature for the purposes of measurement development see Hanson and VanderWeele (2021) on meaning and purpose and VanderWeele (2019) on suffering.
- 5 For Dilthey, these disciplines included "history, political economy, the sciences of law and of the state, the studies of religion, of literature and poetry, of art and music, of philosophical world-view, as well as the theory and conceptual cognition of the historical process" (2002: pp. 91, 107, 140).
- 6 Cf. the "Sexual Desire Inventory-2," which defines "sexual desire" as "interest in or wish for sexual activity," in turn defined as "touching [a partner's] genitals, giving or receiving oral stimulation, engaging in intercourse, etc." (Spector et al., 1996). So too, Toledano and Pfaus introduce their "Sexual Desire and Arousal Inventory" by noting, "sexual desire can be defined as 'wanting' or 'craving' sexual activity or fantasy" (Toledano 2006).
- 7 For a clear overview of the state of the debate, see esp. Miller (2020). Several of the studies cited in the following three paragraphs are discussed by Miller.
- 8 As Miller notes, somewhat more ethical variations on Milgram's experiments, assessing the human propensity to harm others at the behest of authority figures, have been replicated many times (2016: pp. 82–84).
- 9 For a dissection, cf. Singal, 2021: pp. 241-48.
- 10 Charitable giving is about 3.5x higher among service attendees than among neverattenders (Putnam and Campbell, 2010: 461; Brooks 2007; Haidt, 2012: pp. 308–311).
- 11 For one such example related to the present discussion, while there is evidence that religious service attendance is associated with lower depression incidence and suicide, the evidence, in Western contexts at least, is that the effects of attendance on anxiety, at least on average, are small (Koenig et al., 2024). This may seem counter-intuitive as many may think that if religion is to do anything positive it perhaps brings a sense of peace. The empirical research suggests that while this may be so for some, it may in fact increase anxiety for others, perhaps out of a sense of need to conform to moral norms, fear of failure, or an additional set of obligations, so that the average effect of religious service attendance on anxiety is slight.
- 12 Thanks to an anonymous reviewer for raising this concern.

#### References

- Adams R (2006) A theory of virtue: excellence in being for the good. Oxford University, New York
- Alfano M (2014) Character as moral fiction. Cambridge University, New York Alfano M (2016) Moral psychology: an introduction. Polity, Boston
- Annas J (1993) The morality of happiness. Oxford University Press, New York Snow N (ed.) (2014) Cultivating virtue: perspectives from philosophy, theology, and psychology. Oxford University Press, New York
- Aquinas T (1888 [1272-1274]). Summa Theologiae. Textum Leoninum Romae Aristotle (1934) Nicomachean ethics. Trans. Rackham H. Harvard University Press, Cambridge, MA
- Assmann J (2005) Death and salvation in ancient Egypt. Trans. David Lorton. Cornell University Press, Ithaca, NY
- Barth K (2007) On religion: the revelation of god as the sublimation of religion. Trans. Garrett Green. Bloomsbury, New York
- Baskin TW, Rhody M, Schoolmeesters S, Ellingson C (2011) Supporting specialneeds adoptive couples: assessing an intervention to enhance forgiveness, increase marital satisfaction, and prevent depression ψ. Counsel Psychol 39(7):933–955. https://doi.org/10.1177/0011000010397554
- Bellah R (2017) Religion in human evolution: from the Paleolithic to the axial age. Harvard University Press, Cambridge, MA
- Bennett MR, Hacker PMS (2013) Philosophical foundations of neuroscience. John Wiley & Sons
- Brooks A (2007) Who really cares? The surprising truth about compassionate conservatism. Basic Books, New York

- Budge EAW (1895) The Egyptian Book of the Dead: the Papyrus of Ani in the British Museum; the Egyptian Text with interlinear transliteration and translation, a running translation, introduction, etc. (1895). Trans. Budge EAW; Cosimo, New York
- Cantril H (1965) The pattern of human concerns. Rutgers University Press, New Brunswick, NJ
- Chen Y, VanderWeele TJ (2018) Associations of religious upbringing with subsequent health and well-being from adolescence to young adulthood: an outcome-wide analysis. Am J Epidemiol 187:2355–2364. https://doi.org/10. 1093/aje/kwy142/5094534
- Chen Y, Kim ES, VanderWeele TJ (2020a) Religious service attendance and subsequent health and well-being throughout adulthood: evidence from three prospective cohorts. Int J Epidemiol 49:2030–2040. https://doi.org/10.1093/iie/dvaa120/5892419
- Chen Y, Koh HK, Kawachi I, Botticelli M, VanderWeele TJ (2020b) Religious service attendance and deaths related to drugs, alcohol, and suicide among US health care professionals. JAMA Psychiatry 77(7):737–744. https://doi.org/10.1001/jamapsychiatry.2020.0175
- Chomsky N, Berwick R (2016) Why only us?: language and evolution. MIT Press, Cambridge, MA
- Curzer H (2012) Aristotle and the virtues. Oxford University, New York
- Dahlsgaard K, Peterson C, Seligman ME (2005) Shared virtue: the convergence of valued human strengths across culture and history. Rev Gen Psychol 9(3):203–213
- Darley J, Batson C (1973) 'From Jerusalem to Jericho: a study of situational and dispositional variables in helping behavior. J Personal Soc Psychol 27:100–108. https://doi.org/10.1037/h0034449
- Descartes R (1989) The passions of the soul. Trans. S. Voss. Hackett, Indianapolis, [1949]
- Dickinson E (1983) 'Hope' is the thing with feathers. In: Johnson T (ed). The complete poems of Emily Dickinson. The Belknap Press, Cambridge, MA
- Doris J (2002) Lack of character: personality and moral behavior. Cambridge University Press, New York
- Doris JM (1998) Persons, situations, and virtue ethics. Nous 32(4):504-530
- Duhaime EP (2015) Is the call to prayer a call to cooperate? A field experiment on the impact of religious salience on prosocial behavior. Judgm Decis Mak 10(6):593–596. https://psycnet.apa.org/record/2015-54494-007
- Enright RD, Fitzgibbons RP (2000) Helping clients forgive: an empirical guide for resolving anger and restoring hope. American Psychological Association
- Flanagan O (2016) The geography of morals. Oxford University Press, New York Forster D (2019) The (Im)possibility of forgiveness: an empirical intercultural bible reading of Matthew 18.15-35. Wipf & Stock, Eugene, OR
- Frankl V (1989) Man's search for meaning, rev. ed. Washington Square Press, New York, [1959]
- Freedman SR, Enright RD (1996) Forgiveness as an intervention goal with incest survivors. J Consult Clin Psychol 64(5):983–992. https://doi.org/10.1037/0022-006X.64.5.983
- Fruehwirth JC, Iyer S, Zhang A (2019) Religion and depression in adolescence. J Polit Econ 127(3):1178–1209
- Giles T, Hungerman DM, Oostrom T (2023) "Opiates of the masses? Deaths of despair and the decline of American religion" (No. w30840). National Bureau of Economic Research
- Gould SJ (1997) Nonoverlapping magisteria. Nat Hist 106(2):16-22
- Haidt J (2012) The righteous mind: why good people are divided by religion and politics. Random House, New York
- Hanson JA, VanderWeele TJ (2021) The comprehensive measure of meaning: psychological and philosophical foundations. In: Lee M, Kubzansky LD, VanderWeele TJ (eds.) Measuring well-being: interdisciplinary perspectives from the social sciences and the humanities. Oxford University Press, New York
- Harman G (1999) Moral philosophy meets social psychology: virtue ethics and the fundamental attribution error. Proc Aristotelian Soc 99:315–31. http://www.jstor.org/stable/4545312
- Harper Q, Worthington Jr EL, Griffin BJ, Lavelock CR, Hook JN, Vrana SR, Greer CL (2014) Efficacy of a workbook to promote forgiveness: a randomized controlled trial with university students. J Clin Psychol 70(12):1158–1169. https://doi.org/10.1002/jclp.22079
- Hays R, Davis E (2003) The art of reading scripture. Eerdmans, Grand Rapids, MI Healy N (2014) Hauerwas: a (very) critical introduction. Eerdmans, Grand Rapids, MI
- Hegel GWF (1878 [1812]). Wissenschaft der Logik. Erster Band. Die objektive Logik (1812/13). Friedrich Hogemann und Walter Jaeschke (eds). Hamburg
- Helliwell J (2021) Measuring and using happiness to support public policies. In: Lee M, Kubzansky LD, VanderWeele TJ (eds.) Measuring well-being: interdisciplinary perspectives from the social sciences and the humanities. Oxford University Press, New York
- Henrich J (2015) The secret of our success: how culture is driving evolution, domesticating our species, and making us smarter. Princeton University Press. Princeton. NI

- Henrich J (2020) The WEIRDest people in the world. Farrar, Strauss, & Giroux, New York
- Hitchens C (2007) God is not great. Atlantic Books, New York
- Ho, MY, Worthington, E, Cowden, R, Bechara, AO, Chen, ZJ, Gunatirin, EY, Joynt, S, Khalanskyi, VV, Korzhov, H, Kurniati, NMT, Rodriguez, N, Salnykova, A, Shtanko, L, Tymchenko, S, Voytenko, VL, Zulkaida, A, Mathur, M and VanderWeele, T (2023, March 3). International REACH forgiveness intervention: a multi-site randomized controlled trial. https://doi.org/10.31219/osf.io/8qzgw
- Ioannidis JPA, Baas J, Klavans R, Boyack KW (2019) A standardized citation metrics author database annotated for scientific field. PLoS Biol 17(8):e3000384. https://doi.org/10.1371/journal.pbio.3000384
- Isen A, Levin P (1972) Effect of feeling good on helping: cookies and kindness. J Personal Soc Psychol 21:384–388. https://doi.org/10.1037/h0032317
- Jaspers K (1953) The origin and goal of history. Trans. Michael Bullock. Routledge & Keegan Paul, London
- Johnson BR (2011) More god, less crime: why faith matters and how it could matter more. Templeton Press, West Conshohocken, PA
- Johnson BR, Jang SJ, Larson DB, Li SD (2001) Does adolescent religious commitment matter? A reexamination of the effects of religiosity on delinquency. J Res Crime Delinq 38(1):22-44. https://doi.org/10.1177/0022427801038001002
- Kant I (1998 [1781]) The critique of pure reason. Guyer P, Wood A (eds). Cambridge University Press, New York
- Katangole E, Rice C (2008) Reconciling all things: a Christian vision for justice, peace, and healing. InterVarsity Press, Downers Grove, IL
- Keats J (1820) Lamia, Isabella, the eve of St. Agnes, and other poems. Taylor & Hessey, London
- Koenig H, VanderWeele TJ, Peteet JR (2024) Handbook on religion and health, 3rd edition; Oxford University Press, New York
- Latané B, Rodin J (1969) A lady in distress: Inhibiting effects of friends and strangers on bystander intervention. J Exp Soc Psychol 5(2):189–202. https:// doi.org/10.1016/0022-1031(69)90046-8
- Lefevor GT, Fowers B, Ahn S, Lang SF, Cohen LM (2017) To what degree do situational influences explain spontaneous helping behaviour? A metaanalysis. Eur Rev Soc Psychol 28(1):227-256. https://doi.org/10.1080/ 10463283.2017.1367529
- Li S, Stampfer MJ, Williams DR, VanderWeele TJ (2016b) Association of religious service attendance with mortality among women. JAMA Intern Med 176(6):777–785
- Li S, Okereke OI, Chang SC, Kawachi I, VanderWeele TJ (2016a) Religious service attendance and lower depression among women—a prospective cohort study. Ann Behav Med 50(6):876–884
- Li S, Kubzansky L, VanderWeele TJ (2018) Religious service attendance, divorce, and remarriage among U.S. nurses in mid and late life. PLoS ONE. https:// doi.org/10.1371/journal.pone.0207778
- Lim C, Putnam RD (2010) Religion, social networks, and life satisfaction. Am Sociol Rev. https://doi.org/10.1177/0003122410386686
- Lin WF, Mack D, Enright RD, Krahn D, Baskin TW (2004) Effects of forgiveness therapy on anger, mood, and vulnerability to substance use among inpatient substance-dependent clients. J Consult Clin Psychol 72(6 Dec):1114–21. https://doi.org/10.1037/0022-006X.72.6.1114. PMID: 15612857
- Long KNG, Worthington EL, VanderWeele TJ et al. (2020) Forgiveness of others and subsequent health and well-being in mid-life: a longitudinal study on female nurses. BMC Psychol 8:104. https://doi.org/10.1186/s40359-020-00470-w
- Dilthey W (2002 [1910]) The formation of the historical world in the human sciences: selected works, Vol. III. Makkreel R, Rodi R (eds). Princeton University Press, Princeton, NJ
- MacIntyre A (1982) How moral agents became ghosts or why the history of ethics diverged from that of the philosophy of mind. Synthese 53.2:295–312
- McDowell J (1996) Mind and world. Harvard University Press, Cambridge, MA Midgley M (2005) The human heart and other organs." The essential Mary Midgley. Midgley D (ed). Routledge, New York
- Milgram S (1974) Obedience to authority. Harper & Row, New York
- Miller C (2013) Character and moral psychology. Oxford University Press, New York Miller C (2016b) Should Christians be worried about situationist claims in psychology and philosophy? Faith Philos 33(1):48–73. https://doi.org/10.5840/ faithphil20161554
- Miller C (2016a) The character gap. Oxford University Press, New York
- Miller C (2020) Empirical approaches to moral character. Stanford Encyclopedia of Philosophy (https://plato.stanford.edu/entries/moral-character-empirical/)
- Morson GS, Shapiro M (2017) Cents and sensibility: what economists can learn from the humanities. Princeton University, Princeton, NJ
- Muthukrishna, Henrich MJ, Slingerland E (2021) Psychology as a historical science. Annu Rev Psychol 72(1):717–749. https://doi.org/10.1146/annurev-psych-082820-111436

- Nagel T (1989) The view from nowhere. Oxford University Press, New York Ng V, Tay L (2020) Lost in translation: the construct representation of character
- virtues. Perspect Psychol Sci 15(2):309-326 Osborne T (2014) Human action in Thomas Aquinas, John Duns Scotus, and
- William of Ockham. Catholic University of America Press, Washington, DC Putnam R, Campbell D (2010) American grace: how religion divides and unites us. Simon and Schuster, New York
- Ruffle BJ, Sosis R (2006) Cooperation and the in-group-out-group bias: a field test on Israeli kibbutz members and city residents. J Econ Behav Organ 60(2):147–163. https://doi.org/10.1016/j.jebo.2004.07.007
- Ryff C, Boylan JM, Kirsch JA (2021) Hedonic and eudaimonic well-being In: Lee M, Kubzansky LD, VanderWeele TJ (eds) Measuring well-being: interdisciplinary perspectives from the social sciences and the humanities. Oxford University Press, New York
- Ryff CD (1989) Happiness is everything, or is it? Explorations on the meaning of psychological well-being. J Pers Soc Psychol 57(6):1069
- Ryff CD, Keyes, CLM (1995) The structure of psychological well-being revisited. J Pers Soc Psychol 69(4):719
- Scruton R (2006) Sacrament and sacrilege. In: Elshtain JB, George R (eds) The meaning of marriage. Scepter, New York
- Scruton R (2014) The soul of the world. Princeton University Press, Princeton, NJ Sellars W (1963) Empiricism and the philosophy of mind. Science, perception and reality. Routledge & Kegan Paul, London, pp. 127–196
- Singal J (2021) The quick fix: why fad psychology can't cure our social ills. Farrar, Strauss, and Giroux, New York
- Snyder CR (1995) Conceptualizing, measuring, and nurturing hope. J Couns Dev 73:355–360. 10.1002/j.1556-6676.1995.tb01764.x
- Spector IP, Carey MP, Steinberg L (1996) The sexual desire inventory: development, factor, structure, and evidence of reliability. J Sex Marital Ther 22:175-190. https://www.midss.org/content/sexual-desire-inventory-2-sdi-2
- Symons X, VanderWeele TJ (2023) Aristotelian flourishing and contemporary philosophical theories of wellbeing. J Happiness Stud (forthcoming)
- Tan, Jonathan HW, Vogel C (2008) Religion and trust: an experimental study. J Econ Psychol 29(6):832–848. https://doi.org/10.1016/j.joep.2008.03.002. 2008
- Toledano R, Pfaus J (2006) Original research—Outcomes assessment: the sexual arousal and desire inventory (SADI): a multidimensional scale to assess subjective sexual arousal and desire. J Sex Med 3(5):853–877. https://doi.org/10.1111/j.1743-6109.2006.00293.x.09
- Tomasello M (2018) Becoming human: a theory of ontogeny. Harvard University Press, Cambridge, MA
- Toussaint LL, Worthington EL, Williams DR (2015) Forgiveness and health: scientific evidence and theories relating forgiveness to better health. Springer, Netherlands
- VanderWeele TJ (2017) Religion and health: a synthesis. In: Balboni MJ, Peteet JR (eds.) Spirituality and religion within the culture of medicine: from evidence to practice. Oxford University Press, New York, NY, pp. 357–401
- VanderWeele TJ (2022) The importance, opportunities, and challenges of empirically assessing character for the promotion of flourishing. J Educ 202(2):170–180. https://doi.org/10.1177/00220574211026905
- VanderWeele TJ, Li S, Tsai AC, Kawachi I (2016) Association between religious service attendance and lower suicide rates among US women. JAMA Psychiatry 73(8):845–851
- VanderWeele TJ (2018). Is forgiveness a public health issue? Am J Public Health 108, 2. https://doi.org/10.2105/AJPH.2017.304210
- VanderWeele TJ (2019) Suffering and response: directions in empirical research. Soc Sci Med 224:58–66. https://doi.org/10.1016/j.socscimed.2019.01.041
- Volf M (1996) Exclusion and embrace. Abingdon, Nashville
- Volf M (2015) Flourishing: why we need religion in a globalized world. Yale University Press, New Haven, CT
- de Waal F (1996) Good natured: the origins of right and wrong in humans and other animals. Harvard University Press, Cambridge, MA
- Wade NG, Hoyt WT, Kidwell JE, Worthington Jr EL (2014) Efficacy of psychotherapeutic interventions to promote forgiveness: a meta-analysis. J Consult Clin Psychol 82(1):154–170. https://doi.org/10.1037/a0035268
- Weber M (2004 [1917]). Science as a vocation. In: The vocation lectures. Trans. Livingstone R. Hackett
- Williams  $\vec{P}$  (2008) Mahayana Buddhism: the doctrinal foundations. New York: Routledge
- Winner L (2018) The dangers of Christian practice: on wayward gifts, characteristic damage, and Sin. Yale University Press, New Haven
- Worthington EL (2013) Forgiveness and reconciliation: theory and application. Taylor & Francis, New York, NY
- Yaden DB, Zhao Y, Peng K, Newberg AB (2020) Rituals and practices in world religions. Springer International Publishing

#### **Author contributions**

Both authors contributed to drafting and revising the submitted manuscript, and to subsequent revisions based on the results of peer review.

#### **Competing interests**

The authors declare no competing interests.

#### **Ethical approval**

This article does not report new results of any studies with human participants performed by the authors, so ethical approval is not applicable.

#### Informed consent

This article does not report new results of any studies with human participants performed by the authors, so informed consent is not applicable.

#### **Additional information**

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