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## **SCEPTICISM ABOUT VIRTUE AND THE FIVE-FACTOR MODEL OF PERSONALITY**

Forthcoming in *Utilitas*

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### INTRODUCTION

Despite considerable progress in personality psychology, “anxiety about whether the psychological theory presupposed by virtue ethics is empirically sustainable” (Olin and Doris 2014, 665) perseveres. Here, I employ the five-factor model of personality, currently the consensus view in personality psychology, to respond to a strong reading of the situationist challenge whereby most people lack dispositions that are both cross-situationally consistent and temporally stable. To this end, I begin by outlining the version of the situationist challenge which, unlike weaker versions, I take to constitute a genuine threat to virtue-theoretical thought. Squarely facing this challenge, I suggest, is a task for empirical psychology. I therefore turn to introduce the five-factor model of personality, presenting a breadth of supporting evidence, while also addressing certain worries it raises; I argue that the five-factor model of personality dissolves a strong reading of situationism by showing that the evidence supports the empirical adequacy of such character traits as are required for virtue ethics, and that situationism relies on a false dichotomy between character traits and situations. I then turn to dispel certain worries and offer certain considerations to the con-

clusion that the five-factor model may yet vindicate virtue ethics, so that philosophers interested in virtue theory, and especially virtue ethics,<sup>1</sup> should take it seriously indeed.

## I. THE STRONG SITUATIONIST CHALLENGE AND VIRTUE ETHICS

Situationists claim that virtue ethics, in construing virtues as global dispositions, relies on an empirically inadequate descriptive framework.<sup>2</sup> Philosophical situationism owes largely to works by John Doris and Gilbert Harman. While I concentrate on Doris' articulation of the challenge, I am interested here in Harman's somewhat more scathing conclusions, since it is these that I think truly threaten virtue ethics.

Doris' central contentions are the following. First, the function of trait attributions consists in allowing us to (a) *interpret, explain, predict*, and (b) *manipulate* behaviour, and presumably the inner states from which it flows. This is plausible: we attribute courage to explain Alex's jumping into the burning building to save his friend; if we had known Alex and thought he was courageous, we might have expected him to do so; and we think that his behaviour owes partly to good upbringing and summers spent as a lifeguard.

Second, character traits' performing the aforementioned functions partly owes to the fact that they are understood as *global* dispositions. This is key in Doris' argument, since this is how character traits, including the virtues and vices, are standardly understood in

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<sup>1</sup> In this paper, I focus on 'virtue ethics' as opposed to virtue theory in general, although most of my discussion applies, *mutatis mutandis*, to any character ethics which presupposes traits saliently like those presupposed by virtue ethics.

<sup>2</sup> In this paper I focus on situationism as a philosophical, as opposed to psychological, position. Whereas situationist psychologists, such as Ross and Nisbett (1991), posit the primacy of situations in explaining behaviour on the basis of experimental evidence, philosophical situationists, such as Doris (e.g. 2002) and Harman (e.g. 2000), concentrate on the implications of such work in psychology for philosophical theories like virtue ethics.

moral psychology and virtue theory. As dispositions, traits can roughly be couched in terms of conditionals, such as "[i]f a person possesses a trait, that person will engage in trait-relevant behaviours in trait-relevant eliciting conditions with markedly above chance probability  $p$ ." (Doris 2002, 19) Doris understands *globalism* as the thesis that there are character traits meeting the following criteria, something presupposed by virtue theory (see Doris 2002, 22):

(i) *Cross-situational consistency*: be manifested consistently over a range of different situations that may vary widely in their conduciveness to the trait's manifestation

(ii) *Temporal stability*: yield consistent behaviour over iterations of similar situations

(iii) *Evaluative integration*: the occurrence of a given trait with a certain evaluative valence, should be probabilistically (positively) related to other traits with similar valence

Consequently, according to Doris, if these conditions are belied by empirical observation, then the psychology presupposed by virtue ethics is empirically wanting. In fact, evidence suggests that people behave differently in different trait-relevant circumstances that call for similar behaviour (Doris 2002 63ff; cf. Adams 2007, 120ff); for instance, people might cheat in one subject but not another, or lie among colleagues but not family members (Hartshorne and May 1928). Moreover, people's behaviour is heavily influenced by (morally) irrelevant and arbitrary factors, like the presence of authority figures, as in Milgram's obedience studies, where the vast majority of subjects administered shocks that, for all they knew, were deadly (Milgram 1963). More subtle, often unconscious factors, including one's mood, others' presence, and cognitive biases, also influence behaviour (Miller 2009); for instance, helping behaviour is shown to vary with things like finding a dime (Isen and Levin 1972), or being in a hurry (Darley and Batson 1973), when chancing upon one in need.

Citing an impressive number of experiments, Doris concludes that “[s]ystematic observation typically fails to reveal the behavioral patterns exhibited by globalism; *globalist conceptions of personality are empirically inadequate.*” (23) This is because, “[i]f dispositional structures were typically so robust as familiar conceptions of character and personality [suggest], insubstantial factors would not so frequently have such impressive effects.” (Doris 2002, 28) According to situationists, then, evidence shows situations to be better *predictors* and *explanans* of people’s behaviour than character traits, thereby undermining both the grounds for thinking that people possess global traits and the utility of trait discourse. This, I think, is the situationist claim in a nutshell.

But different readings of the situationist claim are possible. Since, as Doris acknowledges, (i) through (iii) are independent of one another, on one reading, situationism denies that most people have traits meeting all three globalist conditions. This reading is weak because, put together, (i) through (iii) essentially make the situationist target the virtues themselves. Finding people whose character traits satisfy (i) through (iii) is tantamount to identifying virtuous people; hence attacking globalism as construed above only undermines the claim that people typically are virtuous. I think that it is largely (iii) that leads to this conclusion, for, roughly, it implies an expectation to the effect that people are either good or bad, since it claims that virtues are mutually dependent. But (iii) is not even universal among virtue theorists, many of whom try to dampen it or reject it outright (e.g. Adams 2007; also cf. Sreenivasan 2009). Though there are defenders of the thesis, I take it that (iii) is not indispensable for virtue ethics. It is noteworthy that Doris himself seems to consider evaluative integration as less important for his project than other criteria, as suggested by his remarks that it is an “elusive target for empirical attacks” (22), and his acknowledgement that it is “less prominent in personality psychology ... and ... has been the object of suspicion” (23) even in character ethics. Now, if situationists only denied the

widespread existence of virtue, that would amount to a trivial claim already acknowledged by Aristotle (1998, 34).

If I am right to think that a conclusion to the effect that there are few virtuous people, perhaps none in the random samples used in empirical psychology, would hardly be surprising and so would be a rather trivial finding, this cannot be what situationists have in mind. For it fails to do justice both to their insistence on the force of their conclusions, and the pervasiveness of situationism in the literature.

In light of the foregoing, I propose to drop the third requirement, viz., evaluative integration, and revise the notion of a *global character trait* as a *cross-situationally consistent and stable disposition* to behave in a way *predictable and explicable by reference to the relevant trait*. Unless otherwise specified, this is what I shall henceforth mean by ‘globalism’, or ‘global’ disposition or character trait. I will have some things to say on the third requirement later on, but ask the reader to set it aside for now.

A situationism truly pernicious to virtue ethics would not just undermine the widespread existence of virtues and vices but the widespread existence of the psychological resources required for the development of virtue itself, a ground which we presuppose to the extent that we encourage and promote the virtues. If such a basis is poorly supported by our best empirical knowledge or, worse, undermined by it, then it would seem that the projects just mentioned are futile.<sup>3</sup> Situationism, as I understand it, denies the claim that most people are capable of virtue, not the claim that most people are virtuous. That these are different claims can be seen by the difference between suggesting that most people lack the cognitive structure required to pursue a career in science, and denying that most people actually do pursue such a career. The latter is, of course, trivial. The reason, more-

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<sup>3</sup> Sabini and Silver (2005, esp. 537, 545, 561-562) seem to me to agree that this is the only pernicious reading of situationism.

over, why people are such poor candidates for virtue is that their psychology, in lacking the relevant kinds of dispositions, does not readily support traits of the kind that the virtues are supposed to be.<sup>4</sup> In other words, on the strong reading of situationism, people typically not only lack the virtues, but the kind of character traits required for virtues and vices to develop (and virtue ethics to take off), i.e., lack traits meeting both (i) and (ii). While these readings are rarely distinguished, I think that a lot hangs on this distinction.

The argument against virtue ethics, imbued with the strong reading just outlined, is the following:

(1) Virtue ethics is a descriptively adequate theory only if there are widespread global character traits (i.e., both *temporally stable* and *cross-situationally consistent dispositions* to behave in ways *predictable and explicable by reference to the relevant traits*)

(2) There are no such global character traits that are widespread

(3) Thus, virtue ethics is a descriptively inadequate theory

Harman seems to argue thus when he says that if “there is *no such thing as a character trait* and we know that virtue *would require having character traits ... there is nothing one can do to acquire character traits* that are ... like those possessed by a virtuous agent.” (Harman 2000, 224; emphasis mine) This conclusion is also implied in Doris’ response to Adams’ theory of virtue, which is designed to sidestep the situationist challenge. Adams construes virtues modularly, modules being ‘local’ dispositions acquired and mani-

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<sup>4</sup> This claim, in turn, can be understood in different ways. It may be that global traits are psychologically impossible. However, since situationist arguments rely on experiments in empirical psychology, it is unclear how these could establish psychological impossibility. Alternatively, it may be that human psychology, for the most part, is infertile soil for the cultivation of global traits. Insofar as virtues and vices are global traits, most people lack the psychological resources for virtue.

fested in specific contexts, e.g., the household, office, neighbourhood, etc. (Adams 2007, 126-131). These can then be combined to yield dispositions that constitute “genuine ... virtue[s]” (Adams 2007, 127). Doris, however, questions whether the volitional and intellectual strength required for assembling global dispositions resembling virtues out of local ones is anything less than extra-ordinary, given situationist evidence (Doris 2010, 138-139). If Doris’ scepticism here is warranted, and not question-begging, it must question the widespread existence, not of virtues, but of global traits in the sense of cross-situationally consistent and stable dispositions altogether (cf. Sabini and Silver 2005). This kind of scepticism runs deeper than virtue ethicists have delved; but insofar as situationist evidence renders this interpretation psychologically feasible, it shifts the burden of proof to virtue ethicists.

This reading of situationism is deeply troubling, for not only does it undermine Adams’ account, but also weakens other available virtue-ethical responses, since virtually all discussions of character as comprising virtues and vices presuppose that the widespread existence of temporally stable and cross-situationally consistent dispositions is empirically viable. Unless this assumption is validated, then, such discussions are treading on it as though situationism was never an option; but this is dubious and question-begging.

To illustrate, consider two plausible objections to situationism. One might charge situationists with relying on a false dichotomy between situations and traits, insofar as they mistakenly seek to explain behaviour as largely an either/or affair between these two variables. To support this claim, one may appeal to philosophers like Aristotle who construe virtues relationally, namely as sensitive to concrete situational features (cf. Aristotle 1998,



38).<sup>5</sup> Situationist evidence, then, only undermines an intrinsic conception of traits, whereby virtues' particular manifestations would, to a considerable extent, be predictable and explicable without reference to circumstantial considerations. But, first, such a response presupposes that there are global traits, while, second, whether or not character traits are relational is an empirical question. In the next section, I shall be corroborating both of these claims.

Alternatively, one might argue that situationists' conclusions are unwarranted. Sosa argues that situations influence virtually all practical competences, without this warranting scepticism about such competences (Sosa 2009). Psychologists' findings no more threaten virtue than practical competence altogether, insofar as virtue depends on practical wisdom, or *phronêsis*, which structurally parallels practical competences. Sosa's example is driving competence which, he suggests, is influenced by numerous factors, including blood-alcohol levels, mobile-phone use, tiredness, etc. Discovering the influence of each of these on driving may have come as a surprise, but none resulted in scepticism about driving competence. By analogy, psychologists' finding shouldn't be taken to warrant situations, albeit they should alert us to blindspots to *phronêsis*.

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<sup>5</sup> This approach to traits echoes the CAPS approach (see e.g. Mischel and Soda 1995), which, according to Miller (2009, 108-129), provides a sophisticated framework for our folk-psychological trait discourse, and has recently been employed by philosophers building their own, empirically-informed theories of virtue (Russell 2009 and Snow 2009). Although I take what I say here to be compatible with such views, my aim is not to construct a new theory of character traits, but rather to rely on current personality psychology to undermine situationism, on the one hand, and possibly rekindle trust in traditional virtue ethics. The CAPS model itself is compatible with the five-factor model to be discussed shortly, and often thought to simply elucidate different aspects of personality rather than traits themselves (cf. McAdams and Olson 2010), so much of what I say here will predictably be compatible with that view.

But imagine a situation where wheels sometimes don't turn, brake hydraulics only occasionally function, roads aren't fixed, rules are interpreted differently, etc. Were it so, driving competence would be superhuman. Indeed, although things aren't half as bad, it's necessary to circumscribe driving environments, like most environments wherein people manifest competences, through regulations, surveillance, etc. Consequently, driving is a highly circumscribed and controlled activity. To assume that things are, or could be similarly ordered in morally-salient environments, however, presupposes that people, by and large, have global dispositions.

While I think that such arguments do much to address the normative and conceptual threats posed by situationism, they cannot show that, as a matter of fact, most people have anything resembling global dispositions. Unless this is shown, however, responses proceeding on the assumption that the virtues can be cultivated and possessed by ordinary people remain open to scepticism, since they invariably presuppose the widespread possession of global dispositions. There is one clear way of supporting this assumption, however, and this is to show that, as a matter of fact, people have character traits understood as (i) cross-situationally consistent and (ii) stable dispositions, which are (a) useful in the interpretation, explanation, and prediction of their behaviour and are (b) manipulable if it is at all plausible that they can be shaped into virtues and vices. In the next section, I turn to empirical psychology to support (a), offering evidence for the claim that people possess the relevant dispositions. In section III, I address (b) and offer further considerations to corroborate the claim that the relevant character traits seems highly promising for refurbishing a virtue ethics.

## II. THE FIVE-FACTOR MODEL OF PERSONALITY

The five-factor model of personality (FFM) is currently the consensus view in personality psychology (Nettle 2007, 30; see Miller 2014, 130 and 130n for references to similar re-

marks). In this section I argue that it counters the situationist challenge to virtue ethics by showing that there are global traits that are situation-sensitive. Hence, situationists rely on a false dichotomy. Moreover, such traits, according to the evidence, correlate with observable and predictable behavioural patterns, thereby undermining situationist scepticism about the existence of global dispositions.

### *FFM: Basic Features*

Most<sup>6</sup> personality psychologists today acknowledge at least five personality dimensions, known as *Openness*, *Conscientiousness*, *Extraversion*, *Agreeableness*, and *Neuroticism*, conceived of as continua along which all individuals vary. An individual's personality (partly) comprises one's traits, i.e., one's levels along each dimension. While not purporting to exhaust trait structure, the FFM identifies the broadest yet informative dimensions of human personality. These psychologists call 'factors', distinguishing them from 'facets,' which are more fine-grained dimensions clustered under each factor, and yield a richer picture of personalities (McCrae 2010, 59). *Neuroticism*, for instance, clusters facets *anxiety*, *depression*, *anger*, *self-consciousness*, *impulsiveness*, and *vulnerability*, while *Agreeableness* comprises *trust*, *straightforwardness*, *altruism*, *compliance*, *modesty*, and *tender-mindedness* (Costa and McCrae 1995, 28).

The following table overviews each dimension's general characteristics. From the left, the first column introduces the factor name, the second its target cognitive-affective domain, and the remaining ones adjectives describing general tendencies associated with polar levels on each trait's continuum.<sup>7</sup>

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<sup>6</sup> Debate is ongoing concerning whether more dimensions should be added. HEXACO, e.g., is like FFM, with the addition of 'honesty/humility'. See, e.g., Ashton and Lee (2005).

<sup>7</sup> Table adapted from Nettle (2007, 28, 209)

Trait	Target	High	Low
<i>Extraversion</i>	responsiveness to reward	outgoing, enthusiastic	aloof, quiet
<i>Neuroticism</i>	responsiveness to threat	easily stressed, worried	emotionally stable
<i>Conscientiousness</i>	response inhibition, practical reasoning	organised, self-directed	spontaneous, careless
<i>Agreeableness</i>	regard for others	trusting, empathetic	uncooperative, hostile
<i>Openness</i>	breadth of mental associations	creative, imaginative, eccentric	practical, conventional

FFM traits are global dispositions, i.e., cross-situationally consistent and temporally stable dispositions to behave (and otherwise respond) in a way *predictable and explicable by reference to the relevant trait*. Nonetheless, the behaviours and cognitive-affective responses associated with them vary with situations. In one psychologist's words, FFM traits are activated "by a particular class of situations (you are in danger), and they facilitate a particular set of responses (increases in heart rate, adrenaline and vigilance, desire to leave, and so on). ... Thus, ... a strong predictor of whether [anyone] will be afraid at a given moment or not is whether they are, for example, in a medium-sized cage with a wild bear." (Nettle 2007, 41) So not only is referring to situations necessary to explain trait-relevant responses, but situations can outweigh trait tendencies. There is therefore no counterexample to trait attribution in the depressed found rejoicing in life, or the recluse fervently socialising, if one won the lottery, and the other's daughter just graduated.

That said, people's lives carve highly characteristic patterns, both observable and predictable upon trait attribution. According to psychologists, such patterns are identifiable both within situations, and throughout whole lives (Nettle 2007, 6-9). Not only do people's responses in different circumstances vary with their traits; traits can also predict the kinds of situations people are likely to choose, regularly find themselves in, and engender through trait-relevant behaviours (Buss 1987). Someone low in *Extraversion*, e.g., will

generally avoid crowded events and often get angry at people. This will probably result in awkward social encounters, potentially involving unpleasant confrontations, etc. Someone high in *Neuroticism* will often worry about one's performance, behaviour, etc., living in anxiety, stress, and possibly periods of depression; others are likely to see them as sensitive and emotional, perhaps avoiding too many frequent encounters with them, as these can be unpleasant.

### *FFM: Worries and Support*

Psychologists arrived at the FFM via two routes. First, the lexical approach, which involves collecting trait terms from ordinary language, grouping them, and eliminating redundancies (John et al. 1988). Second, through questionnaires distributed to subjects asked to assess themselves on characteristic behaviours, such as how easily they are stressed or scared, how attracted they are to complex artworks, how keenly they attend crowded events, etc. Results are then entered into factor analyses. Questionnaire studies have been conducted in several languages, numerous replicated, and participants' responses compared to ratings acquired from acquaintances, friends, and partners. Different raters' results and replications have yielded high correlations, generally well above .5, suggesting concurrence. Longitudinal studies have also been conducted, with participants retaking tests sometimes over several years, as in one such study where participants' and acquaintances' personality reports were collected over twelve years, with correlations between reports at .65-.85, which is highly significant (Costa and McCrae 1980). Factor analyses of the data, moreover, consistently yield five domains with highly significant correlations, i.e., the FFM factors (Nettle 2007, 27-32).

Instead of the FFM's attractiveness, many philosophers have emphasised methodological concerns instead.<sup>8</sup> One feature philosophers object to is the use of aggregate data both in factor analyses and when examining relations between traits and behaviours (e.g. Doris 2002; Vranas 2009). This is standardly done in quantitative psychology, on the assumption that single measures cannot inform us about people's dispositions, or predict behaviours, any more than one's score on a single school test predicts future performance. Performance over one year, by contrast, better predicts performance over the next, *ceteris paribus* (Epstein 1979). This is partly because individual measurements are liable to errors, which aggregations largely correct for. Unsurprisingly, whereas single measurement correlation coefficients stagnate at approximately .30, which has come to be known as the 'personality coefficient' (Mischel 1996, 78), aggregate measures often yield correlations above .50 (Nettle 2007, 44-45).

But Doris thinks that using aggregate data overlooks an important function of traits, namely that they can predict behaviours even in one-off instances (Doris 2002, 74). Ordinary character discourse hardly reflects such "apathy." (73) People ask: '*will* my partner ever cheat on me?', or '*will* the nanny molest my children on Tuesday?' (74). Ignoring such predictions is tantamount to abandoning a "distinctive commitment" of virtue ethics, namely the assumption that even "where the situational pressures toward moral failure are high, ... one can *confidently* predict what the virtuous person will not do." (ibid.)

Now, unlike certainty, confidence comes in degrees; and whereas no reasonable psychologist pretends to know whether anyone will molest another anytime, she can confidently estimate the likelihood of such scenarios. Empirical investigation of the sort undertaken by most psychologists chiefly concerns general patterns, not isolated instances,

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<sup>8</sup> For philosophical objections to the FFM, see: Doris (2002, 67-71); Prinz (2009, 120-122); Miller (2014, ch. 6); Miller (2015). Alfano (2013) basically dismisses it as irrelevant to virtue ethics within two pages (52-53).

which may be unique for all anyone knows (Ross and Nisbett 1991, 114-115). The confidence of psychological predictions stems from knowledge of the person whose behaviour is predicted, which in turn comes from aggregated data, collected from reports and behaviours. Ordinary people likewise infer from knowing others over time, and predict behaviours inductively. What we rely on psychologists to confirm is whether trait attributions ground confident predictions. Thereafter, presumably those best acquainted with a person, using relevant knowledge, can most confidently predict how that person will respond under given circumstances. Still, their predictions will be powerful, not infallible. This is to be expected of imperfect creatures like ourselves, philosophical ideals notwithstanding (Badhwar 2009). And if virtue ethics is committed to working with a plausible descriptive psychology, it too will understand trait attributions to refer to general patterns and reasonably confident predictions.<sup>9</sup>

Doris also objects that since questionnaires can say nothing about the behavioural efficacy of FFM traits, it remains unclear whether traits relate to behaviours (see Doris 2002, 67-70; cf. Prinz 2009, 121).

I have already suggested that one's close acquaintances are those who know one best. Their knowledge comes partly from past behaviours, which psychologists can collect by questionnaires, cross-examine, and factor-analyse, yielding remarkably consistent results. Questionnaires moreover allow psychologists to conduct longitudinal studies, which Doris thinks are highly desirable, but hard to carry out (Doris 2002, 38). So Doris' scepticism seems unwarranted, lest it concerns quantitative research in general; that would be ill-advised given his own reliance on quantitative research to corroborate situationism.

Anyhow, while crucial for arriving at the FFM, establishment and corroboration thereof goes well beyond questionnaires and reports. By now, numerous studies have ex-

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<sup>9</sup> Adams (2007, 122ff) construes virtues probabilistically: more or less virtue concerns probabilities of exhibiting virtuous behaviour under given circumstances.

amined correlations between questionnaire results, and important behaviours and life outcomes. The FFM powerfully predicts, *inter alia*, marital satisfaction and divorce (e.g. Kelly and Conley 1987), mortality (e.g. Friedman et al. 1995), and pathologies including addiction (e.g. Slutske et al. 2005; Swendsen et al. 2002), depression (e.g. Watson and Clark 1988), and schizotypy (e.g. Gurrera et al. 2005).

In one longitudinal study, for instance, researchers tracked three-hundred couples for fifty-two years, comparing friends' ratings of subjects' personalities with data on their marriage state, finding high *Neuroticism* and low *Conscientiousness* to powerfully predict unhappy relationships and divorces, whilst their contraries predicted lifelong, happy partnerships (Kelly and Conley 1987). A similar longitudinal study showed low *Conscientiousness* to strongly predict early death (Friedman et al. 1995), meta-analyses finding correlations around .30 (Boggs and Roberts 2004), which is remarkable considering both what is at stake, and that several factors determine when one dies. While something else may also explain findings, given that low *Conscientiousness* involves irresponsible, uninhibited behaviour associated with addiction, impulsiveness, etc., the trait's behavioural efficacy is a safe bet.<sup>10</sup>

The most recent method for studying FFM traits' behavioural efficacy is 'experience sampling'. Subjects are given a palm pilot or some equivalent, allowing them to describe their behaviours every few hours, often over several weeks. The instrument's interference

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<sup>10</sup> I should note that any correlations in the .30 ballpark mentioned in this section are not subject to the criticism that correlation coefficients for personality measures stagnate at around .30, which mainly concerns single item behavioural measures (Doris 2002, 72), since the correlations cited herein concern meta-analytic results for predictions of major life outcomes (almost inevitably containing a wide range of results if they are any good), as well as moment-by-moment behavioural predictions. Questioning the importance of .30 correlations for such measures manifests insensitivity to our subject matter, namely human psychology.



is minimal, descriptions only taking a couple of minutes to complete. Results are then compared to participants' trait levels acquired from questionnaires completed by participants and their acquaintances. This method allows psychologists to examine not only general behavioural patterns, but also the extent to which factors and facets predict concrete behavioural sequences in agents' ordinary life, whilst additionally informing researchers on the frequency of trait-relevant behaviours, and how extreme such behaviours are. Studies of this type have thus far yielded highly significant correlations (Conner et al. 2009).

Data analysis from fifteen experience-sampling studies conducted over eight years, and comprising over twenty-thousand behavioural reports from around five-hundred participants, returned reassuring correlations, confirmed by meta-analysis. The lowest, though still significant correlations, ranging from .18-.37, mostly exceeding .30, were between traits and single behaviours; given the possibility of error and the situation-sensitivity of FFM traits, this is unsurprising. Higher correlations were found between trait levels and trait-relevant behavioural extremes, ranging between .34-.54 for maximum and .22-.37 for minimum trait levels. The highest correlations, between .40-.56, were between trait levels and behavioural averages (Fleeson and Galagher 2009). It is noteworthy that other experience-sampling studies have found correlations between trait levels and behavioural averages in the .7-.9 ballpark (Fleeson 2001). Very similar results have been acquired by more recent experience sampling studies which tested the foregoing measures across a number of different cultures (Ching et al. 2014), as well as different age groups (Wrzus, Wagner and Reidiger 2015).

Worries remain, of course, pertaining, for instance, to the honesty of participants; their perceptions of their own behaviours; and the fact that having a palm pilot makes them more self-conscious. But seen in conjunction with the foregoing evidence, and the fact that evidence is growing, results from these studies provide strong support for the FFM per-

sonality structure and, contra Doris, suggest that FFM traits satisfactorily predict individuals' behaviours. Moreover, they suggest that FFM traits not only correlate positively with aggregates, nor do they only predict major outcomes, but can also, moderately, but importantly, predict individual, moment-by-moment behaviours.

Psychology is not the only field validating the FFM. Findings in other disciplines confirm relevant theoretical hypotheses. First, since FFM dimensions are common to all humans, they are probably shaped by evolution and genetically heritable. Studies show that biological siblings, who share half of their genetic material that varies between human individuals, resemble each other in personality, whereas adoptive siblings brought up together no more resemble one another in personalities than random people. Identical twins, who are genetically identical, have highly similar personalities, which resemblance persists be they raised together or apart. Furthermore, identical twins raised apart are more alike in personality than non-identical twins raised apart. Such findings suggest a genetic basis for FFM personality, and genetic variation is estimated to account for approximately half of personality variation (Bouchard and Loehlin 2001; Bouchard and McGue 2003).

Second, sophisticated evolutionary hypotheses are available. Nettle proposes that human personality has evolved through fluctuating selection, arguing that both high and low levels of each factor would have conferred advantages and disadvantages depending on ancestral environments (Nettle 2007, 69-70). High *Neuroticism*, for example, would have benefitted individuals in environments swarming with predators and poor defence, because greater responsiveness to threat would have motivated flight from threats. Conversely, low *Neuroticism* would have allowed those in safer environments to improve their lives (121-122).<sup>11</sup>

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<sup>11</sup> Nettle (2007, 99-101, 151-152, 177-181, 201-207) puts forward equally plausible evolutionary hypotheses for the fluctuating selection of the remaining traits.

Finally, if traits target affective-cognitive domains, they must tap into corresponding neurobiological mechanisms. Studies suggest that serotonin levels, and activity in the amygdala and limbic system, which relate to responsiveness to threat, vary dramatically between people different in *Neuroticism* (Whittle et al. 2006; Nettle 2005, ch. 5). Similarly, differences in *Extraversion* relate to the brain's reward systems' responsiveness (Depue and Collins 1999; Canli 2004); activity in the dorsolateral prefrontal cortex, which partakes in response inhibition, varies with levels of *Conscientiousness* (Nettle 2007, 141ff.); *Agreeableness* relates to social-cognitive theory of mind functioning, which refers to the ability to infer about the content of others' mental states and to use the relevant beliefs to predict and explain behaviour (Nettle and Liddle 2008, 325), and empathising levels (Nettle 2007b). Research has not yet identified mechanisms corresponding to *Openness*, but the aforementioned relation between high *Openness* and schizotypy holds promise in that direction. Other trait extremes also relate to pathological conditions, again in line with predictions based on trait descriptions. Low *Conscientiousness*, for instance, is associated with addiction (Slutske et al. 2005; Swendsen et al. 2002); high *Neuroticism* with depression and other psychiatric disorders (Claridge and Davis 2001; Watson et al. 2005), and low *Agreeableness* with psychopathy (Harpur et al. 1994; Lynam et al. 2005).

Jointly, the foregoing offer overwhelming support for the FFM, compelling us to accept the existence of the relevant traits.

Before proceeding to draw conclusions about the FFM's implications for situationism, however, I should say something about Miller's worries regarding the FFM's metaphysical status. Miller points to a debate among personality psychologists concerning whether the traits are mere summary labels, i.e., terms we use to describe general behavioural patterns, or causally efficacious psychological dispositions. Miller notes that, if the former, then these should "*not [be] expected ... to reliably predict how a person will act from moment to moment*" (Miller 2014, 136). Interpreted as suggesting that the relevant

predictions are fairly or moderately confident, then I think that the evidence sampled above, while inconclusive, does suggest an adequate degree of confidence in moment-by-moment predictions. This is most clear in the case of experience-sampling method studies and meta-analytic results which actually do measure momentary behavioural and affective responses, indicating that FFM traits do seem to predict moment-to-moment behaviours with some confidence. It is important to note that such predictions are achieved without appeal to contextual considerations, which no doubt would enhance predictive power. For instance, if someone low in Extraversion is thrown into a party, we can be pretty confident that she will feel highly uncomfortable. While this does not show FFM traits to be causally efficacious dispositions, it does detract from the plausibility of their construal as *mere* summary labels.

Of course, such data cannot establish metaphysical status. However, jointly with the findings linking FFM traits to neurobiological mechanisms, the plausible evolutionary hypotheses explaining the observable behavioural variability, and the genetic basis of these traits, the evidence should at least strengthen the suggestion that FFM traits are more than just summary labels. Moreover, I think that understanding FFM traits as causal dispositions will give us a much better backdrop against which we can develop psychological theories.

Thus, while perhaps any stronger claims here would be premature, what we can confidently say is that FFM traits can do a good deal more than what Miller expects of traits as mere summary labels.

### *FFM and Situationism*

FFM personality traits are (1) universal, in the sense that everyone has a score along each dimension, hence everyone possesses such traits; (2) global, i.e. temporally stable and cross-situationally consistent dispositions to respond cognitively-affectively, while most are also associated with characteristic behaviours. Finally, FFM traits do not yield characteris-

tic responses irrespective of circumstances. Instead, they are (3) relational, i.e., a matter of where one's threshold lies for activation of certain cognitive-affective responses to certain types of object.

It follows from this construal of traits that situationists are setting up a false dichotomy. In construing prediction and explanation of behaviour as largely an either/or affair between character and situations, they are conceiving of traits as insensitive to circumstances, moods, etc. Psychological evidence, however, shows this to be an inaccurate conception of traits, manifestation of which is situation-dependent.

Furthermore, people's lives carve *observable* and *predictable* patterns of behaviour and of affective-cognitive responses to situations. Since such patterns are in place, there are global character traits, and the FFM dissolves a strong reading of situationism. Moreover, situationism's claim that people's responses depend on situations is trivial given the relational conception of character traits, i.e., just what is expected of beings responsive to their surroundings.

### III. THE FFM AND VIRTUE ETHICS

Further to the metaphysical worry mentioned above, Miller thinks that if the FFM includes traits understood as dispositions to form certain mental states, as are the virtues and vices, it is empirically inadequate, because the FFM trait structure includes traits like compassion and modesty in the face of evidence undermining the assumption that people generally have such traits. But of course, one may be mostly compassionate without being virtuous. So even if Miller is right that most people do not have the virtues of compassion or altruism, this does not show that FFM traits are not dispositions to form beliefs, etc., but that they are not virtues. But we have not claimed that the FFM traits are virtues.

Still, perhaps FFM traits are such as can allow for the virtues to be shaped into being. While I cannot establish this claim here, in this section I take three steps in its direction

(though I will *not* be suggesting that most people do in fact possess traits like full-blown honesty or altruism): first, that FFM traits are malleable in light of mental states such as beliefs, goals, etc., and so their content can be moulded; second, that the moral salience of at least some FFM traits should be considered fairly uncontroversial; and third, more tentatively, that FFM traits' moral relevance structurally parallels Aristotle's doctrine of the mean.

Jointly, I think, my theses on FFM traits—namely that, in light of the evidence supporting the FFM, they are plausibly (a) global dispositions, which are (b) suitably malleable, i.e., changeable in light of beliefs, practice, experience etc., and, some of which are (c) morally salient—should at the very least show that these are traits that virtue ethics should take seriously. More ambitiously, I hope to take some steps towards the proposal that FFM traits are psychological dispositions that, under suitable conditions, can vindicate virtue ethics.

### *FFM Traits and Malleability*

Above we saw that, according to Doris, if traits are to service virtue ethics, they must be manipulable, for it is traditionally held that we are responsible for our characters. But FFM traits are said to be approximately 50% heritable, with the rest of the variation said to owe largely to factors outside our control. So FFM traits, the first objection goes, hardly resemble the cultivable and malleable traits postulated in virtue ethics (cf. Prinz 2009, 121-122).

Now, most psychologists grant that the FFM is not meant to exhaust the content, structure, or operation of personality (even McCrae 2010, 58-61). So the genetic heritability of FFM traits does not entail that our inner lives and behaviour are *determined* by them. Furthermore, although some evidence suggests that FFM traits are remarkably stable (for example, Terraciano et al. 2006), this does not show that people *cannot* change their per-

sonality; only that they generally *do not*. But not even the latter is obvious, as recent evidence amply supports the claim that FFM traits are malleable.

First, *Openness*, as measured by personality questionnaires, has been found to significantly increase even in old age, in response to performance of basic cognitive activities including inductive reasoning tutorial and engagement with tasks like puzzle-solving, over the course of thirty weeks (Jackson et al. 2012).

Second, the effectiveness of cognitive-behavioural therapy (CBT) offers powerful evidence for FFM personality malleability. By identifying certain cognitive patterns that are thought to underlie pathologies like addiction and depression, through conversation, introspection, etc., CBT allows people to re-conceptualise past experiences, including emotional responses and behaviours, thereby altering their affective-cognitive response patterns. CBT is particularly successful in regulating high *Neuroticism*, and treating associated conditions (Ragby et al. 2008). Psychiatric evidence suggests that CBT is at least as effective than alternative treatments (usually pharmacotherapy) in dealing with, *inter alia*, depression, generalised anxiety disorder, panic disorder, social phobia, obsessive-compulsive disorder, anger, and sexual offence. More importantly, CBT is thought to have longer-lasting effects, often proving twice as effective as alternatives in preventing relapse (Butler et al. 2006).

CBT's widely acknowledged success suggests that formulating the right goals and developing cognitive techniques can change personality, at least when trait levels are extreme. But there is no reason to think that changeability *per se* is limited to extremes; if anything, the reverse is likelier. Of course, because certain personality extremes are highly undesirable, they are met with increased concern, and greater motivation and effort to palliate.

These remarks may remind the reader that earlier in this paper I undertook to return to the third thesis that Doris attributes to globalist conceptions of character, namely evalua-

tive integration. This, remember, is the claim that ‘the occurrence of a given trait with a certain evaluative valence, should be probabilistically (positively) related to other traits with similar valence’. For it would seem that if FFM personality change is an empirically supportable phenomenon, then we might expect at least some evaluative integration to be traceable between an agent’s traits, at least those that are of similar valence or pertain to similar practical considerations. Admittedly, there is little support for such a thesis. But then again, extensive evaluative integration pertains to virtues and vices, which I do not wish to conflate with unqualified FFM traits, and is moreover a controversial requirement. That said, I think that findings suggest that evaluative integration is not altogether alien in human psychology.<sup>12</sup>

Available research on personality change, aside from having discredited a view whereby FFM traits are fixed after early adulthood (e.g. McCrae and Costa 1996; cf. Srivastava et al. 2003) also reveals certain clear patterns of change, which psychologists call ‘normative’.

One cohort of evidence clearly indicates patterns of personality change with age. *Neuroticism* has been found to decrease, while *Agreeableness* and *Conscientiousness* increase, the latter’s covariance with age being “extremely stable and systematic” (Helson et al 2002, 293). Such findings are well-documented. For instance, a meta-analysis of ninety-two longitudinal studies of personality mean-level change (i.e., change in personality measures of a group, rather than individuals within it) featuring people from different age groups, for instance, found that there is a clear pattern of increase in the dimensions of *Extraversion*, and especially the facets of ‘social vitality’ and ‘social dominance’, *Openness*,

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<sup>12</sup> Of course, ‘facets’ do tend to cluster together, otherwise psychologists could not have arrived at the five broad dimensions of the FFM through factor analysis, since the only factors variables that are strongly intercorrelated. Thus, some degree of integration, albeit not ‘evaluative’ strictly speaking, appears to cohere with our psychological makeup.



and, *Conscientiousness*, which last was the strongest and most frequently recurrent finding, as well as a decrease in *Neuroticism* (Roberts et al 2006), with age. While this meta-analysis did not find significant changes in *Agreeableness* others have found that trait levels of this dimension also generally increase (Specht et al. 2011; Roberts et al. 2004). Similar conclusions are suggested by studies looking at rank-order consistency of personality (i.e., consistency of individuals' placement in terms of their trait levels relative to a group), which found that there is a clear increase in stability, reaching a plateau between sixty and seventy years of age, though not of a magnitude that would preclude further change (Roberts and DelVecchio 2000).<sup>13</sup>

Although more work in this area is needed, studies of the causes of personality change have found significant correlations between personality and the goals people have, something found to be particularly important for changes in *Agreeableness*, which relate to having morally salient concerns (Roberts et al. 2004) but also between change in goals and change in personality, not explicable through personality traits alone (Roberts et al. 2004). The discussion of CBT above lends further credence to the claim that personality changes in light of mental states, such as beliefs, etc. Similarly, a recent study found that college-aged adult personality tends on the whole to improve but does so at least partly in patterns that reveal correlations between people's prospects and ideals, including moral ones (Noffle 2015).

Hence, available research shows a general—and generally desirable—trend. As several personality psychologists have noted, “the direction of change is clearly ... positive ... With age, people become more confident, warm, responsible, and calm ... Social maturity is equated with the capacity to become a productive and involved contributor to society.” (Roberts and Mroczek 2008, 3; cf. Roberts et al. 2006, 20). Research also reveals that such change does not occur in everyone (especially not in those with already very

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<sup>13</sup> Recall the study noted earlier, which found simple tasks can increase *Openness* even in old age.

high levels on these dimensions), that some change contrary to the ‘normative’ trend, and also that change depends at least partly on agents’ goals, prospects, ideals, and so on (cf. McAdams and Olson 2010).

Certain traits, including the virtues, are desirable; moreover some of the traits in the FFM resemble virtues in their content, *Conscientiousness* for instance having clear relations to epistemic virtues, and *Agreeableness* comprising facets like altruism and empathy, modesty, etc.; it is also a commonplace that the virtues require experience and knowledge (and *phronêsis*). Given the foregoing considerations, it is not, I think, implausible to take seriously the suggestion that things are as one might have expected: people grow older, they mature (hence psychologists’ phrase—‘maturity principle’—for the trend, e.g. Bloninger et al. 2008, 256), acquiring a more sophisticated view of the world, gaining experience and knowledge, becoming more sensitive to the demands of others, including friends and family, as well as their personal and professional development. For instance, seeing as *Conscientiousness* concerns self-control, reasoning, and prudence, it is plausible that experience, knowledge, and maturity are key to increases in *Conscientiousness* with age.

Now, I take it that addressing the objection against the claim that FFM traits are suitably malleable involves showing that personality *can* change on the basis of beliefs and other mental states, and people *have* the required cognitive and motivational resources for change.<sup>14</sup> These conditions obtain. *Ergo*, FFM traits are suitably malleable, hence we are to that extent responsible for our personality. Moreover, I suggested that there does seem to be some degree of evaluative integration, or a tendency towards it, increasing with age, in personalities representative of the general population. Seeing as

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<sup>14</sup> Some situationists (Olin and Doris 2014; Alfano 2013, 111-180) have recently targeted the epistemic virtues. But I take my requirement here to amount to something weaker than a requirement for epistemic virtues, to discredit which would require independent argument on the part of situations.

the general population is far from virtuous or vicious, it is unclear whether we should cast any more doubt on the psychological adequacy of evaluative integration than on globalism.

### *FFM and Moral Character*

Virtue depends on deeper forces than people's perceptions of one another or overt behaviours. But, another objection claims, it is only the latter that the foregoing studies examine. Because questionnaires fail to capture salient information, they cannot ascertain that people possess virtues and vices (Miller 2014, 147-150; Prinz 2009, 121). FFM traits, then, may be morally insignificant.

This objection fails to observe the dialectic. Under the strong reading, situationists argue: character traits understood as global dispositions are extremely rare (if they exist at all); virtues are global dispositions; hence there are virtues are extremely rare (if they exist at all). But nearly everyone has global traits, so that the first premise of the situationist argument just summarised is false. Hence, there is no reason to remain sceptical about whether the "psychological theory presupposed by virtue ethics is empirically sustainable" (Olin and Doris 2014, 665). The burden of proof is on the situationists to show that virtue ethics is empirically unsustainable. The prospects for this, moreover, are bleak: virtues and vices would have to be *very* uncharacteristic character traits indeed if the situationist case is to remain convincing.

While I could rest my case here, I think that some brief remarks by way of response are in order. If the objector means to suggest that psychological research should include qualitative measures, then I agree. But if instead the objector insists that questionnaires, on pain of being morally uninformative, should include sets of conditionals, more detail, etc., as some have suggested (e.g. McAdams 1992; Miller 2014, 138-140), then I find the worry exaggerated. For regardless of how satisfactory questionnaires are, their results'

strong correlations with morally-salient behaviours cannot be ignored when considering traits' moral salience. And while behaviour cannot conclusively demonstrate that anyone is virtuous—I am uncertain *what* might achieve this—this does not mean that it is uninformative about people's characters. Doris himself assumes that if habits “contrary to a trait [do] not undermine the attribution, it is hard to see what possibly could.” (Doris 2002, 26) *Mutatis mutandis*, people who generally behave altruistically and are seen as altruistic, short of contrary evidence, should have altruism attributed to them. This is perhaps more intuitive for vices, since appeals to nice motives, right beliefs, or whatever, are unlikely to hold of an abusive parent or partner, a cheat, or a psychopath.

Studies have found low *Conscientiousness* and *Agreeableness* to strongly correlate with academic dishonesty, a result confirmed by meta-analysis (Giluk and Postlethwaite 2015). Low *Agreeableness* is also an important predictor of vengefulness in romantic relationships (Sheppard and Boon 2012; Lee and Ashton 2012), as is Low *Conscientiousness* for infidelity (Orzeck and Lung 2005). Moreover, studies suggest that *Extraversion*, a seemingly less morally salient dimension, predicts sexual behaviour potentially harmful both to oneself and partners (Schmitt 2004; Miller et al. 2004). Additionally, low *Agreeableness* significantly predicts responsiveness to aggressive cues and proneness to aggressive behaviour (Meier et al. 2006), something also supported in meta-analyses (Jones et al. 2011). Lastly, *Agreeableness* has been found to predict obedience in a Milgram-type setup (Bègue et al. 2014).

Strong correlations between FFM traits and pathologies are also morally significant; as I mentioned earlier, the psychopath, plausibly the archetype of evil, has been found to be characteristically low in *Agreeableness* and *Conscientiousness*; and FFM traits correlate with, *inter alia*, Narcissism, characterised by (unjust) preferential treatment, and Machiavellianism, characterised by manipulateness (Lee and Ashton 2005).

This brief sample of findings doubtless reveals a morally salient aspect of FFM traits, at least on the level of behaviour. Doubting such salience, therefore, is not, I think, an option for those wishing to take psychological research seriously in discussing virtue ethics.

### *FFM, Moral Salience, and the Doctrine of the Mean*

Notice that the findings above, apart from clearly showing the moral salience of certain FFM traits, also hint at a resemblance between such traits and Aristotle's conception of the virtues as dispositions intermediate between two extremes—one of excess and another of deficiency—each of which is a vice, best known as the 'doctrine of the mean' (Aristotle 1998, 43-44). This is insofar as morally relevant behaviours (especially negative ones), are related to traits at either a high or low extreme of the relevant dimensions. In light of this, before concluding I would like to suggest that FFM traits recommend this structure by showing that three dimensions comprise traits conceptually related to virtues, whose extremes plausibly degenerate into vices, while the remaining two dimensions pertain to intellectual virtues. The discussion here is necessarily somewhat speculative, given the dearth of research on this matter. However, in conjunction with the foregoing, it should strengthen my case against situationism whilst pointing to potentially fruitful avenues for future research.

#### *(i) Neuroticism*

*Neuroticism* concerns one's threshold for fear, anxiety, and stress, which are among its facets. Aristotle defines courage as the mean "with regards to feelings of fear and confidence" (Aristotle 1998, 40). The courageous are not fearless—fearlessness precludes courage; nor are they so sensitive that their fear overcomes any desire or motivation to fend for their values. Fear is necessary for courage, which latter largely concerns how

much one fears what, and to what extent fear inhibits or motivates action relative to worthwhile ends. Some level of *Neuroticism*, then, is necessary for courage. Plausibly, however, too little *Neuroticism* may result in recklessness or rashness, whilst too much in cowardice. Thus, courage requires an intermediate level of *Neuroticism*.

(ii) *Agreeableness*

*Agreeableness*' facets include *empathy*, *altruism*, and *trust*. These look like virtues in their own right; even if this is denied, they relate to traits like friendliness and sociability, and are at least necessary for virtues like cooperativeness, love, and honesty. Considering how *Agreeableness* might feature in the doctrine of the mean is trickier. Low *Agreeableness* involves lack of empathy, altruism, and trust. As aforementioned, it relates to psychopathy, and plausibly also vices like callousness and hostility. As for high *Agreeableness*, a recent experiment with a Milgram setup found that subjects who administered the most severe shocks to confederates were those highest in *Agreeableness* (Bégué et al. 2014). Thus, even high *Agreeableness* can be vicious if cooperativeness and a desire to please turn into submissiveness. Empathy and altruism should be balanced against accurate perception of the beneficiaries and potential reasons for withholding pro-social behaviour.

(iii) *Extraversion*

*Extraversion* targets the enjoyment of pleasures, its facets including gregariousness and warmth, excitement- and pleasure-seeking. According to Aristotle, this sphere has its particular virtue, namely 'temperance', which requires neither excessive preoccupation with pleasures, particularly those of food, drink, and sex, nor indifference towards them. An indifference towards these would fall short of excellence, which requires an immersion in the full gamut of worthy human activity, of which pleasures form a considerable part. Moreover, such pleasures often accompany those of good company and collegiality, so that in

the sphere of social life insensateness can convert the prudent comrade into a miserly bore. Conversely, indulgence in pleasure, concomitant to high *Extraversion*, may degenerate into vice, behaviours stemming therefrom including excessive eating or drinking, but also, as indeed studies confirm, infidelity in romantic relationships, and sexual behaviour potentially harmful both for oneself and partners, all of which high *Extraversion* strongly predicts (Schmitt 2004; Miller et al. 2004; Orzeck and Lung 2005).

#### (iv) *Openness*

*Openness*' facets include imaginativeness, intellectual curiosity, and readiness to scrutinise established values. These are undoubtedly important and essential to virtue, though plausibly intellectual, rather than moral, virtue and, moreover, 'contemplative', as opposed to 'calculative', intellectual virtues, which concern truth, probing, searching, etc., rather than practical reasoning. Intellectual sluggishness, unimaginativeness, and stubbornness are the *prima facie* vices corresponding to low *Openness*.

Unlike the moral virtues, Aristotle did not accommodate the intellectual virtues in the doctrine of the mean, so I shall refrain from suggesting that they fit therein. That said, I have already noted that extremes of *Openness*, do wind up pathological, with schizotypy at the high end of *Openness*. Similarly, obsessive-compulsive personality disorder corresponds to very high *Conscientiousness*, which I shortly suggest is also plausibly linked to intellectual virtue. I am therefore sceptical that indiscriminately high levels of intellectually-relevant FFM traits cohere with virtue, though a fuller discussion of this will have to await a different occasion.

#### (v) *Conscientiousness*

*Conscientiousness* comprises, *inter alia*, self-discipline, perceived importance of fulfilling one's moral duties, and means-end reasoning aptitude. Such facets bring to mind Plato's

notion of *sôphrosunê*, which refers to ‘sound-mindedness’, ‘moderation’, ‘prudence’. *Sôphrosunê* concerns weighing one’s own strengths and weaknesses, ensuring that these factor into one’s responses and decisions, etc., and that one does not over- or under-react. *Conscientiousness* also resembles Aristotle’s notion of continence, or *enkrateia*, which, though not a virtue, like prudence, it keeps the virtuous from extreme behaviours through self-control. Low *Conscientiousness* can clearly lead to undesirable behaviours and seeing as it is strongly associated with addictive behaviours, including eating disorders, alcoholism, and gambling, it is implausible to sever it from virtue.

Finally, *Conscientiousness*’ relation to *sôphrosunê* and means-end reasoning aptitude also suggests a possible link to *phronêsis*. *Phronêsis* is the chief ‘calculative’ intellectual virtue, inasmuch as it pertains to the rationality of the structure of one’s motivation and deliberation, thereby sustaining moral virtue. *Conscientiousness* concerns, *inter alia*, one’s degree of emphasis placed on fulfilling moral obligations; strength of will in carrying out plans and actions despite difficulties; and one’s tendency and skill at reasoning prior to responding. While not exhausting *phronêsis*, since it also depends on knowledge acquired from experience, *phronêsis* presupposes these facets, albeit they have not been theorised under the present terminology and have largely been the focus of philosophical work. Thus, perhaps the FFM opens up the way for empirical research into *phronêsis*, promising further insights into virtue ethics.

## CONCLUSION

I have argued that the FFM overcomes problems confronting virtue ethics under a strong interpretation of situationism whereby situationism questions the widespread existence not of virtue and vices, but of character traits understood as temporally stable and cross-situationally consistent dispositions. Moreover, I have tried to show that the FFM dimensions may yet vindicate virtue ethics in meeting such requirements for virtues and vices as mal-



leability, moral salience, and in structurally resembling Aristotle's virtues and vices as per his doctrine of the mean. A promising descriptive framework is available; rather than wallow in scepticism, virtue ethicists should cooperate with personality psychologists to conceptually refine it and carve out an adequate normative proposal, while working on improving our understanding of how moral education is best achievable.<sup>15</sup>

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