Moral Understanding and Media: Meeting the Challenges of Interdisciplinary Research

Philosophers and other scholars have often claimed that the arts are not only cognitively valuable but also morally improving (e.g., Nussbaum, 1997). However, their arguments often proceed with little attention to empirical evidence. At the same time, filmmakers and media creators deliberately use devices to direct their audience's attention, with the intention of impacting viewers' cognitive, affective, and neurological responses in meaningful ways (Carroll & Seeley, 2013). Whether these devices have the desired effects, and on whom, also remains largely untested. If we want to understand the ways that film and media can have moral impacts, we must step out of our disciplinary siloes. It is not enough for film experts, philosophers, and experimentalists to merely take note of each other's work; collaborative interdisciplinary research is required, both to improve methods and to examine questions that have not yet been empirically explored.

In this article we propose a model for this kind of research, focusing on how media can influence moral understanding. We first outline the challenges that must be met for such research to be successful, including clarifying and operationalizing concepts, measuring moral understanding, and applying empirical methods to media and the arts. We then describe the advantages of interdisciplinary collaboration for meeting these challenges, in the context of some recent examples of interdisciplinary projects on related themes .

Clarifying Concepts

For any interdisciplinary project that brings together the arts and humanities with the sciences, the first step is to develop a shared grasp of key concepts. A common worry is that when abstract ideas are operationalized—reinterpreted to allow for measurement—their meaning is so changed that the results are irrelevant to the original question . When the

project requires operationalizing concepts deployed in other disciplines, the challenge is even greater, since there is often little agreement on the meaning of the concept, let alone how to measure the underlying phenomenon.

Here, we focus on the concept of *moral understanding*, the definition of which is in dispute among philosophers. According to one position, moral understanding is simply a capacity to acquire moral knowledge: specifically, to know right from wrong, regardless of the way we arrive at that knowledge (e.g., Sliwa, 2017). According to another position, understanding is distinct from knowledge and is instead constituted by a set of practical abilities, particularly those involved in moral reasoning (e.g., Hills, 2016). These differing interpretations would presumably be operationalized differently, in one case to test for the acquisition of a specific kind of knowledge, however obtained; in the other to test for various morally-relevant reasoning abilities. The editors of this special issue define moral understanding as "a deep set of inferences" that support abilities such as asking pertinent moral questions, engaging in moral reasoning, perceiving morally relevant features of the world, and making moral connections in our lives. We interpret this to mean that moral understanding is constituted by an underlying capacity that manifests in a variety of practical abilities.

It is worth noting that none of these accounts of moral understanding distinguishes between adults and children or focuses specifically on moral development. However, some psychologists contend that to apprehend what moral understanding is and how it is shaped over time, we must look to its origins in infancy and early childhood (Bloom, 2014; Gopnik, 2009). On this view, then, insofar as moral understanding is taken to be manifested by certain abilities, it would be necessary to identify developmental changes in those abilities.

Even focusing solely on adults, the question of how the abilities involved in moral understanding should be conceptualized is a matter of debate. For example, 'moral

perception', construed literally, entails that moral properties are genuine features of the world

and that they can be presented directly in sense experience; both claims are controversial.

Even those who accept them differ on the range of 'perception', for instance whether it is

restricted to the five senses (plus proprioception) or includes affective experience

(Drummond & Timmons, 2021). Similarly, 'moral reasoning' might refer to any process used

to make a moral judgment, including automatic or emotional responses (e.g., May, 2018;

May & Kumar, 2018); or it might be restricted to processes, such as inference-making, that

rely on reasons (e.g., Kolodny, 2005). Deciding on the scope of each ability has significant

implications for measurement. For example, many philosophers take *empathy* to play an

essential role in moral perception (e.g., Vetlesen, 1994; Werner, 2016) and moral judgment

(see Kauppinen, 2017, for an overview), but this could not be the case if either were

construed narrowly. Because many of the cognitive effects of media are plausibly due to

emotional engagement, for example feelings for characters, we would be inclined to adopt, at

least initially, a broad interpretation of these abilities that includes empathy.

Indeed, empathy provides a useful example of a contested concept, particularly in

relation to its impact on morality. Some philosophers have construed empathy as sharing

another's mental state or perspective—getting in "someone else's shoes"—which need not

involve affect. For example, Martha Nussbaum defined it "as the ability to imagine the

situation of the other, taking the other's perspective" (2013, 145; see also Walton, 2015).

Other philosophers consider empathy essentially to involve sharing another's affective state

(e.g., Plantinga, 1999; Coplan, 2011; Maibom, 2007). Among psychologists, no single

agreed-upon definition of empathy exists, and these conceptual ambiguities affect how

empathy is measured (Olderbak & Wilhelm, 2017). For example, Bal and Veltkamp (2013)

defined empathy as "the cognitive and intellectual ability to recognize the emotions of other

persons and to emotionally respond to other persons." This conceptualization was important

for them to interpret findings from their study examining how literature might enhance empathy, since it offered evidence that reading fiction (as opposed to nonfiction) increases empathy to the extent that the reader is emotionally transported or immersed in a story. These are but three of the eight distinct concepts of empathy in the literature identified by the psychologist Daniel Batson (2009).

As it happens, Nussbaum (2013) relied on Batson's (2011) research in arguing for the ethical import of literary narratives. She claimed that literary narratives are essential to a just society insofar as they enhance empathy, because empathy can generate compassion toward the unjustly oppressed and marginalized. The relevant studies showed that taking the imaginative perspective of someone else—what Nussbaum calls 'empathy'—increases *empathic concern,* which is what Batson himself terms 'empathy.' Importantly, Batson's studies were not designed to test this connection. Instead, he used perspective-shifting as one among other mechanisms to increase empathic concern, aiming to measure the relation between empathic concern and altruistic behavior. Batson's Empathy-Altruism Hypothesis, supported by his results, is that empathic concern generates altruistically motivated, prosocial behavior. For Nussbaum, this indicated a close connection between the imaginative perspective-taking prompted by literature on the one hand, and positive ethical attitudes and actions on the other. However, there is reason to be skeptical of a general connection. Some scholars doubt that literature systematically enhances either empathy or moral improvement (e.g., Currie, 2020). Even if it does, philosophers and psychologists have pointed out that empathy, understood in various ways, can also be immoral (Prinz, 2011; Bloom, 2017). For instance, empathy tends to be biased—we are more likely to empathize with those who are similar to us (Ferguson & Wimmer, 2023)—thereby potentially increasing prejudice against outgroups rather than reducing it (Bloom, 2017; Goffin & Friend, 2022; for responses, see Smith, 2023, and Vaage, 2023).

In sum, the conceptualization of moral understanding remains uncertain, with researchers querying its nuanced interpretation, developmental trajectory, the inclusion of empathy in its definition, and the extent to which it is influenced by engagement with the arts. An additional unresolved matter pertains to the measures that should be used to assess moral understanding, and we address these measurement questions in the next section.

Measuring Moral Understanding

Suppose that we have a working hypothesis about the specific abilities derived from our capacity for moral understanding. Assuming that the underlying capacity cannot be measured directly, it makes sense to measure the abilities indirectly instead. Such measurements would not, though, distinguish this conception from Hills's account, where there is nothing to moral understanding apart from the abilities themselves. For this reason, it would be important to seek evidence that the abilities correlate with each other to support the hypothesis that there is a single, underlying capacity of moral understanding.

When it comes to measuring the abilities, though, there are further challenges. The abilities are themselves underlying traits or dispositions, which means that we must measure their *manifestations*. This requires a shared concept, not only of each ability, but also of what constitutes an individual exercise thereof. Once there is agreement on this issue, the next question is how to measure such manifestations. Deciding on a measure, in turn, requires thinking through the kinds of circumstances in which the ability is likely to be exercised, and the differing degrees to which it might be manifested in those circumstances. Researchers typically select from existing measures. However, interpreting patterns of results using these measures is difficult due to differences in operationalizing the underlying concepts across disciplines. Empirical measures developed in the sciences don't always map directly onto the

same key concept as intended in the arts and humanities, because—as we've argued—the concept itself is defined differently within the different disciplines.

A further measurement issue arises with moral understanding specifically. As we have noted, a full account of moral understanding must also address development. So, to know how such understanding is influenced by media would require studying children at different stages of maturity, as well as adults. However, operationalization, measurement, and media selection present significant challenges when studying these effects across childhood. One reason is that experimental paradigms and measures that are appropriate for adults are typically inaccessible to children because of limitations in children's linguistic and cognitive abilities (see below).

To illustrate these measurement challenges, it is helpful to focus on one of the abilities listed above: moral reasoning. Philosophers typically construe moral reasoning as a kind of practical reasoning, that is, reasoning about what to do (Richardson, 2018). The majority of measures that have been developed to evaluate moral reasoning in adults present participants with ethical or moral dilemmas, such as the trolley problem (e.g., Bartels et al., 2015; Waldmann, Nagel, & Wiegmann, 2012), which typically ask whether one should harm an individual to save a larger group. Features of the resulting moral judgments are then assessed using questionnaires, interviews, and vignettes (see Martí-Vilar, Escrig-Espuig, & Merino-Soto, 2023, for a systematic review). However, the external validity of studies using such dilemmas—the extent to which the results can be generalized to explain situations other than those specifically tested—is questionable. Bauman and colleagues (2014) persuasively argued that studies using trolley problems are too unrealistic to explain real-world moral reasoning.

The lack of realism in many studies of moral reasoning can be resolved by deploying examples of the kinds of moral dilemmas that people confront in their ordinary lives. But that

would not address further issues arising from the ways in which participants' moral reasoning is then evaluated. Many common measures deploy Kohlberg's (1981; 1984) account of the stages of moral development, according to which positive moral development moves from reliance on self-interest, to concern for social norms, to invocation of universal ideals like justice (see Martí-Vilar et al., 2023). Since its inception this model has been criticized from a variety of perspectives, for instance by Carol Gilligan (1982), who objected that it assumed a masculine, justice-based ethics, relegating a feminine ethics of care to a lower stage of development (see Vitz, 1994, for an overview of early criticisms). Furthermore, many measures, including those that do not rely on Kohlberg's theory, ask participants to judge what someone *else* faced with a dilemma would do, which is distinct from reasoning about what they themselves should do (e.g., the Prosocial Moral Reasoning Objective Measure (Carlo, Eisenberg, & Knight, 1992) and the Defining Issues Test (Rest et al., 1999)). They also typically present participants with a list of potential reasons for judgments and ask them to rate their relevance and/or importance. However, evaluating presented reasons is distinct from producing reasons oneself. To measure the latter, Kohlberg originally assessed moral reasoning via interviews with open-ended questions (Colby & Kohlberg, 1987). This method, though, risks conflating the developing capacity for moral reasoning with the development of verbal skills (Elm & Weber, 1994).

If, after investigation, it turns out that existing measures are unsatisfactory, the next step would be to develop new measures that more accurately track the relationship between the ability to reason morally and the manifestation of that ability. New measures would require rigorous psychometric evaluation to ensure that they are reliable and valid, and these steps are typically time-consuming and resource-intensive (Boateng et al., 2018; Fenn, Tan, & George, 2020). However, we believe that these costs would be worthwhile to accelerate progress in the field. As new measures are developed and refined, regular dialogue between

collaborating philosophers and psychologists would ensure that a capacity like moral understanding is operationalised in a way that stays true to the original conceptualisation. Even if new measures can be developed, though, there are important questions to ask about the application of quantification and measurement to the arts.

The impact of art and media on moral understanding

In recent years, increasing access to digital media and the proliferation of content has prompted researchers to empirically test the cognitive, affective, and moral impact of engaging with film and media. This research has enhanced our understanding of the psychological and neural mechanisms that underlie human responses to media content, but also highlights challenges that arise when experimental questions concern the arts.

For example, Tan (2018) found that manipulations of sound and visual elements of the cinematic experience can trigger strong emotional responses in viewers, while Steffens (2020) found that exposure to different types of film music (e.g., uplifting *vs.* violent) influenced observers' later mood. However, artistic qualities that are relevant to film and media, such as creativity, emotional impact, and aesthetic value, are difficult to quantify using traditional numerical scales (Schindler at al., 2017) and can be subject to biases and low reliability when assessed through self-report measures, which is a commonly-used approach (Di Girolamo et al., 2017; Harrison et al., 2020). Artistic and moral experiences are also highly subjective, insofar as individual differences, such as personality traits and cultural background, can greatly influence individuals' interpretation of and responses to different kinds of media (e.g., Darda & Cross, 2022; Mastandrea et al., 2009). Differences in responses among individuals are constrained by the narrative and stylistic design of artworks, which have been shown to coordinate and synchronize attention across viewers (Smith & Henderson, 2008; Hasson et al, 2008). However, the further emotional and social effects of

this synchronization remain unexplored. Artistic communities can be particularly diverse and fragmented, making it challenging to establish representative samples for empirical studies or to achieve objectivity and replicability. As such, researchers need to strike a balance between capturing these subjective experiences to understand the variance and potential mechanisms, and applying standardized research methods that increase the reliability and generalizability of findings.

Problems with quantification and measurement are amplified due to the relatively small number of empirical studies directly testing the relationship between media and moral cognition, and because what has been done often lacks controls to eliminate confounding effects or alternative explanations, and/or relies on low sample sizes. For example, some studies have investigated how a person's experience of being absorbed in a story ('narrative transportation') or the extent to which they identify with the story character can lead to changes in attitudes towards different groups of people (Johnson, 2013; Vezzali et al., 2015), thereby reducing prejudice, enhancing social inclusion, and promoting social change. However, these studies focused exclusively on reduction, ignoring the possibility that the same mechanisms might also increase biases (Goffin & Friend, 2022).

Similarly, some research suggests that specific film genres (i.e., romance *vs.* action) elicit different moral intuitions and ethical decision-making (Grizzard et al., 2017), and that exposure to fictional narratives can increase peoples' ability to understand and respond to others' emotions and perspectives (Black & Barnes, 2021). But studies of this kind prompt debate about the optimal control conditions to enable reliable interpretation of experimental manipulations (e.g., Bal & Veltkamp, 2013; Moser, 2019). Researchers have typically compared the impact of specific media interventions with each other, with a similarly engaging activity, with no intervention, or between distinct groups of individuals. In the most comprehensive meta-analysis in this area to date, Wimmer et al. (under review), synthesized

effects from 69 experimental studies and 111 correlational studies on the cognitive benefits of reading fiction and found small but significant cognitive benefits from brief fiction reading assignments as well as higher lifetime exposure to written fiction. However, the meta-analysis revealed that benefits were not universal in nature: effects were consistently weaker/absent for moral cognition, and predictors differed across experimental *vs.* lifetime effects. It also highlighted problems with sample size across most studies, which lacked sufficient power to identify small and medium effects. The analyses show that researchers must carefully consider sampling strategies to ensure that findings are interpretable and relevant.

A different concern is overgeneralization. While some studies have highlighted the potential for media to promote social change and greater empathy (e.g., Murrar & Brauer, 2018; Petterson et al., 2022), one cannot assume that the results generalize, since the impact of media is likely influenced by multiple contextual factors. For example, the majority of research in this area has been conducted in controlled laboratory settings, which likely overlook the richness of real-world artistic experiences (see Hanich, 2018). Similarly, most intervention studies in this area have used just one film as a "case study" to demonstrate an empirical effect (e.g., Grall, Equita, & Finn, 2023; Kauttonen et al., 2018), which means that it is unclear whether the same pattern extends to other examples. Maintaining ecological validity while ensuring experimental control can be challenging, particularly when studying art that is embedded in specific cultural, social, or historical contexts. However, it is important that researchers consider these contextual factors when interpreting research findings.

Many of the challenges that characterize research with adults are brought into sharper focus when studying media effects in childhood. The effects of media on moral development are arguably of most interest in childhood and adolescence when moral understanding is

thought to be immature and malleable. Moral education is often an explicit goal of media directed at children (de Leeuw & van der Laan, 2017; Smith et al., 2006), and parents assume and report that prosocial media encourages prosocial behavior in their children (Evans et al., 2018; Mares, Bonus, & Peebles, 2022). Identifying how and when media promotes moral understanding for children is therefore of interest not only to researchers, but also to caregivers and educators. Yet as noted above, operationalization, measurement, and media selection pose particular challenges when studying children.

Tasks for young children often take the form of limited-choice behavioral measures in which moral understanding must be inferred indirectly. In most paradigms, children have an opportunity, following media viewing, to engage in prosocial behavior including helping, sharing, donating, and expressing empathic concern (e.g., de Leeuw & van der Laan, 2018; Mares et al., 2022). Others have measured children's prosocial attitudes and intentions by, for instance, asking children about their interest in playing with other-race friends as an indicator of stereotype reduction (Gorn, Goldberg, & Kanungo, 1976; Mares & Pan, 2013). A potential concern with prosocial behavior and intention tasks is their generalizability beyond the immediate context, as well as the duration of any effects.

Relatively few studies have directly measured children's moral understanding. These studies have employed explanation measures such as making judgments about moral dilemmas (Rosenkoetter, Huston, & Wright, 1990) and moral comprehension tasks in which children explain or select the moral of a narrative they have watched (Mares & Acosta, 2008). In addition to there being a dearth of studies deploying direct measures, existing paradigms do not enable comparisons across age groups (e.g., primary school *vs.* secondary school-age participants) that could identify different effects at different ages. Studies that compare across age groups also need to contend with differences in the nature and content of media designed for these different ages. One solution is to identify films or television

programs with high-level similarities in content and structure geared towards different populations (e.g., two films about characters that embody the same moral virtue).

Typically, experimental studies look only at immediate or short-term effects of media exposure on moral outcomes. However, to infer genuine ethical improvement, moral understanding should go beyond the short-term changes that can be measured immediately after media exposure, and instead assess the longer-term capacity characterized by the abilities described above: to ask moral questions, understand moral reasons, perceive morally relevant features of the world, and make moral connections. Studying the arts often requires examining artistic development and evolution over time: tracking artistic progress, exploring influences, and understanding the dynamic nature of artistic expression requires long-term engagement and extensive data collection. Therefore, a further point of interest, both in childhood and adulthood, is the cumulative effect of media exposure over time. Designing well-controlled longitudinal studies that consider development in cognitive, linguistic, and socio-emotional abilities, however, presents significant challenges due to their inherent complexity and resource-intensiveness. Thus, while empirical researchers recognize the value of such an approach, very few studies exist that have taken this longer-term strategy.

Moving forward: An interdisciplinary collaboration framework

We believe that collaborative interdisciplinary research has the potential to address at least some of the many challenges outlined above. By integrating different perspectives and approaches, it should be possible to provide a more nuanced account of the impact of media on our moral understanding and development. In what follows we describe some examples of successful interdisciplinary collaboration on related topics, highlighting the advantages of such an approach and offering practical guidance to others who wish to pursue it.

First, combining work across disciplines forces us to think about the language we use to describe concepts, to consider what exactly our terms mean and how they can be measured. This enables researchers in different disciplines to develop a shared conceptual understanding, which can in turn contribute to the wider literature. Although a shared conceptual understanding is difficult to attain, operationalizing concepts without it significantly reduces the relevance of results outside a narrow domain. A good example is provided by a recent project that brought together philosophers and psychologists to develop, validate, and disseminate new measures of intellectual humility (Haggard et al., 2018).[1] Previous measures in psychology had contrasted intellectual humility only with arrogance or dogmatism (e.g., Hoyle et al., 2016; Krumrei-Mancuso & Rouse, 2015; Leary et al., 2017). However, virtue epistemologists have argued that it must also be distinguished from either gullibility or unjustified doubts (e.g., Baehr, 2011; Carter & Gordon, 2014). The philosophers on the project provided an analysis of the virtue as "owning" one's intellectual limitations, along with predictions about what would constitute manifestations of the virtue (Whitcomb et al., 2015). The psychologists, in consultation with the philosophers, deployed this as a basis for a new measurement scale (Haggard et al. 2018). This measurement has been used in a variety of further studies, including for detecting political misinformation in online media (Koetke et al., 2023).

This example provides a useful framework for developing shared concepts. The authors of the present paper apply this framework to *open-mindedness*,[2] for which existing measures rely primarily on a narrowly doxastic conception of the virtue, focused on attitudes toward beliefs and opinions (e.g., Stanovich & West, 1997; Price et al., 2015; Stanovich & Toplak, 2023). Although this conception of open-mindedness was prominent in earlier

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philosophical discussions (e.g., Hare, 1979), more recent accounts, such as Jason Baehr's (2011) proposal that open-mindedness involves transcending one's own perspective, provide a better starting point for thinking about the effects of art and media. One direction of research is to determine the extent to which open-mindedness in the doxastic sense—as measured by, say, openness to new evidence (e.g., Galinsky & Moskowitz, 2000) or the need for cognitive closure (e.g., Kruglanski et al., 1993)—correlates with characteristics of open-mindedness in a broader sense, such as creativity, imaginative ability, openness to new experiences, and self-transcendence. The same kind of approach could foster a shared concept of moral understanding and its component abilities.

Another benefit of interdisciplinary collaboration concerns measurement. On the one hand, humanities and arts scholars must identify the practical implications of their theories to enable measurement; on the other, psychologists must consider whether and how they are measuring those implications. As noted above, studies of the impact of reading fiction on cognitive, social, and moral cognition have been flawed in various ways. One problem has been the tendency to draw conclusions about fiction in general from comparing the effects of narrative fiction to expository nonfiction (e.g., Bal & Veltkamp, 2013). Philosophers and other scholars systematically distinguish between fictionality and narrativity (e.g., Friend 2008, 2012; Smith, 2009), making it crucial to determine whether any effects are due to one or the other (see also Mar, 2018). With that in mind, researchers on a project on learning from fiction (including two of the present authors) designed studies that systematically contrasted the impacts of narrative fiction, narrative nonfiction, and expository nonfiction to ensure that they were measuring the right thing.[3] Developing studies to measure moral understanding

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[3] Leverhulme Trust Research grant, 'Learning from fiction: a philosophical and psychological study', RPG-2017-365.

will also require careful attention to the similarities and differences in the media used for experimental purposes.

A further advantage is that scholars in the humanities and arts may already have detailed theories that can be modeled and tested using experimental methods. These theories often include speculations about the mechanisms—the techniques and forms used in different media—that influence the ways in which we engage with the arts, and thus how art and media can impact us. For example, a familiar idea in art theory, originating with the Russian formalists in literature, is that art characteristically generates "defamiliarization": rendering the familiar strange through the use of various formal techniques, and thereby opening our minds to new aspects of the world (Shklovsky, 1925/1993). This theoretical proposal can be tested by studies that manipulate the formal complexity of an artwork and compare effects on measures of open-mindedness. By drawing on these existing resources, empirical scientists acquire a clearer (less biased or exploratory) plan to manipulate features experimentally along with testable hypotheses for experiments. The features in question might be medium-specific, since the techniques comprising, for example, literary, filmic, televisual, and cartoon narrative will be overlapping but distinct sets. For example, it is plausible that the perspective from which we learn about a character (e.g., their own or another's perspective, informed by a sympathetic, hostile, skeptical, or neutral attitude, and so on) plays a role in our feelings toward or identification with the character, which in turn could mediate effects on moral understanding. Yet perspective is determined differently in different media: linguistically in literature, visually in pictures, and so on.

For this reason, when the researchers in the project on learning from fiction examined how differences in perspective within a literary text might influence social and moral cognition, they were careful to follow Genette (1980) in distinguishing between two dimensions of perspective characteristic of literary texts: narrative 'voice' (who tells the

story) and narrative 'focalization' (the point of view as determined by access to information). These come apart most notably in the use of free indirect discourse, in which a third-person narrator (voice) provides "inside views" of a character's thoughts (internal focalization), for instance: "The doctor examined the patient now. What a sprightly old fellow!" Although this distinction has become canonical within narrative theory following Genette (see e.g., Fludernik, 2001; Currie, 2010), empirical investigations had almost exclusively studied manipulations of voice, assuming that this was sufficient for testing perspective (e.g., Van Lissa et al., 2016; Hartung et al., 2017; Creer et al., 2020; Samur et al., 2020; an exception is Salem et al., 2017). In their interdisciplinary study, the researchers manipulated both voice and focalization in a short story, creating versions for three conditions: third-person narration with internal focalization (the original story); first-person narration with internal focalization; and third-person narration with external focalization (that is, without access to a character's thoughts; Wimmer et al., 2021).

An additional benefit of interdisciplinary collaboration is that it forces researchers across disciplines to reconsider their standard approaches. For example, insofar as the characteristics that are of interest in the arts and humanities tend to be those, like moral understanding, that develop gradually over time, cross-disciplinary research can encourage experimentalists to tackle the challenges of examining longer-term perspectives, building on the investigation of short-term effects and moment-by-moment processes and behaviors that have dominated experimental work to date. At the same time, scholars in the arts and humanities have focused almost exclusively on the features of literature, film, and other media that (it is claimed) render them morally or cognitively valuable—that is, apt to produce certain positive effects in recipients (for overviews, see Gaut, 2003; Gibson, 2008; John, 2013). Less attention has been paid to whether and how those effects actually occur. Collaboration with experimentalists shifts the focus to those effects, as well as to the

individual differences that explain why they might occur in some people and not others. It can always turn out that empirical results conflict with the expectations of researchers in other disciplines; but how to interpret this conflict—whether it suggests a flaw in the theory or the operationalization, or something else entirely—is best addressed collaboratively. In short, when disparate research traditions, working on a common topic but in a mutually blind fashion, are brought into dialogue with each other, one positive upshot is consideration of *which aspects* of a given problem each tradition or method is addressing, and how these different approaches might be complementary (rather than contradictory or incommensurate).

A good illustration comes from an interdisciplinary study of *villain positivity*, that is, positive feelings about villainous characters, on which one of the present authors collaborated (Kjeldgaard-Christiansen et al., 2021).[4] The examination of reader and viewer responses to characters, traditionally framed in terms of audience "identification," has long been a topic in philosophy, film studies, and literary theory, as well as in media psychology and communication studies. But there has been limited meaningful dialogue across these traditions. Thus an essential early step in this project involved the clarification and coining of the core concept, 'villain positivity,' and the integration of ideas from different disciplines about when appreciators adopt a favorable stance towards characters in general, and immoral characters in particular. The increasing prominence of anti-heroes or "rough heroes" (Hume, 1757/2015; Eaton, 2012) as a character type in prestigious television series—such as *The Sopranos*, *Breaking Bad*, and *Peaky Blinders*—provides a vivid case in point, and directs our attention to an especially puzzling response: We seem to root for and even celebrate such morally appalling figures as Tony Soprano (Smith, 2011), despite recognizing their immorality. Why? This problem is sharpened when we consider that outright villains, whose function in a narrative is to act as the immoral antagonist to the morally good protagonist-

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[4] 'Dark Personalities, Dark Characters' project funded by the Interacting Minds Centre at Aarhus University.

hero, are nonetheless often iconic, celebrated figures. What can explain this inversion of narrative and moral order—that the figure designed to trigger disapproval sometimes ends up an object of pleasure and sympathy?

Within the arts and humanities, the orthodox way to answer such questions is to analyze the work. Thus, most of the existing research on affective responses to character in these disciplines has focused on the structure and style of films, TV series, videogames, novels, and so on, and on what kind of response they seem designed to elicit. Detailed analysis of the structure and style of *The Sopranos*, for example, suggests that we are not simply invited to sympathize, wholesale, with the show's anti-heroic protagonist; instead, the series shifts its implied stance—and the one it invites the viewer to adopt—towards Tony Soprano between sympathy and antipathy (Smith, 2011; García, 2016; Vaage, 2016). What this approach does not address, however, are variations in attitude driven not by the design of the work, but by the disposition of viewers (considered individually, or as members of social groups).

With that in mind, the interdisciplinary team proposed as their primary hypothesis that sympathetic responses to villains might be due, at least in part, to the personality dispositions of certain types of viewer: in other words, that "some individuals may come to engage positively with villainous characters because *they are like them*, that is, because they share the villains' immoral outlook to some degree" (Kjeldgaard-Christiansen et al., 2021, p. 2). The study also considered an alternative hypothesis: that positivity towards villains was to be explained, not by their immorality, but by their "agentic" attributes, that is, their autonomy, competence, mastery, and social status. Statistical analysis of the survey results ($N = 1805$) supported the primary hypothesis: respondents scoring highly on the Dark Triad of personality traits (narcissism, Machiavellianism, psychopathy) were indeed much more likely to report a positive disposition towards villains. In this way an approach rooted in personality

psychology makes a contribution complementary to the analysis of structure and style noted above, revealing that a certain type of viewer is likely to respond to a work "against the grain" of its design. The result does not erase what we know about such works from analysis of their structure and style, but rather amplifies our overall understanding of them and the audiences that engage with them.

This study also highlights potential manipulations that could be relevant to measuring moral understanding, specifically those related to the parameters of character design. For example, characters can be made more or less *central* to a narrative; they can be made more or less *morally sympathetic*; and their attributes, moral and otherwise, can be rendered more or less *ambiguously* (Smith, 2022). Each of these parameters can be individually tested for their impact on the component abilities of moral understanding (operationalized and measured in the manner discussed above); moreover, we can test for interactive effects. In addition, drawing on the paradigm of personality psychology analysis, we can empirically investigate the relationship between different types of viewer and different types of character. For Dark Triad viewers, for example, does it make any difference to moral understanding if the central character in a narrative work is morally ambiguous? If it does, does that difference hold for viewers with a different balance of personality traits? And so on.

Finally, we note the significant role that interdisciplinary collaboration can play in disseminating ideas and generating impact and public engagement. Working across disciplines encourages researchers to maintain a broader context of understanding, guided by questions that are relevant to a range of interests. This, in turn, prevents our getting bogged down in details that would concern only a restricted group of scholars, and encourages us to communicate clearly across different academic disciplines and the wider interested public. When it comes to dissemination, it is essential to write both for *intra*disciplinary audiences— to draw the attention of colleagues focused narrowly in one discipline to the contributions of

other disciplines—and in *inter*disciplinary venues. Researchers can thereby increase awareness of the value of interdisciplinary collaboration.

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