

## CHAPTER 10



# Getting Emotions Right in Moral Psychology

Piercarlo Valdesolo

### **How can moral psychology use more nuanced and developed theories of emotion to inform its process models?**

Close attention to how modern affective science has divided the landscape of emotions can not only help more accurately map the moral domain, but also help solve current theoretical debates.

Over the past two decades, theorists have begun to emphasize the importance of emotion to moral judgment. But moral psychology continues to be in need of more nuanced and developed theories of emotion to inform its process models. This chapter argues that (1) as models of moral judgment afford increasingly prominent roles to emotion, any attempt at mapping the moral domain requires closer attention to the state of cutting-edge affective science and (2) in doing so, theorists will be able to learn from some of the problems associated with dominant competing theories of emotion and avoid co-opting them into competing theories of what best defines morality. I highlight one way in which this may be happening in current popular theories of morality and adopt a particular critique from affective science to offer a potential theoretical resolution.

Specifically, this chapter focuses on how the modern debate between “construction-

ist” (Barrett, 2006; Clore & Ortony, 2013; Cunningham, Dunfield, & Stillman, 2013; Lindquist, 2013; Russell, 2003) and “basic” (Ekman & Cordaro, 2011; Izard, 2011; Keltner, Haidt, & Shiota, 2006; Levenson, 2011; Panksepp & Watt, 2011) theories of emotion has crept into debates over taxonomies of moral concerns (Cameron, Lindquist, & Gray, 2015; Graham et al., 2013; Gray, Young, & Waytz, 2012). Arguments as to whether emotions are best described as distinct causal mechanisms that demonstrate consistent and specific relationships with outputs (e.g., innate and universal affect programs for disgust, anger, fear) or as arising from more general combinatorial processes (e.g., core affect and conceptual knowledge) have been adapted to argue for mapping morality as either specific correspondences between moral content and psychological experiences (e.g., innate and universal responses to violations of purity

or loyalty) or as involving a combination of more elemental affective responses and conceptual knowledge relevant to moral concerns (e.g., core affect and knowledge about dyadic harm).

In doing so, however, important lingering questions associated with these theories of emotion have also been borrowed. Most crucially for this debate in moral psychology is the question of what version of basic emotion theory (BET) moral psychologists are adopting. Recent constructionist critiques pose fatal problems for some versions of BET (Lindquist, Wager, Kober, Bliss-Moreau, & Barrett, 2012) but are only questionably relevant to others (cf. Scarantino & Griffiths, 2011; Scarantino, 2012a, 2012b). Therefore, the viability of categorical approaches to mapping the moral domain rests at least in part on where their allegiances lie in affective science.

This chapter argues for more specificity on the part of moral psychologists on both sides of this debate. Those adopting the theoretical approach of basic emotion theory to argue for pluralist models ought to be clearer on the version of BET to which they subscribe, and those adopting a constructionist approach to argue for primitivist models ought to acknowledge the current limitations of their critique to only certain versions of moral pluralism.

### The Role of Emotions in Modern Moral Psychology

Although few theorists now cling to models of morality that do not posit important causal roles for emotions, the complexity with which these models define the relationship between emotions and morality varies substantially. Early theories were mostly concerned with demonstrating simply *that* emotional processes are causally related to moral judgments, and so were understandably vague as to precisely *how* this relationship unfolded and as to the particular definition of emotion they adopted. For example, the two articles largely credited for ushering in a surge of interest in the role of emotions in moral decision making (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001) seemed to focus solely on the

role of affect. In the social intuitionist model (SIM), Haidt (2001) offered the following account of a *moral intuition*:

... can be defined as the sudden appearance in consciousness of a moral judgment, including an affective valence (good–bad, like–dislike), without any conscious awareness of having gone through steps of searching, weighing evidence, or inferring a conclusion. . . . One sees or hears about a social event and one instantly feels approval or disapproval. (p. 818)

Similarly, the affective route in Greene's dual-process model is defined by an intuitive *good–bad* or *like–dislike* feeling state. Throughout much of the research that built upon these theories, it remained unclear how emotional states beyond mere valence might influence moral judgments and what theories of emotion the researchers might be adopting.

Other models of morality have posited more specific relationships between the kinds of eliciting situations people encounter, the discrete emotions they experience, and the moral judgments they subsequently make (Graham et al., 2013; Horberg, Oveis, Keltner, & Cohen, 2009; Russell & Giner-Sorolla, 2013; Rozin, Lowery, Imada, & Haidt, 1999). These theories argue that discrete emotional states are preferentially linked with specific categories of moral concerns (e.g., anger with harm, disgust with purity) and emphasize the specificity and consistency of this link.

These kinds of categorical approaches to linking moral concerns with emotional responses have been labeled *whole-number* accounts of morality (Cameron, Payne, & Doris, 2013), the most well known of which is moral foundations theory (MFT; Haidt & Joseph, 2004; Graham, Haidt, & Nosek, 2009; Graham et al., 2011; Graham et al., 2013). MFT was specifically developed as an elaboration on the SIM. Graham et al. (2013) offer the following explanation:

There is not just one moral intuition—a general flash of “wrongness”—just as there is not one taste receptor on the tongue whose output tells us “delicious!” Rather, we posit that there are a variety of rapid, automatic reactions to patterns in the social world. When we detect such patterns, moral modules fire, and a fully

enculturated person has an affectively-valenced experience. Not just a feeling of ‘good!’ or ‘bad!’, but an experience with a more specific ‘flavor’ to it, such as ‘cruel!’, ‘unfair!’, ‘betrayal!’, ‘subversive!’, or ‘sick!’ (pp. 109–110).

But what theory of emotion takes you from the SIM, identifying the role of mere pleasure or displeasure at an eliciting situation, to MFT, in which the more specific affective flavors such as *compassion*, *anger*, or *disgust* are linked to specific concerns such as harm and purity? Either implicitly or explicitly, these whole-number approaches ground their view of emotion in some version of BET.

### Basic Emotions and Moral Foundations

MFT argues for the existence of moral foundations composed of innate cognitive mechanisms that are responsive to a set of particular adaptive concerns relevant to social living (e.g., protecting children, forming coalitions). These mechanisms are triggered by particular social cues (e.g., distress, cheating, uncleanness), and in turn they trigger psychological responses, including characteristic emotional states, geared toward motivating adaptive behavioral responses. In keeping with BET, these characteristic emotions represent distinct biological mechanisms thought to “prompt us in a direction that, in the course of our evolution, has done better than other solutions in recurring circumstances” (Ekman & Cordaro, 2011, p. 364).

Critics of whole-number approaches to morality, however, have argued that it is precisely this conceptual reliance on BET that is problematic (Cameron et al., 2013; Schein & Gray, 2015; Gray & Keeney 2015a; Gray, Young, & Waytz, 2012; Cheng, Ottati, & Price, 2013). These researchers argue that in adopting this theory of emotions, any theory of distinct moral domains rests on an empirically untenable basis. Specifically, given that there is no good evidence showing that discrete emotions reflect “affect programs” or any other kind of *consistent* and *coordinated* affective response specific to particular kinds of adaptive challenges, then there will likely be no solid empirical basis for accepting the existence of consistent and coor-

dated psychological responses to discrete moral concerns.

### What Defines a Whole-Number Approach?

Cameron, Lindquist, and Gray (2015) describe whole-number accounts as positing “a core number of evolved and encapsulated mental mechanisms corresponding to ‘foundational’ moral content . . . and ‘basic’ emotions” (p. 372). This views MFT as predicting an *exclusive* and *local* relationship between moral content and discrete emotions. Discrete emotions should be consistently and specifically evoked by distinct moral domains. For example, disgust should be evoked for *every* instance of a purity violation, and disgust should be evoked *only* for instances of purity violations. This is what is meant by a *one-to-one* mapping between psychological responses and moral foundations. Importantly, this characterization implies that even if specific emotions are preferentially linked with moral foundations (e.g., purity corresponds with disgust *more* than with anger, and harm corresponds with anger *more* than with disgust), this would still “contradict the fundamental assumptions underlying whole number accounts” (Cameron et al., p. 8). Such “softer” theories are dismissed as predicting an exclusivity that is “far from the exclusivity posited by whole-number accounts” (p. 9).

In short, constructionists argue that whole-number frameworks by definition cannot explain any meaningful overlap between moral content and emotional responding. If harm and purity violations are found to trigger both anger and disgust, even if there may be meaningful differences in effect sizes in the direction predicted by whole-number theories, then such variability must be treated as error and cannot be accommodated by the theory. Put simply, “moral infractions are thought to activate one moral concern and not others” (Schein & Gray, 2015, p. 1151).

### Constructionism Defeats This Whole-Number Approach

On this characterization of MFT, constructionists only need to demonstrate that some

meaningful amount of within-domain variability in emotional responding exists; that, for example, “harm and purity . . . involve substantial internal variability and large overlap with other kinds of moral content” (Cameron et al., 2015, p. 7). This has been the approach of the constructionist critique in emotion research, and it has largely been successful in accumulating relevant evidence (Barrett, 2006; Barrett, Mesquita, Ochsner, & Gross, 2007; Kassam, Markey, Cherkassky, Loewenstein, & Just, 2013; Lindquist, 2013; Lindquist et al., 2012). Constructionist models, at their core, are “inspired by the observation of variability in emotional responding and the failure of basic emotion approaches to account for this variability” (Barrett, 2009, p. 1290). Similarly, moral constructionists successfully adopt this rhetorical and empirical strategy by amassing a substantial body of research arguing against one-to-one mapping of moral content and emotional responding (cf. Cameron et al., 2013; Cheng, Ottati, & Price, 2013; Gray & Keeney, 2015a; Schein & Gray, 2015). Indeed, if whole-number approaches to morality are committed to theoretical assumptions predicting one-to-one mapping, then their empirical prognosis is grim, and they likely need revision.

### **But Is This the Whole Number Approach Adopted by MFT?**

But of central importance to applying this critique to theories such as MFT is whether whole-number models of morality are indeed of the sort that constructionists describe. Whole-number approaches have not been particularly clear on the extent to which they adopt traditional BET as a theoretical framework. At times, moral modules are conceived of in similar ways to traditional BET—that is, as “little switches in the brains of all animals,” triggered by specific moral inputs (Haidt, 2012, p. 123). But there is at least some indication that the theory might not entail the strong view constructionists ascribe to it. Writing about the link between the content of particular sociomoral concerns and subsequent emotional responses, Horberg, Oveis, and Keltner (2011) write: “We therefore expect to observe domain specificity effects, wherein a distinct emotion

*predominantly* influences moral judgments about issues that express the associated concern” (p. 239; emphasis added). Graham et al. (2013) describe moral foundations as adaptive modules but resist saying that this entails a view of “fully encapsulated entities with fixed neural localizations” (p. 62). And most recently, Graham (2015) acknowledges that “evidence for cognitive differences does not preclude there also being similarities, and evidence for cognitive similarities does not preclude there also being differences” (p. 872).

These statements suggest that the theory allows for overlap in emotional responding to moral concerns and that it might not be committed to the kind of one-to-one mapping of traditional BET. But if this is the case, would it indeed contradict the fundamental assumptions involved in whole-number accounts? Constructionists certainly think so: “Cognitive modules are *by definition* opposed to domain general processes that cut across content” (Gray & Keeney, 2015b, p. 875), and any whole-number account that acknowledges meaningful variability must be “internally inconsistent” (2015b, p. 876).

On this account, the only theoretical framework that can accommodate variability between moral content and emotional responding is constructionism. But what are the fundamental assumptions constructionists take whole-number accounts to be making? And might constructionist critiques be hasty in concluding that all whole-number accounts are bound by them?

If so, there may be versions of whole-number theories that can retain the central theoretical commitments of a basic emotions approach, defined by an emphasis on the specific correspondences between moral content and emotional responding, even in the face of evidence of within-domain variability. Such an approach to mapping the moral landscape would both acknowledge the modern constructionist critique and still predict meaningfully specific, consistent, and ontologically distinct cognitive mechanisms underlying moral domains and discrete emotional responses.

A consideration of how modern affective scientists have been attempting to reconcile constructionist and basic theories of emotion can highlight a more productive path forward for moral psychologists. I highlight

one such way in the remainder of this chapter.

### A Revised BET as a Foundation for MFT

Constructionist critiques assume commitment to what Scarantino has termed “radical locationism” (2012c). Specifically, that is that “discrete emotions consistently and specifically correspond to distinct brain regions. A brain region corresponds to an emotion *consistently* just in case it shows increased activation for every instance of that emotion, and *specifically* just in case it shows increased activation only for instances of that emotion” (2012c, p. 161). And for good reason. These are precisely the kinds of claims traditional basic emotion theorists have made. Ekman and Cordero (2011) argue that basic emotions are evolutionarily shaped, biologically prewired, and psychologically primitive responses that are elicited by automatic appraisals and generate automatic and mandatory response patterns in the brain.

But the viability of a theory of basic emotions, and therefore any theory of morality rooted in BET, need not be yoked to only *this particular version* of BET. Basic emotion approaches can come in different flavors, some more vulnerable to constructionist critiques than others. And a revised BET, not committed to radical locationism, might well provide a strong empirical basis for theories positing ontologically distinct content–emotion links in moral psychology. Therefore, the viability of categorical approaches to morality rests at least in part on where their allegiances lie in affective science. What might such a revised BET look like? And do whole-number approaches in morality seem amenable to adopting such a revision?

### Essentialist versus Anti-Essentialist Assumptions in Whole-Number Theories

When constructionists argue against radical locationism, they are resisting the modeling of discrete emotions as *natural kinds*:

Natural kind models of emotion not only assume that there are distinct profiles of re-

sponses to characterize each kind of emotion, but they also assume that these responses are caused by distinct emotion mechanisms. The causal mechanism for *anger* is presumed responsible for the coordinated package or correlated set of features that constitute an anger response. (Barrett, 2006, p. 31)

This same resistance drives constructionist critiques of morality: “harm and purity are not unique moral mechanisms” (Cameron et al., 2015, p. 377). And a lack of evidence for these kinds of distinct causal mechanisms for emotions and moral domains prompts constructionists toward the *primitivist* conclusion: “that there are no natural kinds of emotion/anger/fear/etc.,” and, therefore, researchers should “search for natural kinds at the level of primitive components of discrete emotions” (Scarantino, 2012a, p. 364). Constructionists see whole-number categories as merely descriptively different but nonetheless unified by an underlying psychological mechanism (e.g., concerns about harm) and warn against confusing “practically useful categories with ontologically distinct cognitive processes” (Cameron et al., 2015, p. 377). For example, just as ice and steam are descriptively distinct but nonetheless unified by the same underlying essence (water), distinctions between discrete emotions and moral domains may be practically useful, but they do not reflect ontologically distinct processes and therefore do not qualify as natural kinds (cf. Gray, Young, & Waytz, 2012, p. 102.).

But this is an *essentialist* view of what constitutes a natural kind, and, at least according to some theorists, it may be well suited for the chemical and physical sciences but not necessarily the biological and social sciences (Boyd, 1999; Machery, 2005; Samuels, 2009; Wilson, Barker, & Brigandt, 2007). The latter are best described by an *antiessentialist* approach in which “variability among kind members is the norm, borderline cases often emerge, and generalizations tend to be exception-ridden and only locally valid” (Scarantino, 2012a, p. 365).

Adopting an antiessentialist definition of natural kinds renders the lack of evidence for one-to-one mapping of emotions to underlying mechanism, and moral content to emotion, irrelevant to the question of the

viability of all whole-number approaches to emotions or morality. On this approach, there is no good reason for predicting exclusive and local causal mechanisms, either for discrete emotions or for moral domains. The only criteria that need be demonstrated in order to qualify as a natural kind are that the categories in question have “demonstrable explanatory and predictive value in their respective domains” (Scarantino & Griffiths, 2011, p. 451). This view allows whole-number theories to account for within-category variability while still predicting the existence of natural kinds that reflect domain-specific, as opposed to domain-general, mechanisms.

This reconceptualization also allows for the existence of natural kinds at multiple levels of analysis. The essentialist commitment of constructionists compels them to search for natural kinds solely at the level of “the most basic psychological descriptions that cannot be further reduced to anything else mental” (Lindquist et al., 2012, p. 124). But antiessentialism allows for the existence of natural kinds at any level of analysis so long as they satisfy the criterion of predictive power.

So important questions for moral psychologists assessing the viability of whole-number theories become not whether moral domains consistently and specifically activate unique psychological responses; nor whether perceptions of a more general concern, such as harm (Gray, Schein & Ward, 2014; Schein & Gray, 2015), superordinate all judgments of moral wrongness; nor what kind of process constitutes the true “essence” of morality (Gray, Young, & Waytz, 2012; Graham & Iyer, 2012). Rather, the focus becomes solely whether categories of moral concerns can provide explanatory value above and beyond domain-general processes. Such categories can, in theory, be both practically useful and ontologically distinct. Domains such as harm and purity can both reflect unique moral mechanisms and demonstrate meaningful overlap with other kinds of moral content. If this is the kind of framework within which modern whole-number theorists in morality operate, then the constructionist critique can be accommodated.

## Conclusion

As theories of moral psychology afford greater causal roles to emotions, the need to specify a theoretical framework for emotions has increased. This is particularly true for researchers interested in the question of how to best scientifically define and search for evidence of whole-number models of morality. The debate in modern affective science between constructionist and BET models can guide such a pursuit, not only by providing insight into that state of empirical support for such kinds of whole-number theories but also by recommending a way forward that avoids some of the conceptual ambiguities associated with advocating for one view or another.

Whole-number advocates ought to be clearer on their fundamental assumptions and situate their theory with respect to current models of emotion. If it is committed to traditional BET and an essentialist view of natural kinds, then the constructionist critique applies, and MFT needs to be revised in light of the compelling evidence from both affective science and moral psychology against the kind of radical locationism it would predict. However, if whole-number theories adopt a revised version of BET built on antiessentialist assumptions, then they can predict a level of functional specialization for domain-specific mechanisms that does not involve radical locationism and allows meaningful variability. On this account, finding significant overlap between different moral content and discrete emotions would not contradict the fundamental assumptions underlying whole-number accounts. Indeed, it would be precisely the level of exclusivity such accounts would expect. Most important, clarifying this theoretical issue could shift the focus of empirical research entirely toward testing this revised view of functional specialization, as opposed to arguing against a framework that moral psychologists may not be adopting.

## REFERENCES

- Barrett, L. (2006). Are emotions natural kinds? *Perspectives on Psychological Science*, 1(1), 28–58.

- Barrett, L. F. (2009). Variety is the spice of life: A psychological construction approach to understanding variability in emotion. *Cognition and Emotion*, 23(7), 1284–1306.
- Barrett, L. F., Mesquita, B., Ochsner, K. N., & Gross, J. J. (2007). The experience of emotion. *Annual Review of Psychology*, 58, 373–403.
- Boyd, R. (1999). Homeostasis, species, and higher taxa. In R. A. Wilson (Ed.), *Species: New interdisciplinary essays* (pp. 141–185). Cambridge, MA: MIT Press.
- Cameron, C. D., Lindquist, K. A., & Gray, K. (2015). A constructionist review of morality and emotions: No evidence for specific links between moral content and discrete emotions. *Personality and Social Psychology Review*, 19(4), 371–394.
- Cameron, C. D., Payne, B. K., & Doris, J. M. (2013). Morality in high definition: Emotion differentiation calibrates the influence of incidental disgust on moral judgments. *Journal of Experimental Social Psychology*, 49(4), 719–725.
- Cheng, J. S., Ottati, V. C., & Price, E. D. (2013). The arousal model of moral condemnation. *Journal of Experimental Social Psychology*, 49(6), 1012–1018.
- Clore, G. L., & Ortony, A. (2013). Psychological construction in the OCC model of emotion. *Emotion Review*, 5(4), 335–343.
- Cunningham, W. A., Dunfield, K. A., & Stillman, P. E. (2013). Emotional states from affective dynamics. *Emotion Review*, 5(4), 344–355.
- Ekman, P., & Cordaro, D. (2011). What is meant by calling emotions basic. *Emotion Review*, 3(4), 364–370.
- Graham, J. (2015). Explaining away differences in moral judgment: Comment on Gray & Keeney (2015). *Social Psychological and Personality Science*, 6(8), 869–873.
- Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Moral foundations theory: The pragmatic validity of moral pluralism. *Advances in Experimental Social Psychology*, 47, 55–130.
- Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, 96(5), 1029.
- Graham, J., & Iyer, R. (2012). The unbearable vagueness of “essence”: Forty-four clarification questions for Gray, Young, and Waytz. *Psychological Inquiry*, 23(2), 162–165.
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of Personality and Social Psychology*, 101(2), 366.
- Gray, K., & Keeney, J. (2015a). Impure, or just weird?: Scenario sampling bias raises questions about the foundation of morality. *Social Psychological and Personality Science*, 6(8), 859–868.
- Gray, K., & Keeney, J. E. (2015b). Disconfirming moral foundations theory on its own terms: Reply to Graham (2015). *Social Psychological and Personality Science*, 6(8), 874–877.
- Gray, K., Schein, C., & Ward, A. F. (2014). The myth of harmless wrongs in moral cognition: Automatic dyadic completion from sin to suffering. *Journal of Experimental Psychology: General*, 143, 1600–1615.
- Gray, K., Young, L., & Waytz, A. (2012). Mind perception is the essence of morality. *Psychological Inquiry*, 23(2), 101–124.
- Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science*, 293(5537), 2105–2108.
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814–834.
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. New York: Vintage.
- Haidt, J., & Joseph, C. (2004). Intuitive ethics: How innately prepared intuitions generate culturally variable virtues. *Daedalus*, 133(4), 55–66.
- Horberg, E. J., Oveis, C., & Keltner, D. (2011). Emotions as moral amplifiers: An appraisal tendency approach to the influences of distinct emotions upon moral judgment. *Emotion Review*, 3(3), 237–244.
- Horberg, E. J., Oveis, C., Keltner, D., & Cohen, A. B. (2009). Disgust and the moralization of purity. *Journal of Personality and Social Psychology*, 97(6), 963.
- Izard, C. E. (2011). Forms and functions of emotions: Matters of emotion–cognition interactions. *Emotion Review*, 3(4), 371–378.
- Kassam, K. S., Markey, A. R., Cherkassky, V. L., Loewenstein, G., & Just, M. A. (2013). Identifying emotions on the basis of neural activation. *PLOS ONE*, 8, 1–12.
- Keltner, D., Haidt, J., & Shiota, L. (2006). Social functionalism and the evolution of emotions. In M. Schaller, D. Kenrick, & J. Simpson (Eds.), *Evolution and social psychology* (pp. 115–142). New York: Psychology Press.
- Levenson, R. W. (2011). Basic emotion questions. *Emotion Review*, 3(4), 379–386.
- Lindquist, K. A. (2013). Emotions emerge from more basic psychological ingredients: A modern psychological constructionist model. *Emotion Review*, 5(4), 356–368.

- Lindquist, K. A., Wager, T. D., Kober, H., Bliss-Moreau, E., & Barrett, L. F. (2012). The brain basis of emotion: A meta-analytic review. *Behavioral and Brain Sciences*, 35(3), 121–143.
- Machery, E. (2005). Concepts are not a natural kind. *Philosophy of Science*, 72(3), 444–467.
- Panksepp, J., & Watt, D. (2011). What is basic about basic emotions?: Lasting lessons from affective neuroscience. *Emotion Review*, 3(4), 387–396.
- Rozin, P., Lowery, L., Imada, S., & Haidt, J. (1999). The CAD triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology*, 76(4), 574–586.
- Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review*, 110(1), 145–172.
- Russell, P. S., & Giner-Sorolla, R. (2013). Bodily moral disgust: What it is, how it is different from anger, and why it is an unreasoned emotion. *Psychological Bulletin*, 139(2), 328–351.
- Samuels, R. (2009). Delusion as a natural kind. In M. Broome & L. Bortolotti (Eds.), *Psychiatry as cognitive neuroscience: Philosophical perspectives* (pp. 49–82). Oxford, UK: Oxford University Press.
- Scarantino, A. (2012a). How to define emotions scientifically. *Emotion Review*, 4(4), 358–368.
- Scarantino, A. (2012b). Some further thoughts on emotions and natural kinds. *Emotion Review*, 4(4), 391–393.
- Scarantino, A. (2012c). Functional specialization does not require one-to-one mapping between brain regions and emotions. *Behavioral and Brain Sciences*, 35(3), 161–162.
- Scarantino, A., & Griffiths, P. (2011). Don't give up on basic emotions. *Emotion Review*, 3(4), 444–454.
- Schein, C., & Gray, K. (2015). The unifying moral dyad: Liberals and conservatives share the same harm-based moral template. *Personality and Social Psychology Bulletin*, 41(8), 1147–1163.
- Wilson, R. A., Barker, M. J., & Brigandt, I. (2007). When traditional essentialism fails: Biological natural kinds. *Philosophical Topics*, 35, 189–215.
- Young, L., & Saxe, R. (2011). When ignorance is no excuse: Different roles for intent across moral domains. *Cognition*, 120(2), 202–214.

