



Clarifying Conundrums: How Goal Hierarchies Resolve Seeming Contradictions in Motivated Responding

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In October 2016, Naval Petty Officer Jeffrey Thomas, under deployment to fight in the global war on terror, found himself amidst a barrage of enemy fire from the Islamic State of Iraq and Syria, known perhaps better as ISIS (Simkins, 2018). Small arms, rocket-propelled grenades, and mortar fire exploded around him. After 10 hr, his convoy received orders to move out of the kill zone. They did, but within moments the lead vehicle rolled over and tripped one of the seven daisy-chained improvised explosive devices. His supervisor died and many more were injured. At that point, while still under heavy enemy fire, Thomas left his vehicle. In this mission, he was assigned to the Coronado-based Explosive Ordnance Disposal Mobile Unit 3, and he had received extensive training in identifying and dismantling bombs. He left his vehicle to sweep the area for explosives, diffusing them as he evaded the rockets and mortars impacting around him. Thomas cleared a path for medics to reach the disabled vehicles, evacuate casualties, and find their way out. As his commanding officer, Geoff Townsend, said, “Jeff knowingly exposed himself to hazards in order to protect the lives of his teammates and brothers in arms.” Thomas was awarded the Silver Star, the nation’s third highest award for valor.

Acts of heroism, such as Thomas’s, inspire gratitude and awe. They also perplex so many of us who try to envision what our own response might be under such terrifying conditions. We could imagine ourselves freezing in fear or turning tail to flee from the perilous situation. To knowingly and willingly lean in to the threat of harm is an act of considerable nobility and one that counters intuition. Why approach threats one wants to avoid?

Scholer, Cornwell, and Higgins (this issue) provide an answer to this conundrum. According to their perspective, the seemingly discordant decision to approach threats when responding to a guiding drive to avoid harm is not an exception to motivational theories. It is instead a clear example of the importance of adopting a hierarchical approach to motivational models, one that differentiates higher level goals from the lower level actions in question. In this view, multiple motivational orientations of a perceiver can engage simultaneously and independently of

one another by manifesting at different levels of the self-regulatory hierarchy. If one classifies goals and the actions serving them by the higher or lower level relationship to one another, what seems counterintuitive may not be.

The authors offer examples that similarly flummox intuition and challenge motivational models that do not acknowledge the hierarchical nature of goal pursuit. The evidence and anecdotes they provide demonstrate, in much the same way as the case of Navy Petty Officer Jeffrey Thomas, that an overarching system-level goal of avoiding danger might be met by strategically approaching and engaging with the threat to neutralize it. For instance, the authors describe an investigation of rats’ responses to a noxious object—a metal tea bag that held a cotton ball soaked in bleach (Franks, Higgins, & Champagne, 2012). Now, in this particular context all the rats could have responded to the threatening foreign object by taking a different path through the maze and avoiding it all together. But they did not. Some of the rats responded to the bleached cotton ball by approaching it to bury it in the fresh bedding it sat on. In fact, the rats that approached the threat were the ones who had been bred to hold chronic avoidance-orientations. These specific animals were chronically motivated to avoid threats and in this particular context met that prepotent orientation through approach. As this example illustrates, there are advantages of differentiating between motivational proclivities generally (at the level of the system) and the particular motivational orientation that best serves to meet that goal in the moment (the strategic response). Such differentiation brings light to what might seem some otherwise particularly bewildering effects where actions appear inconsistent with motives.

In our own investigations, we too have identified cases with our human participants that seem to defy intuition. We found evidence showing that the goal to avoid threat can be situated at the system level, whereas effective management or regulation of that high-level goal may be best met through an approach orientation at the strategic level. In counterpart, we have also found cases in which approach goals are met by avoidance behaviors. These results contradict intuition but are predicted by and provide additional

support for Scholer and colleagues' hierarchical self-regulatory framework.

Meeting Avoidance through Approach

In our work, we have found cases in which avoidance goals are met by approach behaviors. In one such discovery, we escorted our participants into a small office and shut the door behind them (Cole, Balcetis, & Dunning, 2013, Study 2). Inside the confined space, they sat face-to-face with a man they had just moments ago learned a small bit about by watching a video he recorded to describe his experience of living in New York City. Some participants—those randomly assigned to the threat condition—learned that he felt a pent-up rage he did not know how to handle and liked the feel of a gun in his hand. Participants expected to spend the next 20 min alone with the man engaged in conversation. To these participants, the man posed a threat to their own safety and security and presented a potential harm they wished to avoid.

We assessed participants' subjective perceptions of the distance that separated them from the volatile and foreboding character. Whereas seeing him as farther away might have helped them to feel safer, we actually found that participants formed a perceptual representation of proximity. They saw the man as sitting physically closer to them than did participants who, after watching a different video, appraised the man as disgusting or just another normal college student. Now, much like the rats in a maze with a threatening cotton ball, our participants similarly could have responded in a way that would have lessened the fear and danger they felt. They could have downregulated their experienced arousal by coming to see the dangerous man as farther away. But they did not. Instead, they responded to the goal to avoid harm with an outcome that looked like approach. Why?

We posit, in line with Scholer and colleagues' hierarchical model of self-regulation, that the system-level goal to avoid harm was coupled with a strategic-level activation of an approach orientation that facilitated a readiness to respond to the situation. In this context, the approach orientation manifested as perceived proximity (for a review, see Balcetis, 2016). Indeed, the perceptions of goal-relevant targets as closer energizes and incites individuals. When objects of relevance are actually located nearby, the frequency and intensity of actions aimed at responding to those objects increase (Dollard & Miller, 1950). For instance, hungry animals ran faster and exerted more effort as they got closer to food rewards (Brown, 1948). Extrapolating from these and other classic goal-gradient effects, our human participants represented the distance to the threat as shorter because, we theorize, the experience of perceived proximity, even if simply an illusory one, would energize goal-relevant behavioral responses that would best serve their need to act quickly to dispel the threat, through either fight or flight. The presence of threats—particularly as individuals approach those threats or those threats approach them—increases sympathetic nervous system activity and subcortical brain activity associated with reflexive-action preparation and defensive behavior

(Fanselow, 1994; Lerner, Gonzalez, Dahl, Hariri, & Taylor, 2005; Pichon, de Gelder, & Grezes, 2012; Prkachin, Williams-Avery, Zwaal, & Mills, 1999). The readiness to engage in action increases as the proximity of a threat increases; as a result, the needs of the perceiver can be best served by misperceiving objects as closer when they are more threatening (Balcetis, 2016). The system-level goal to avoid harm was served by the strategic-level implementation of an approach orientation, which manifested in the perceptual experience of shorter distance.

Meeting Approach through Avoidance

In other ways, we found evidence of independence between the strategic response to a system-level goal. In particular, we found times when approach goals were met by strategic avoidance responses, specifically in the context of managing self-control conflicts. During self-control dilemmas, individuals feel tempted by an immediate opportunity that would satisfy a low-level desire but would detract from a high-level goal (see Trope & Fishbach, 2000). In fact, people spend about one fourth of the time they are awake experiencing this type of conflict (Hofmann, Baumeister, Förster, & Vohs, 2012). In such instances, people hold a system-level approach goal—to be fit, to be a good relationship partner, or to achieve academic success. But the strategic means to meeting that goal is avoidance—foregoing sweets, avoiding a flirtatious coworker, or turning down an invitation to a party.

In our data, we observed unique perceptual responses that emerge to help regulate the system-level goal to approach good health by engaging a strategic-level response of avoiding temptation. In a series of studies, we assessed individuals' motive to become healthier eaters. Those with a system-level approach orientation toward dieting reported that they had strong goals to eat healthy, that eating healthy was important, and that they try to be a healthy eater. They were then confronted with unhealthy snacks—delicious foods that tempted consumption. Rather than moving toward, reaching out for, or approaching it, when presented with the sights and smells of a freshly baked donut or salty fried treat, health approach-oriented individuals responded in a way that reflected the activation of avoidance motives—they showed distancing responses (Cole, Dominick, & Balcetis, 2019). In particular, they preferred that a new sweets shop moving into their neighborhood be farther away from their house, and they perceptually represented sugar-coated nuts or a table filled with junk food as farther away from themselves. Moreover, distancing impacted appraisals relevant to meeting their prepotent health goal; perceptions of increased distance led to beliefs that the temptations were harder to reach and would require more effort to obtain. Successful self-regulators' motivations to approach good health manifested through avoidance of unhealthy foods that were reflected in the preferred and perceived exaggerations of physical distance.

Reconciling Other Apparent Inconsistencies

We focused our analysis on a few examples of divergences between system and strategy-level motives that affect the perceptual experiences individuals have. But more broadly than just those case we offered, investigations across social psychology, vision science, health science, judgment and decision-making, and affective neuroscience provide evidence for the connection between goal states and distance perception. For example, representations of distance impact financial decisions (Maglio, Trope, & Liberman, 2013), trust and collaboration during negotiations (Henderson & Lount, 2011), and feelings of social connection (Pitts, Wilson, & Hugenberg, 2014). Important to note, when one looks broadly at the varied contexts in which motives impact perceptual experience, there seem to be inconsistencies in the nature of the effects. These discrepancies may be reconciled by adopting the hierarchical framework.

For instance, in some work, disgusting objects appear farther away than neutral objects. Objects covered in slimy substances appeared farther away than clean objects (Siegel, Walker, & Stefanucci, 2010). In contrast, other evidence suggests that disgusting objects are perceived as equally distant as neutral objects. Specifically, a disgusting man who revealed he had urinated into customers' beverages while working at a fast-food restaurant appeared equally as far from participants as did a man who simply described his class schedule (Cole, Balcetis, & Dunning, 2013). Although these seem like inconsistent effects, consideration of the multiple goals active at varied levels of the hierarchy may resolve the inconsistency. It is possible that the motivational orientations that arose in the situation with the man were indeed multiple and differentiated, whereas the motives activated in response to a disgusting object—avoidance—were the same. Specifically, although participants reported feeling disgusted by the urinating man (which may have elicited avoidance at the strategic level), they were taking part in a study on social interactions where they believed their ability to converse with him for quite some time was being tested (which may have elicited approach at the level of the system). Inconsistencies can be resolved by considering motivational orientations, at varied levels of the hierarchy.

Conclusion

Why do individuals move closer to the things they want to avoid and, in other instances, move away from the things that they consider desirable? Why do they perceive themselves as nearby threats and far from cravings? Models of self-regulation that consider motives in isolation of the larger context may be left unable to explain how what seem to be avoidance goals are met with approach-like responses. So too with approach goals that are met with avoidance. Scholer and colleagues push self-regulatory theorists, including ourselves, to move beyond such unidimensional considerations and explorations focused on single motives to consider the interconnected relationships among the multiple goals individuals simultaneously pursue that may seem

antagonistic to one another superficially but may in fact serve both ends.

When we apply their hierarchical framework to our own interests in the ways in which people form mental representations of themselves and their surroundings—their subjective and idiosyncratic representations of the distance to objects of desire and harm—we get greater clarity on what appear otherwise as perplexing conundrums, or at a minimum exceptions to a general rule of human behavior. We herald the heroic actions of people such as Jeffrey Thomas because they seem so foreign to what we presume would be our own reactions—and perhaps in the context of the fear of death during war they in fact are. But outside of wartime acts of heroism, when we stumble upon seemingly anomalous responses, we might in fact be observing a quite normative response and, by the framework offered by Scholer and colleagues, quite predicted.

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