

dear residents

Balancing Instinct and Reason: The Art of Decision-Making in Medicine March 9, 2025

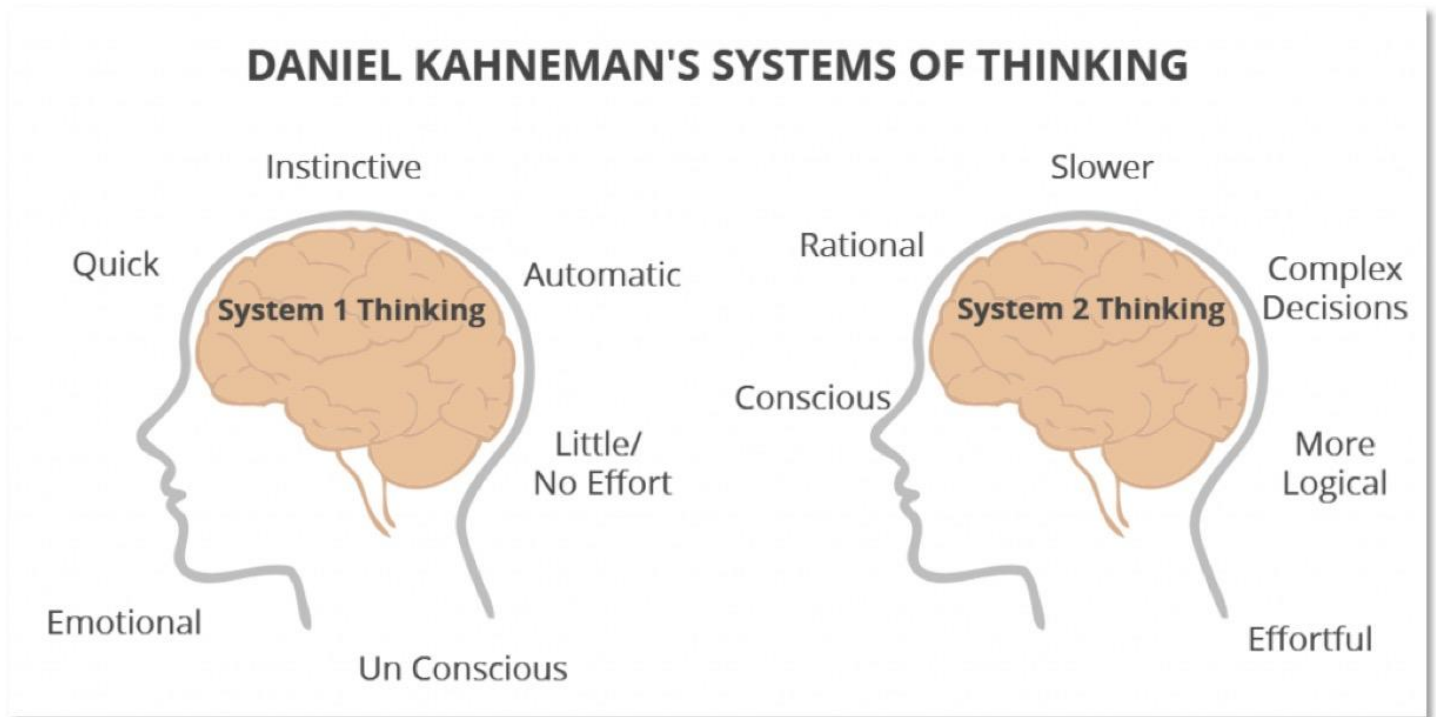
Dear Residents,

Going with your gut can be exhilarating and adventurous. It recognizes your untapped inner self, a repository of accumulated knowledge that you draw upon to make decisions, educated guesses, or plan actions. However, our instincts can also lead us astray, particularly when we lack sufficient knowledge for the decision at hand or when we can't fully leverage our knowledge. In such situations, we strive to comprehend the extent and limitations of our self-knowledge and the factors that influence it. Understanding ourselves and our thought processes and decision-making mechanisms is as essential as acquiring knowledge.

In 1907, [Francis Galton published a paper in Nature](#), recounting his findings at a farmer's fair in Plymouth, England where he observed a weight guessing contest. Eight hundred farmers competed to guess the weight of an ox, recording their guesses on tickets. After the competition was over, Galton collected the tickets and calculated that the mean of the guesses was remarkably accurate, being only 9 pounds off the actual weight of 1,198 pounds. He referred to this as the *vox populi* or the voice of the people. This event serves as the opening anecdote in James Surowiecki's book, [Wisdom of the Crowds](#), published in 2004. The book introduced the concept of crowd psychology and highlighted the potential of collective wisdom. However, for this concept to be effective, several conditions must be met. Firstly, the crowd should possess some expertise in the subject matter. Secondly, they should have independence and privacy in their individual judgments. Thirdly, the crowd should be diverse, encompassing a wide range of perspectives and input must be democratic (one person, one vote). Lastly, there must be a mechanism to aggregate individual opinions into a collective understanding. If any of these elements are absent, the collective wisdom generated by the crowd will fail. For instance, if the same farmers, who had considerable expertise with farm animal weights, had been asked to determine the number of molecules in the ox, they would likely provide wildly inaccurate answers because this knowledge is beyond their domain of experience. For reference, the number of molecules in a human body is estimated to be 20,000,000,000,000,000,000,000,000.

As physicians, we make numerous decisions, both individual and collective. For instance, we face several daily decision points for clinical situations such as: is the low sodium due to SAIDH or volume overload? Should I initiate antibiotics or not? Tumor boards and transplant teams make collective decisions for individual patients, while expert panels develop guidelines for groups of patients, and NIH study sections determine the fate of grants. However, in our daily practice, we primarily face individual decisions. These decisions are influenced by our knowledge, prior experiences, inferences from similar patients and that elusive instinct. Nobel Prize winner [Daniel Kahneman](#) has elegantly explained the

concepts of thinking fast (system 1) and thinking slow (system 2). Our fast brain is instinctual, while our slow brain is thoughtful and deliberate. I've held onto these concepts for a while (and still do), but they've been tempered by the work of Mercier and Sperber, authors of [The Enigma or Reason](#). They propose that we often make seemingly rational reasons instinctively but use our slow thinking to justify (rather than challenge) these instinctive decisions, even when they're incorrect.



In this residency program, we strive to provide you with both structured and unstructured learning experiences. The structured experiences, such as the back-to-the-basics lectures, are curriculum-driven and delivered by experts. The unstructured experiences involve admitting or seeing patients in the clinic, each of whom presents unique scenarios that require you to apply your knowledge to make decisions. The hope is that the knowledge imparted to you and the insights gained through incremental experience will position you to make rational decisions rather than rash ones. Conferring and collaborating remain crucial activities, allowing you to tap into the collective experience and wisdom of the team. Diverse experiences further enhance your decision-making skills by exposing you to various health systems and their respective populations. This broadens your mental models of decision-making, enabling you to adapt effectively to individual situations. You may be headed to a career in cardiology, yet a rotation in nephrology will enhance your assessment of hyponatremia, while a rotation on the ID service will improve your antibiotic selection skills.

In the end, the goal is not just to trust our instincts or rely solely on structured knowledge but to strike a balance between intuition and rational thinking. By continuously refining our expertise, engaging in collaborative discussions, and embracing diverse experiences, we enhance our ability to make sound clinical decisions. Whether through individual reasoning or collective wisdom, our ultimate responsibility is to ensure that our choices are informed, deliberate, and, most importantly, in the best interest of our patients.

Daylight savings time begins this weekend. Spring forward!

Dino Kazi