The Thrill of Intuition:

Expectations of enjoyment increase adoption of intuitive choice strategies

Abstract

Important decisions, both by organizations and consumers, often feature a choice between relying on one's intuition versus following a structured decision process. Although prior research has focused on beliefs about outcome quality in examining how people make such choices, we highlight the overlooked role of task enjoyment. In our experimental and qualitative studies, we find that individuals report greater enjoyment from relying on their intuition, compared to following a structured process (S1, S2, & S4), potentially explaining why individuals are reluctant to adopt structured decision processes despite knowing their accuracy benefits. These hedonic considerations also lead to a self/other difference -- individuals are more likely to choose to follow their intuition, while recommending others adhere to a structured process (S3-S5). Specifically, when thinking about how they should make a decision, individuals heavily weigh the enjoyment afforded by the more autonomous, intuitive approach. Considerations of enjoyment, however, play little role in making recommendations to others (S4). This preference for following the more enjoyable intuitive approach can be detrimental to judgment accuracy and emerges under incentivized conditions (S3 and S5), and in professional contexts (S1). Our data also suggest an intervention: giving advice on how someone else should behave, decreases reliance on intuition (S5).

Keywords: Judgment; Decision-Making; Intuition; Self/Other Decision-Making; De-Biasing

Introduction

Imagine trying to decide which strategy your team should adopt to make a successful client pitch. You can diligently follow a systematic approach adopted by your firm that matches client characteristics to successful pitch strategies based on prior data, or you can use your own assessment of the client's preferences and rely on your intuition. Although you may recognize that dutifully executing the systematic process is most likely to result in success, the joy of following your gut, combined with your confidence in your own business acumen and people skills, may still lead you to favor an intuitive approach. A similar dilemma often arises as we think about which candidate to hire, which product to launch, or which house to buy. And while a large research literature tells us that following a structured decision process will often lead to superior outcomes, the temptation to follow our intuition remains.

Previous research has explained the robust human preference for following intuitive decision-making in terms of our (often misplaced) confidence in the accuracy and efficiency of following such an approach (Thompson et al., 2011; Thompson et al., 2013). Here, we propose and test a complementary explanation for the prevalence of intuitive judgment even in the face of the undeniable benefits of structured decision making: following our gut is fun!

Specifically, we examine whether individuals report different levels of enjoyment when it comes to reliance on intuition versus a structured process. We further document whether consideration of how enjoyable a decision strategy plays a role in people's choice to adopt it. To the extent that individuals favor intuition based on hedonic considerations, we also predict a self/other difference, with people being more likely to follow their own gut while advising others to be systematic. In other words, using our earlier client pitch analogy, an individual's preference for "winging it," may not extend to *someone else's* (i.e. a colleague's) attempt to decide on a favorable strategy. While enjoyment considerations lead people to embrace *their own* intuition over a more structured process, they may recommend that *others* do the opposite, toiling carefully through decision matrices, checklists, scoring systems, and instruction manuals. We argue (and

demonstrate) that this difference arises because people are understandably less concerned with the enjoyment of others relative to their own.

Considering the hedonic value afforded by different decision-making approaches has both theoretical and applied significance. Many consequential tasks, ranging from choosing a new employee, to launching a new product, to deciding which political candidate to support, feature a choice of decision strategy. Although extensive prior research has examined the differences in outcome quality when it comes to relying on intuition versus following a structured approach, we extend theory by highlighting the important role of enjoyment and the idea that individuals may embrace a particular strategy simply because they expect it to feel better. Adding the consideration of enjoyment to our understanding of decision strategies also helps explain why decision-makers are so reluctant to follow structured processes, even in cases when they know those strategies are more likely to result in better outcomes.

Multiple approaches to judgment and decision-making

Classic research on dual-process models articulates two decision-making approaches: one that is intuitive, fast, effortless, and associative ("System 1"); and another that is deliberate, slow, effortful, and analytical ("System 2") (Chaiken & Trope, 1999; Epstein, 1994; James, 1950; Kahneman, 2003; Sloman, 1996; Stanovich & West, 2000). System 1 is characterized by a lack of deliberation, while System 2 relies upon it. Following System 2 often requires an ordered approach, where System 1 allows one to throw structure out the proverbial window (De Neys, 2014; Epstein, 1994; Evans, 2008; Handley & Trippas, 2015; Kahneman & Frederick, 2002; 2005; Pennycook et al., 2015; Sloman, 1996; Stanovich, 1999). Importantly, System 2 results in improved decision quality because available information is used more completely and consistently (Kahneman et al., 2021).

Extensive research has focused on the situations and individual differences that lead to reliance on one rather than the other, given the well-documented perils of System 1 (Epstein, 1994; Evans, 2007; Inbar et al., 2010; Kahneman & Frederick, 2002; Sloman, 1996; Stanovich,

2004). Scholars have examined the effectiveness (or lack thereof) of instructing or incentivizing people to engage in greater deliberation (Enke et al., 2021; Lawson et al., 2020). Interestingly, however, various interventions to improve decision-making through increasing effort, incentives, or accountability have found limited results (Arkes et al., 1986; Camerer & Hogarth, 1999; Larrick, 2004; Lerner & Tetlock, 1999). Some de-biasing strategies to increase deliberative thinking have back-fired with decision-makers nudged toward greater deliberation becoming more entrenched in their initial faulty decisions (Larrick, 2004; Shafir & LeBoeuf, 2002).

Cognitive effort can be fatiguing (Sievertsen et al., 2016) and in many contexts, people can approximate the level of performance afforded by a structured approach by applying a simplifying heuristic, or "fast and frugal" strategy (Gigerenzer & Goldstein, 1996). People thus engage in an effort-accuracy trade-off, applying more resource-intensive strategies only when the stakes are higher and time permits (Payne et al., 1993). Some scholars have interpreted the collective data to suggest that people are not just cognitive misers who avoid effort because they find it to be unpleasant (Kahneman, 2011), but also strategic thinkers who allocate resources where most needed. This suggests that people take into account not just decision outcomes, but also the subjective experience of the decision process.

Incorporating hedonic value in choices of decision strategy

In the present work, we specifically take the above logic one step further, considering not only the role of effort, but also the role of enjoyment in people's choices to follow an intuitive versus structured decision strategy. The idea that enjoyment matters is well-established in other domains—for example, in creative problem solving, cognitive effort can feel pleasurable, especially when accompanied by an "aha" moment (Topolinski & Reber, 2010). The literature on goal-pursuit discusses the trade-off people anticipate between following plans that are more effective but less enjoyable, and how people consider "matters of the heart" (How will this feel? How pleasant will it be?) even during intentional pursuit of self-improvement goals (Scott & Williams, 2023). We theorize that in judgment and decision making, people may similarly gain

hedonic value from taking an intuitive leap of faith rather than plodding through the prescribed steps of a more deliberate approach and that this anticipated enjoyment impacts their choice of strategy.

Prior research suggests several reasons for why System 1 versus System 2 thinking would lead to different levels of enjoyment. First, using intuition could seem quicker and less effortful than using some structured processes, and to the extent that individuals are cognitive misers (Taylor, 1981), speed might seem attractive. Individuals may also prefer the freedom afforded by intuition given that self-determination has been associated with greater motivation in learning and performance (Deci & Ryan, 1985). Even holding constant the speed and ease with which a judgment is made, relying on intuition might feel more reflective of one's authentic self and likely to produce a more unique contribution than simply following a prescribed process (Maglio & Reich, 2020; Oktar & Lombrozo, 2022). Given that people associate intuitive decision-making with confidence and expertise (Simmons & Nelson, 2006; Oktar & Lombrozo, 2022; Lerner & Tetlock, 2003), they may also find enjoyment in utilizing the strategy that portrays them in a more positive light. Finally, given the automatic nature of intuitive preferences, decision-makers may feel a superstitious hesitation at the thought of overriding their intuition in cases where the two systems return conflicting results (Kruger et al., 2005; Miller & Taylor, 2014; Risen & Gilovich, 2007, 2008).

Decision strategies for self vs. others

The hypothesized role of enjoyment in selection of decision strategies leads to another important prediction. Because people are egocentric in attending to their own pleasure and pain (Pronin, 2008) and are generally less accurate in predicting others' affective experiences (Faro & Rottenstreich, 2006; Loewenstein, 1996), their choice of the more enjoyable strategy may not extend to recommendations for others. Thus, individuals may select a judgment strategy for themselves weighing *both* accuracy and enjoyment, but engage in a more one-sided consideration when deciding for peers.

Prior research has documented a variety of differences in how individuals make decisions for themselves versus others (Beisswanger at al., 2003; Fernandez-Duque & Wifall, 2007; McCauley at al., 1971; Polman, 2012; Stone et al., 2002). For example, research on construal-level theory demonstrates that as choosers, people focus on short-term goals, such as quenching their curiosity, but as advisors, they focus on long-term outcomes, advising others to heed useful, but boring information (Barkan et al., 2016). Relatedly, Social Values Theory (SVT) suggests that people make decisions for others based on normative values of what they "should do" (Stone & Allgaier, 2008). Work relying on SVT has thus explained self/other difference in domains involving risk, as a function of whether risk seeking or risk aversion is seen as socially valued in a particular context (Stone et al., 2013). Similarly, people have been found to "follow one's heart" in making decisions for themselves, prioritizing their own feelings, emotions and desires, but "follow one's head" when deciding on behalf of others (Scott & Williams, 2023).

Our predictions most closely align with prior work demonstrating that when making personal choices, individuals consider several attributes, but when making choices for others, they tend to focus on a single, easily justified, and prominent one (Kray & Gonzalez, 1999; Kray, 2000). Specifically, we argue that people assign structured processes to others while relying on their own intuition not because they believe others to have different preferences or to be more eager to adhere to social maxims, but because they are less focused on and interested in others' enjoyment. In other words, we hypothesize and find that individuals are aware of the fact that others would indeed find intuition enjoyable. However, because their own enjoyment is more salient and subjectively important than that of others, they place greater weight on considerations of their own pleasure and pain. This comports with prior research showing that people often infer the importance of a consideration from its salience (MacKenzie, 1986).

These predictions also align with work on "empathy gaps" wherein research has found that people are less concerned with others' negative experiences (Nordgren et al., 2011). Even when the valence of a particular experience is clear (e.g. being cold, or being socially excluded

are inarguably negative), people still judge these experiences to be *less* negative when they happen to peers rather than themselves. Even more telling is work on "social discounting." In these studies, individuals consider receiving a specific amount of money and have to consider how much would have to be allocated to another person in order to make the participant equally happy as receiving the money themselves. The required amount grows as a function of how socially distant the target is from the participant, suggesting that the pleasure of distant others has a specific discounting function (Jones & Rachlin, 2006).

The difference in individuals' attention to their own versus others' enjoyment and the ensuing tendency to prescribe more structured processes to others rather than themselves leads to an intriguing potential intervention. Prior research has found that predicting other's preferences prior to making one's own choices drives people towards selecting the more normative option (Faro & Rottenstreich, 2006; Li et al., 2017). When we consider the decisions of others, we may be able to focus more strongly on the central goal of the task (in this case, making an accurate judgment) and thus think about how the task should be completed with greater detachment (Liberman et.al, 2007; Trope & Liberman, 2010). Based on this reasoning, we test an intervention for increasing individuals' take-up of structured processes by requiring them to first consider how someone else should approach a decision.

Overview of studies

We present six studies (one qualitative and five experimental), to examine our predictions across a variety of decision-making contexts and populations. In Studies 1a and 1b, we rely on qualitative and experimental data collected from elite motorsport engineers to document the differing levels of enjoyment that decision-makers experience when relying on intuition versus a structured process. In Study 2, we asked individuals to imagine completing a task using their intuition or a structured process to test whether they anticipated greater enjoyment using their intuition across a variety of experimental tasks. We also tested whether the reasons that the

motorsport engineers reported for intuition being enjoyable statistically mediated the effect of decision strategy on enjoyment.

In Study 3, we experimentally assigned individuals to choose a decision strategy for themselves versus another person under incentivized conditions to test whether individuals endorse intuition at a higher rate for themselves than others. In Study 4, we replicate our results using a different task and a different operationalization of a structured process. We also directly test our predictions regarding the role of enjoyment by asking people the extent to which task enjoyment versus the desire to make accurate predictions played a role in their choice of decision strategy. In Study 5, we again use a different task and structured process, and examine the implications of decision strategy choices for judgment accuracy. Importantly, we also find that the tendency towards choosing intuition for the self can be mitigated with the simple intervention of first making a recommendation for others.

To go beyond the simple explanation that people enjoy following their intuition because it is quicker and easier, across studies we allow the structured decision process to vary in terms of the time and effort involved. We test processes that are entirely effortless (relying on AI or a calculation performed by someone else); minimally effortful (following a strategy table); or more effortful (following a multi-step decision process).

Open science statement

Our experimental studies (Studies 2-5) are pre-registered on AsPredicted or the Open Science Framework (Appendix A). Study 1, which contains both qualitative and experimental data, was conducted with an off-site professional sample before pre-registration became our regular practice. All of our data, including audio files from our interviews and all survey materials are publicly available on OSF. For all experiments, we report all measures, conditions, data exclusions, and sample size determinations.

Study 1

We begin our investigation by conducting both an interview study and an experiment with a sample of elite motorsport engineers engaged in an international competition organized by a car manufacturer in technical partnership with a Formula 1 (F1) Team. We were interested in examining whether, in line with our predictions, these professionals, highly trained in systematic approaches to engineering, would nevertheless associate following intuition with greater enjoyment. Specifically, we asked engineers to verbally reflect on the experience and consequences of following their intuition versus a structured process (Study 1a) and to report their preferred approach and anticipated enjoyment when completing a hypothetical task (Study 1b).

1a Method

Participants. We interviewed 70 engineers selected as finalists for a professional competition in technical partnership with a (F1) racing team ($N = 70$, $M_{age} = 24.82$ years, $SD = 4.63$ years, 92% male). The finalists were pre-selected from 10,000 engineers competing for an opportunity to work on the team's F1 race car. The company selected 10 engineers representing each region in which the competition was held (Canada, Europe, China, Asia and Oceania, USA, Mexico, and the Middle East) based on application materials, technical examinations, and an interview. The engineers then competed in a live 2-day assessment that tested their engineering, decision-making, and interpersonal skills, at the end of which one regional winner was chosen. [1]

Design and Procedure. We began the interviews by describing two different approaches to decision-making – following one's intuition versus a structured process.[2] We then asked which

[1] We administered our interviews during this 2-day event at each regional competition. 60 of 70 interviews were completed in person. 10 interviews (in China) were conducted over Skype by one of the authors. 60 interviews were conducted by two of the authors. 10 interviews (in Mexico) were conducted by a graduate student. All interviews followed the same protocol (Appendix B).

[2] We instructed all engineers that the interview was not part of the competition and that their responses would be used for research purposes. We told participants we were interested in learning more about how engineers make decisions. In each interview, we asked the same questions (Appendix B), allowing each

approach each participant thought was more effective for motorsport engineering decisions and why. We prompted participants to consider the pros and cons and tell us what approach they found themselves adopting more often. We asked them to think about the experience of following their intuition versus a structured process to complete an engineering task and to describe the experience to us.

1a Results

54% of engineers told us a structured process was more effective for engineering decisions; 9% believed relying on intuition was most effective; while 37% believed a combination was best.[3] Importantly, when we asked participants about the hedonic value of the two approaches, a majority (62%), reported following intuition to be more enjoyable. By contrast, only 22% found following a structured process to be more enjoyable; and 16% described using a combination to be most enjoyable.

The qualitative responses the engineers provided were illuminating. We noted several repeating themes that engineers brought up when reflecting on the hedonic value of following their intuition: the joy of serendipity; the feeling of fluency; and the importance of individual contribution and autonomy.

Joy of serendipity. Engineers often referred to the act of following intuition as a serendipitous endeavor. In comparing the experience of both approaches, one interviewee stated, "*[Following intuition] you get that rush because oh my goodness, it worked, and there was no guarantee... Whereas with...the structured approach, the feeling you get is more of an accomplishment and discipline…So with intuitive approach, it's more of like a jubilant joy. And then with the procedural approach, it's more of like a pride in your work ethic…*" [US - 002].

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candidate to speak as long as they felt comfortable. Each interview lasted approximately ten minutes. All interviews were audio recorded and professionally transcribed.

[3] When asked what approach they found themselves adopting more often, the pattern was similar to that for evaluations of effectiveness, although we did find an increased % of participants telling us they typically relied on their own intuition. Specifically, 60% told us they relied on a structured process; 21% reported they most commonly relied on their intuition; and 19% said they relied on a mix of the two strategies.

Similarly, another engineer described the experience of following intuition as akin to an "*adrenaline rush*" [US - 007].

Decision-making fluency. Participants alluded to following their intuition as possessing a feeling of fluency right from the start. "*I feel like when you're following intuition, it feels more natural. It feels more flowy. It feels less doubtful*" [US - 003]. Another engineer stated, "*You feel great because that's your first instinct. You feel like that's…the first thing that comes out of you, so it should be right because it's in there somewhere that you learned somewhere...*" [Canada - 002].

Individual contribution and autonomy. Participants alluded to the experience of following intuition as reflecting of one's unique knowledge, experience, or insight. "*Intuition comes from experience. And sometimes, like the majority of time when you make decisions using the intuition, would make you feel that yes, I do understand this, I have this gift to do this job. It just feels more satisfying. You know this is something for you, something you are gifted to do. This makes me feel like I'm the right person*" [China - 005]. Another participant highlighted the individual ownership that following intuition provides, "*Because you're…staking yourself on it. It's your decision…You feel like this is really I own this…I'm the one responsible*" [Asia and Oceania - 002].

Participants reported that positive outcomes reached through intuition were accompanied by greater feelings of accomplishment. "*When you get it right it [by following intuition] it feels so good…because all that information somewhere in the back of your head and you know that in a stressed or pressured environment you're clearly reacting correctly…A lot of engineers can sit down and look at a lot of data points…and make a decision and there's very few I think that can just make one like that. So it's more rewarding definitely*" [Asia and Oceania - 008].

1a Discussion

Our initial exploration provided rich qualitative evidence to support our prediction that decision-makers experience greater enjoyment from following their intuition than a structured process. We uncovered a variety of reasons, suggesting that the previously documented reliance

on intuition is likely to be supported by several psychological mechanisms. Engineers reported the serendipitous joy of taking a professional risk; the natural fluency of intuition which feels right from the start; as well as the pride in individual contribution that a more autonomous decision approach provides. Overall, our qualitative data suggest that when professionals think about how to approach a decision, they consider factors beyond accuracy.

Although suffering from the inferential shortcomings of interview data, this data provides some preliminary evidence that even in high-stakes environments, professionals with extensive scientific training experience the hedonic benefits of following their intuition and give those considerations some weight. Additionally, these data offer testable hypotheses regarding the reasons why intuition feels enjoyable that we will explore in following studies.

1b Method

Participants. We recruited an international sample of motorsport engineers(N = 109, M_{age} = 23.82 years, SD = 4.63 years, 82% male) to participate in an on-line study for a car building task.[4]

Design and Procedure. We asked engineers to imagine entering a competition for building a model car constructed from household items and powered by a balloon. The balloon car race is a commonly used task to test engineering skills. We told engineers the rules of the race and provided them with a list of items that could be used (Appendix C). Next, we instructed all engineers that there were two different ways to build the car. They could either look at the list of materials and use their intuition to put the car together in any way they desired, or they could follow a step-by-step process that would show them one way to build the balloon powered car. We then randomly assigned engineers to imagine taking on one of these two approaches.

All engineers then answered several questions, using 1-5 Likert scales anchored at “Not at all” and “A great deal.” Specifically, we asked participants to predict how confident they were

[4] Study 1a participants were the 70 finalists. Study 1b participants came from a larger pool of contestants who were applying to the same competition.

that their car would perform in the top 5% and how enjoyable they would find the task. We asked how difficult they would expect the task to be and whether they expected to struggle with the time limit. Finally, we asked a set of three questions regarding how the engineers would feel if they were to perform in the top 5%. Specifically, we asked how happy they would be with the outcome, how responsible they would feel for their success, and how much credit they would deserve. At the end of the study, we asked which approach (intuition versus process) they would choose. We provided a text box and gave participants the opportunity to explain their choice.

1b Results

While participants indicated no difference in their confidence to place in the top 5% as a function of building their car following their intuition or relying on instructions ($p = .806$), they predicted it would be far more enjoyable to use their intuition ($M_{intuition} = 4.25$, SD = .88 vs. $M_{process} = 2.98$, SD = 1.10; $t(129) = 7.22$, $p < .001$, $d = 1.26$). Interestingly, although participants predicted it would be more difficult to build the car using their intuition ($M_{intuition} = 2.51$, SD = 1.06 vs. $M_{process} = 2.06$, SD = 1.13; $t(124) = 2.29$, $p = .024$, $d = .41$), they did not believe that their approach would impact their ability to finish building the car in the allotted timeframe ($p = .085$).

When participants imagined a top performance, they indicated they would feel significantly happier ($M_{intuition} = 4.40$, SD = .86 vs. $M_{process} = 3.40$, SD = 1.23; $t(108.81) = 5.24$, $p < .001$, $d = .94$); more responsible ($M_{intuition} = 4.10$, SD = .84 vs. $M_{process} = 3.43$, SD = 1.20; $t(107.36) = 3.58$, $p < .001$, $d = .65$); and deserving of greater credit ($M_{intuition} = 3.56$, SD = .95 vs. $M_{process} = 2.84$, SD = 1.08; $t(121) = 3.97$, $p < .001$, $d = .72$) when they had built the car using their intuition, as compared to having followed the process.

In the end, 70% of participants reported that they would follow their intuition if given the choice, $\chi^2(1) = 18.24$, $p < .001$. Their explanations overlapped with responses from our interviews, emphasizing the importance of being able to showcase their unique knowledge and abilities. One participant said, "*You don't get to make great things doing what everyone is doing. I prefer to take the risk and do something different*."

Many indicated that following a process could result in a good outcome, but believed that the ability to use intuition creates opportunity for excellence. One participant said, "*Instruction can only take us so far, but intuition can push us…right to the top*." Another echoed this sentiment, "*Yes, I could fail, but I also could succeed. That risk on iterating and trying something new would set my car apart hopefully for the better. If you don't change anything you only can be 'just as good' and not 'better*.'"

1b Discussion

Study 1b offered the first experimental evidence suggesting that motorsport engineers anticipate greater enjoyment from following their intuition than a structured process. While participants reported feeling equally confident to succeed using either approach, those who imagined succeeding with intuition predicted greater happiness, greater feelings of responsibility, and believed themselves to be deserving of more credit. In the open-ended comments, many engineers reported believing that intuition was necessary to excel, and that following intuition would help learning and innovation.

Study 2

We next consider three different judgment tasks and a larger participant population. In order to ensure individuals were not expecting intuitive decision-making to be more enjoyable simply because they imagine following intuition to be quicker and easier, we explicitly provided participants with structured processes requiring different levels of effort. We also tested whether the reasons that our Study 1a interview participants reported for enjoying intuition statistically mediated any effect of decision strategy on expected enjoyment across this broader variety of tasks.

Method

Participants. We recruited workers on Amazon's Mechanical Turk (N = 588, M_{age} = 42.87 years, SD = 11.94 years; 56% male) to participate in a decision-making study in exchange for $0.35.[5]

Design and Procedure. We randomly assigned participants to imagine doing one of three tasks using their intuition versus a structured process: a match-making task, solving a Sudoku puzzle, and estimating candy in a jar. We varied the effort so that the process required no effort (following an AI-generated recommendation or relying on data aggregation) or more effort (following a step-by-step process). For the match-making task, participants imagined looking at dating profiles and suggesting matches. They could do the matching based on their gut feeling or follow predictions made by a AI-driven algorithm. For solving the Sudoku puzzle, participants could follow their gut or use a step-by-step process. For the estimation task, participants could follow their gut or rely on a calculated average based on estimates made by 100 participants.

We asked all participants for their predicted task enjoyment and confidence in doing well on a 1-5 Likert scale from "Not at all" to "Extremely," predicting that participants would expect following intuition to be more enjoyable. We did not make a prediction regarding participants' level of confidence in their outcomes.

Following our interview data from Study 1a, we tested three potential mediating mechanisms for this predicted difference: the extent to which following intuition felt serendipitous, natural, or showcased individual contribution. To test the first mediator, we asked participants the extent to which completing the task felt serendipitous, unpredictable, and exciting (averaging their responses into a "serendipitous" variable, α = .643). To test the second mediator, we asked the extent to which completing the task felt genuine, natural, and comfortable (averaging responses into a "natural" variable, α = .876). Finally, we asked the extent to which

[5] Four participants did not give consent and thirty-one participants failed to pass a basic attention check and were excluded from participating.

completing the task would make participants feel their contribution was original, unique, and distinctive (to create an "original contribution" variable, $\alpha = .962$).

Results

As predicted, participants reported significantly greater enjoyment in following their intuition than a process across all three tasks – matchmaking, Sudoku, and quantitative estimation ($M_{intuition} = 3.27$, SD = 1.19 vs. $M_{process} = 2.73$, SD = 1.12; $t(586) = 5.70$, $p < .001$, $d = .47$).

For our exploratory confidence variable, participants reported significantly greater confidence in completing the task well using process (versus intuition) when we collapsed the data across all tasks ($M_{intuition} = 2.63$, SD = 1.19 vs. $M_{process} = 3.08$, SD = 1.09; $t(581.77) = 4.73$, $p < .001$, $d = .39$). Interestingly, we saw no difference in confidence for the match-making task ($p = .894$) or the estimation task ($p = .573$); but greater confidence for using a step-by-step process to solve a Sudoku puzzle than following intuition ($p < .001$).

Our participants seemed to agree with the reasons why intuition is more enjoyable gleaned from our Study 1 interview data. Participants who imagined using their intuition to solve a task reported that it would feel more serendipitous ($M_{intuition} = 2.96$, SD = 0.79 vs. $M_{process} = 2.33$, SD = 0.92; $t(572.91) = 8.82$, $p < .001$, $d = .73$); natural ($M_{intuition} = 3.39$, SD = 1.05 vs. $M_{process} = 2.81$, SD = 1.05; $t(586) = 6.69$, $p < .001$, $d = .55$); and like an original contribution ($M_{intuition} = 3.55$, SD = 1.03 vs. $M_{process} = 2.06$, SD = 1.19; $t(574.95) = 16.22$, $p < .001$, $d = 1.34$) than following a process. An exploratory mediation analysis reveals that feelings of serendipity, naturalness and originality all significantly mediated the effect of decision strategy on predicted enjoyment (Appendix D).

Discussion

Across three decision tasks and a variety of structured approaches, participants anticipated greater enjoyment in following their intuition compared to the process. Given that two of the three processes required no additional time or effort, it seems unlikely that participants judged intuition to be more enjoyable because it seemed easier.

Instead, our mediation analyses supported the reasons why intuition was expected to be more fun that were reported by our professional sample from Study 1a. People expect relying on their gut to feel more serendipitous, natural, and original. These results dovetail with and expand on Study 1b results, wherein participants reported deserving more credit for following their intuition than a structured process. In the following studies, we begin to examine one downstream consequences of the greater hedonic value anticipated from following intuition.

Study 3

In Studies 3-5 we continue to study the relationship between anticipated enjoyment and selection of decision strategy in a variety of contexts. We go beyond eliciting forecasted enjoyment by requiring them to make incentivized choices between pursuing an intuitive or more structured process.

In different contexts, the attractiveness of intuition versus the attractiveness of a structured process might vary as a function of how much more pleasurable intuition is, how likely a structured process can improve accuracy, and the stakes of making a bad decision. This makes choice results difficult to interpret – do we conclude that people weigh the hedonic benefits of intuition if we observe a large minority, a small majority, or an overwhelming majority following the intuitive strategy?

To get around this inferential challenge, we compare the choices individuals make for themselves to the choices they make for others. We ground our theorizing in an extensive literature demonstrating that others' pleasure and pain is of lesser concern to most people than their own (Faro & Rottenstreich, 2006; Loewenstein, 1996; Pronin, 2008). Thus, observed differences in individuals' willingness to select intuition versus a structured process for themselves versus others would offer additional evidence for the role of enjoyment in the choice of decision strategy. In other words, if people choose to follow less effective intuitive processes while insisting that others follow more structured approaches, we could reasonably infer that hedonic considerations play a role.

To begin testing these predictions, in Study 3, we offered participants the opportunity to select a decision strategy for themselves versus a partner on an incentivized task. Participants played one hand of Blackjack, knowing that their bonus was tied to their own or another's outcome. In keeping the incentives accruing to the participants regardless of whether they or their partner is making the choice, we ensured that participants had a consistent stake in the game. This approach dovetails with our opening example, where a focal employee must decide how they or a teammate ought to make the same decision. Participants then chose whether they or the other player are going to follow their intuition or the recommendations of a strategy table (which they were told would display the optimal strategy based on millions of simulated hands), to determine how to best play the hand.

Method

Participants. We recruited workers on Amazon's Mechanical Turk ($N = 817$, $M_{age} = 42.51$ years, $SD = 12.09$ years; 56% male) to participate in a card game study in exchange for $0.25, with a bonus opportunity of $1.00 and entry into a raffle to win $50.[6]

Design and Procedure. We introduced all participants to Blackjack, using stimuli based on Walco & Risen (2017), and gave them the opportunity to review the basic rules. We then told participants that in the single hand that will be played, the player would have two options for how to make the decision on whether to "stand" (keep hand as is) or "hit" (take another card). We told participants that the player could look at the hand (their own two cards plus the dealer's "upcard") and follow their "intuition" to make the decision to stand or hit.

Alternatively, the player could use a structured process to make the decision methodically by reading a strategy table we provided. We told participants the table was created from running computer simulations on millions of Blackjack hands and would display the optimal strategy

[6] Two hundred and seventy-five participants failed to pass a basic attention check and were excluded from participating.

based on calculated probabilities (Appendix E). We further told participants that players could only see this table if they chose to rely on it in making their decision.

We then randomly assigned participants to have their bonus tied to their own outcome (*self*) or their partner's outcome (*other*). Participants in the *self* condition learned that they would play one hand of Blackjack and would win a $1.00 bonus and entry into a $50 raffle if they won the hand against the dealer. Participants had to choose, before they saw their hand, whether they wanted to make the decision to stand or hit using their intuition or by relying on the table and that they had to follow the output of the method they chose.

By contrast, we told individuals in the *other* condition that they would be paired with another participant who would play one hand of Blackjack and identical to the *self* condition, participants would win a $1.00 bonus plus entry into a $50 raffle if their partner won the hand. Before seeing the partner's hand, participants could instruct their partner to make the decision to stand or hit using their intuition or relying on the table. Participants learned that their partners would follow the output of the method chosen for them.

After participants in the *self* and *other* conditions made the choice regarding decision strategy, we showed all participants the Blackjack hand -- 9 and 4, where the dealer's "upcard" is a 4. This particular hand was used in Walco & Risen (2017) after it was pre-tested to be one where participants have the inclination to hit, whereas the optimal strategy, as dictated by the strategy table, is to stand.

Participants in the *self* condition who chose to use their intuition then decided whether to stand or hit. Participants in the *self* condition who chose to use the process saw the strategy table. We provided instructions on how to use the table and told participants to make the decision to stand or hit. If participants used the table incorrectly, we prompted them to try again. Participants could only proceed in the study if they made the decision to stand, in line with the table.

Participants in the *other* condition who had instructed their partner to use their intuition were randomly assigned with equal probability to see their partner having used their judgment to

stand or to hit.[7] Participants in the *other* condition who instructed their partner to use the process were shown the strategy table and learned that their partner had followed the process correctly to make the decision to stand.

Finally, we showed all participants their outcome. Outcomes were tied to the actual possibility of winning with this starting hand, given the decision to stand or hit. Since the optimal strategy here was to stand, participants who had chosen to stand (in the *self* condition) and participants whose partners had chosen to stand (in the *other* condition) had a greater likelihood of winning (40.0%), than participants who had chosen to hit and participants whose partners had chosen to hit (37.5%). Participants who won the hand and participants whose partners won the hand were paid a $1.00 bonus, with one participant receiving $50.

Results

Despite being incentivized to win their hand with a guaranteed bonus, 57.6% of participants in the *self* condition nevertheless chose to follow their intuition. By contrast, when participants decided how another should make an identical decision, only 44.6% instructed their partner to follow their intuition, $x^2(1, 816) = 13.78$, $p < .001$. Indeed, the majority (77.4%) of the participants who chose to follow their intuition elected the suboptimal strategy.

Discussion

Study 3 provided initial evidence that under incentivized conditions, participants endorse different decision strategies for themselves versus others. When given the opportunity to quadruple their payment and enter into a raffle for a large cash reward, the majority of participants still chose to follow their intuition over a structured process which they were told was designed to provide the optimal decision based on millions of simulated hands. However, this

[7] Because in reality, there was no partner, being assigned to equal probabilities of the fictional partner "standing" or "hitting" increased these participants' chances of winning because the intuitive tendency was to make the sub-optimal decision to hit.

preference for following an intuitive approach decreased when considering what another individual should do.

Given that following the process required minimal effort, it seems unlikely that participants were simply being lazy. Instead, we predict that this result is due in part to the fact that relying on one's intuition is enjoyable –and that such enjoyment is less salient and less relevant when it accrues to someone else.

However, another reasonable possibility is that individuals simply consider their own intuition to be superior to their peers. In Study 4, we explicitly examine participants' beliefs about their own versus others' enjoyment in using different decision strategies. We similarly examine people's beliefs about the accuracy of their own and others' judgment and ask them to report how they weigh considerations of enjoyment and accuracy against each other.

Study 4

Participants in Study 4 predicted an entrepreneur's likelihood of receiving funding based on a product pitch, either by using their intuition or by utilizing a multi-step process. Participants made this choice for themselves or made a recommendation for a fellow participant in a between-subjects design.

A key goal was to obtain empirical evidence for the idea that participants not only predict greater enjoyment from following their intuition, but also weigh enjoyment more heavily when thinking about themselves than others. We further examined whether participants' choice of which decision strategy to recommend was driven by different beliefs about the accuracy of judgments arising from their own versus another person's intuition. We thus measured how much participants expected themselves versus another person to enjoy the task, as well as their reported confidence in the accuracy of their own or another's predictions. We then explicitly asked participants about the extent to which they considered task enjoyment and accuracy when selecting a decision strategy for themselves versus a peer.

Method

Participants. We recruited workers on Amazon's Mechanical Turk ($N = 602$, $M_{age} = 37.57$ years, $SD = 11.89$ years; 49% male) to participate in a study on judgment and decision-making in exchange for $0.35, with a potential bonus opportunity.[8]

Design and Procedure. We introduced participants to the reality television show, SharkTank, where entrepreneur contestants make presentations to investors ("Sharks"), who then choose whether or not to invest. In order to familiarize themselves with SharkTank, all participants watched a video of one of the presentations. We told participants that this presentation was not related to the main task, but was merely an example.

After watching the clip, we told participants about another SharkTank presentation, which was the focus of the study. Participants learned that their task was to watch a 43-year old entrepreneur pitching a kitchen product and predict whether the entrepreneur would receive funding from at least one Shark. The prediction could be made by following one's intuition or by using a multi-step process which broke down the evaluation into smaller components, such as how well the entrepreneur grabbed the attention of the investors; how clearly the value proposition was conveyed; and how familiar the entrepreneur was with relevant financial information (Appendix F).

Participants were either told they would do this task themselves (and receive a bonus for the correct prediction) or paired with a partner who would do the task. In this second condition, the participant would receive a bonus if their partner made the correct prediction. Participants in the *self* condition chose which decision strategy they would follow if they had to perform the task with the goal of being as accurate as possible. Participants in the *other* condition chose which strategy their partner should follow. Thus, all participants made an incentivized choice regarding

[8] Fifteen participants did not give consent and forty participants failed to pass a basic attention check and were excluded from participating.

whether to use intuition or the structured process, anticipating that this strategy would be enacted either by themselves or by another mTurker.

All participants predicted how much they [or their partner] were likely to enjoy using both approaches. Specifically, we asked participants, "*How much do you think [you/your partner] would enjoy this task?*" on a 1-7 Likert scale ranging from "*Not at all*" to "*Extremely*" with "*Somewhat*" as the mid-point.

In order to rule out the explanation that differences in decision strategy choice between *self* and *other* are simply driven by people's beliefs in the superiority of their own judgments, participants also made predictions regarding the level of accuracy that each approach would produce. Specifically, we asked participants, "*How confident would you be that this prediction is correct?*" on the same 7-point scale, with respect to themselves and their partner.

Importantly, enjoying something is different from *weighing* enjoyment heavily in one's decision making. For example, a person might enjoy a particular activity (cooking), but ultimately decide to engage or not engage in it for entirely different reasons (having or not having time to cook). In order to parse out this distinction, we collected two additional measures.

Specifically, we asked participants how important it was to consider task enjoyment when selecting their decision strategy, as well as how important it was to consider prediction accuracy. Thus we asked: "*When choosing how to do this task, how much importance did you place on you [your partner] enjoying the task?*" and "*When choosing how to do this task, how much importance did you place on [your partner] making an accurate prediction?*" Participants answered the former question by finishing the statement, "*Enjoyment of the task is…*" with a 1-5 Likert scale ranging from "Not at all important" to "Very important." Participants answered the latter question by finishing the statement, "*Being accurate on the task is…*" using the same 5-point scale.

Results

Choice for self and others. In line with Study 3 results, a greater proportion of participants in the *self* condition (84.6%) chose to use their intuition, compared to the 61.4% of participants in the *other* condition who selected intuition for their partners, $x^2(1)= 41.13$, $p < .001$.

Predictions of enjoyment and accuracy. To more closely examine the above result, we conducted separate 2x2 mixed ANOVAs on participants' predictions of enjoyment and accuracy. In each case, the prediction is the dependent variable, decision strategy is a within-subjects factor (intuition vs. process) and role (self vs. other) is a between-subjects factor.

Participants predicted following intuition to lead to greater enjoyment than following a process, $M_{\text{intuition}} = 3.75$ of 5 vs. $M_{process} = 2.55$, $F(1, 599) = 537.8$, $p < .001$, $\eta_p^2 = .473$ (see Table 1 for means and standard deviations). There was no interaction between strategy and role, with participants predicting that intuition would be more enjoyable than process, both for themselves or a peer (see Figure 1 and Table 1). These results again support the idea that people expect intuition to be more enjoyable, for both themselves and others.

Participants recognized that following a process would lead to more accurate judgments than following intuition ($M_{\text{intuition}} = 3.33$, SD = 0.82 vs. $M_{\text{process}} = 3.42$, SD = 0.84; $F(1, 599) = 4.27$, $p = .039$, $\eta_p^2 = .007$). Interestingly, participants predicted their accuracy to be similar to that of their peers ($M_{\text{self}} = 3.34$, SD = .84 vs. $M_{\text{other}} = 3.41$, SD = 0.82; $F(1, 599) = 1.675$, $p = .196$). For accuracy predictions, we also found a role by strategy interaction, $F(1, 599) = 4.60$, $p = .032$. Participants predicted similar levels of accuracy for themselves when following intuition or process ($p = .954$), but thought that others would be more accurate following the process than following their intuition, $t(301) = 2.89$, $p = .004$, $d = .17$. These results speak against the explanation that the self/other difference in decision strategy choice is driven solely by people's faith in the superiority of their own intuition. If we compare participants' confidence in the accuracy of their own versus others' intuitions, we find no difference ($M_{\text{self_intuition}} = 3.34$, SD = .82 vs. $M_{\text{other_intuition}} = 3.32$, SD = .82; $t(599) = .349$, $p = .728$), see Figure 1.

Importance Ratings. Examining how participants weighed enjoyment and accuracy in their strategy choices, we found that participants in the *self* condition placed greater importance on enjoyment in making their choice than participants in the *other* condition (M_{self} = 3.40 of 5, SD = 1.27 vs. M_{other} = 3.15, SD = 1.41, $t(599) = 2.37$, $p = .018$, $d = .189$). Furthermore, we found no difference between conditions in how much importance was placed on task accuracy (M_{self} = 3.66, SD = .91 vs. M_{other} = 3.74, SD = .85, $t(599) = -1.15$, $p = .251$). In other words, while participants saw making an accurate prediction as being of equal importance to themselves and others, they reported enjoyment to be more important to themselves.

Next, we conducted a 2 x 2 mixed ANOVA on participants' ratings of importance and found a role by consideration interaction, $F(1, 599) = 6.70$, $p = .010$. As illustrated in Table 1, although participants weighed accuracy more heavily than enjoyment for themselves, $t(298) = 2.85$, $p = .005$, $d = .16$, this difference was even greater for others, $t(301) = 6.13$, $p < .001$, $d = .35$.

Strategy choice as a function of perceived enjoyment and accuracy. Since participants rated enjoyment as relatively more important for themselves than for others, we would predict that participants' choices for themselves depend more on predictions of enjoyment and less on predictions of accuracy than do their choices for others. To conduct this analysis, we created two difference variables (one for *self* and one for *other*) corresponding to the difference in predicted enjoyment between intuition and process. For example, the variable *DiffJoy* for self equals the predicted enjoyment for self resulting from the use of intuition minus the predicted enjoyment for self from the use of process. We similarly constructed two analogous difference variables for accuracy using participants' predictions of accuracy for intuition and process.

Table 2 shows logistic regression models that predict the log odds of participants' choosing intuition over process as a function of role, and the difference measures in the impact on enjoyment and accuracy described above. Role is coded as 1 when choosing for *self* and 0 when

choosing for *others*. As the difference measures are modestly correlated ($r = .16$, $p < .001$), we examined models in which they are either entered separately (Models 2 and 3) or together (Models 1 and 4). Note that, because we dummy-coded *Role*, the coefficients on *DiffAcc* and *DiffJoy* in Models 2-4 represent the simple effects of these variables when choosing for others.

These coefficients show that participants in the role of choosing for *others* were sensitive to differences in predicted accuracy, whereas the simple effect of predicted enjoyment was not significant. The interaction terms in Models 2 and 3 show that participants who chose for themselves (*self* condition) attended less to accuracy and more to enjoyment for themselves than those who chose for *others*. Model 4 show that these results hold up when accuracy and enjoyment are included in the model simultaneously. Finally, it is interesting to note that role had a direct effect even when both difference measures were included simultaneously. Importantly, since the difference scores are naturally centered at zero, this means that participants tended to prefer intuition more for themselves than for others even after accounting for differences in their predictions regarding the effect of the strategy on accuracy and enjoyment.

In sum, participants rate enjoyment as relatively *more important* for themselves than for others, and they also *weigh* enjoyment more heavily when making decision choices for themselves than for others.[9] In this way we were able to test both participants' *reported* consideration of enjoyment as well as their *actual* use of enjoyment in the choices they made. These results suggest that people choose to follow intuition at a higher rate than they recommend it to others, not because they believe their intuition to be superior and not because they don't think others will similarly enjoy it, but because they more strongly prioritize task enjoyment when making decisions for themselves.[10]

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[9] As a robustness check, we also examined whether importance ratings mediated the relationship between role and strategy choice. In support of the above results, a path analysis also revealed that the importance placed on task enjoyment, but not task accuracy, mediated the relationship between role and strategy choice (Appendix G).

[10] We also examined the decision choices people made with respect to their predicted enjoyment and accuracy. In line with our overall results, we find that people are more likely to choose process for others

Discussion

Our study design and analyses allow us to distinguish between the anticipated level of accuracy and task enjoyment that participants associate with different decision strategies, versus the actual *weight* that they place on these considerations. While participants recognized that following intuition would be more enjoyable both for themselves and others, they considered anticipated enjoyment to be more important and weighed it more heavily for themselves.

In this way, our analyses reveal a more nuanced account than the one previously suggested which explained use of intuition as stemming from overconfidence. It appears that individuals recognize that following a structured process leads to greater accuracy, whereas following one's intuition leads to greater enjoyment. In considering their own and others' choices, people seem more concerned with enjoyment when making choices for themselves, while focusing more narrowly on the goal of accuracy for peers. This more nuanced understanding can in turn give rise to new interventions for organizations seeking to improve decision-making.

Importantly, Studies 3 and 4 featured incentives for accuracy that would accrue to the participant if either they or their partner made an accurate prediction. This design feature makes it more difficult to argue that our results are due to the fact that when making decisions for others, individuals were sensitive to alternative normative considerations or social values (Kray & Gonzalez, 1999; Kray, 2000; Stone & Allgaier, 2008). In both cases, the presence of incentives communicated to the participant that accuracy was indeed the goal. However, our results show that individuals were more willing to risk the potential accuracy costs of following intuition when their own enjoyment was on the line.

Study 5

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than for themselves when there is a conflict between how accurate they predict a strategy will be versus how enjoyable they predict it to be (Appendix H).

In Study 5, we replicate the self/other difference captured in Studies 3 and 4 with a structured process that requires no effort. Our process, which allows participants to replace their intuition with the calculated average of others' judgments, has been demonstrated to lead to robust accuracy improvements (Larrick & Soll 2006; Minson et al., 2011; Soll & Larrick, 2009). Thus, Study 5 enables us to test whether participants still favor intuition for themselves to a greater extent than for a peer even when the process requires no effort *and* boosts accuracy.

Importantly, in Study 5, we test a debiasing intervention. To the extent that considerations of enjoyment figure into individuals' choice of decision strategy, one might imagine increasing the uptake of more systematic processes by making process more pleasurable or intuition less so. However, in Study 5 we test a simpler, and thus more practical intervention. In line with previously documented findings on how order effects can be used for de-biasing (Li et al., 2017; Polman & Wu, 2020), we manipulate whether participants first make a choice of decision strategy for themselves versus for another person. We hypothesize that considering which approach another individual should take will make participants more likely to choose a structured process for themselves.

Method

Participants. We recruited workers on Amazon's Mechanical Turk (N = 868, M_{age} = 36.19 years, SD = 11.96 years; 54% male) to participate in a study exploring how people make estimates in exchange for $0.25, with a bonus opportunity for accuracy.[11]

Design and Procedure. We told participants that their main task was to guess the age of an individual pictured in a photo. Before seeing the photo, we asked participants to decide how they would make the estimate. Participants could either look at the photo and use their intuition, or receive a calculated average (from 7 other mTurkers who saw the same photo), which would be used as their age estimate. We told participants this latter approach often results in improved

[11] One hundred fifty-seven participants failed to pass a basic attention check and were excluded from participating in the study.

accuracy (Mannes et al., 2012). We incentivized participants by telling them that they would win a $0.25 bonus if their age estimate was correct.

Participants were asked to consider another mTurker (their "partner") doing the same task with a different photo and to recommend whether their partner should use their intuition or the calculated average. Again, we reminded participants that the latter approach often leads to accurate estimates. We incentivized participants to give accurate advice to their partner by telling them that if their partner's age estimate was correct, they (and their partner) would each receive a $0.25 bonus. In this within-subjects design, we counter-balanced the order in which participants made choices for themselves versus gave advice to their partner.

After all participants made their choices, we showed them a photo of a target person. If participants chose to use their intuition, we then asked them to provide their age estimate. If participants chose to receive the calculated average, we provided this average and told them it would be used as their response.

In separate pre-tests, different groups of participants saw two photos, one of a 41-year old male (N = 105, M_{age} = 34.17 years, SD = 11.68 years; 46% male), and one of a 29-year old female (N = 106, M_{age} = 34.10 years, SD = 10.14 years; 49% male) (Moore et al., 2015). Pre-test participants estimated the age of the individual pictured. Participants in the main study who chose to rely on the calculated average saw the average of seven estimates from this pre-test that were approximately representative of the distribution of estimates.[12]

[12] A total of 105 participants looked at the photo of the 41-year-old man and gave an estimate of his age along with an explanation. We took these 105 estimates and sorted them from lowest (30 years) to highest (60 years). We divided these 105 estimates into 7 categories from lowest to highest, with 15 estimates in each category. In other words, the first category represented the 15 lowest age estimates while the seventh category represented the 15 highest age estimates. For the main study, where participants chose to rely on the calculated average, we presented participants an average of seven estimates – where one estimate was randomly drawn from each of the seven categories. We did this to ensure that participants would see a representative set of age estimates. The same process was followed for the other photo.

We randomly assigned participants in the main study to see one of two photos. Neither which photo participants saw, nor which calculated average they received, affected our outcomes of interest and therefore we collapse across these variables in our analyses.

Results

Choice for self and others. We estimated a logistic regression that predicted decision strategy choice (intuition vs. structured process) as a function of role (self vs. other) and task order (self first vs. other first). We used the method of generalized estimating equations (GEE) to account for the fact that each participant provided multiple observations (Allison, 2012).

Again, there was a significant main effect of role (Wald = 11.60, p =.001), with participants choosing intuition at a higher rate for themselves (45.9%) than others (40.7%). There was a significant interaction (Wald = 8.86, p = .003), indicating that the self versus other difference was moderated by order.

We then examined the simple effect of role within each order. When choosing first for themselves, 48.7% of participants (211 out of 433) favored intuition for themselves, compared to 38.9% (166 out of 427) who favored intuition for others (Wald = 21.05, p < .001), a pattern similar to that documented in earlier studies. Interestingly, when participants considered others first, the preference for using their own intuition *decreased* such that there was no longer a difference between choices for self and others, with 43.2% (186 out of 431) choosing intuition for themselves and 42.5% (184 out of 433) choosing it for others, p = .765, see Figure 2.

Accuracy. When we compared the absolute difference between participants' estimates and the correct age, we found that participants who followed their intuition were significantly less accurate than participants who relied on the average both for the 29 year-old photo ($M_{\text{intuitive}}$ = 4.96 years difference from the correct age, SD = 4.73, M_{process} = 1.21, SD = 1.20, t(234.48) =

11.14, $p < .001$, $d = .1.09$), and the 41 year-old photo ($M_{intuitive} = 5.71$, $SD = 7.05$, $M_{process} = 1.57$, $SD = 1.37$, $t(194.65) = 7.88$, $p < .001$, $d = .82$).[13]

Discussion

In a task where participants were incentivized for accuracy and explicitly told that use of the process would likely result in more accurate estimates, nearly half still relied on their own intuition. This is particularly interesting given that in this case, following one's intuition was likely more effortful, since the process required no effort. When it came to thinking about what someone else should do, however, participants were more likely to recommend reliance on the process. These choices had accuracy implications, as participants who followed their intuition were significantly less accurate.

Importantly, this self/other difference disappeared when participants considered what someone else should do first. After telling others to follow a process, people may be reluctant to appear hypocritical by disregarding their own advice. Or it may be the case that the advice makes the accuracy goal more salient, such that it overpowers the desire to enjoy a more intuitive process. Although future research should examine the specific psychology behind this result, it suggests a simple and effective intervention in line with prior research on the de-biasing consequences of order effects (Li et al., 2017; Polman & Wu, 2020).

General Discussion

Although organizations often institute structured processes -- decision matrices, checklists, and manuals -- in order to improve decision-making, these efforts are only as effective as individuals' willingness to adopt them. The present research builds upon and extends previous judgment and decision-making literature which has produced consistent evidence of people's

[13] It should be noted that since we provided participants with a stratified sample from the 105 estimates, the informational equivalent was actually closer to n = 105 than it was to n = 7. However, even averages from random samples of 7 were more accurate than participants' intuitive judgment: 10,000 simulated groups of 7 missed the correct age by 2.52 ($SD = 1.57$) years for the 29 year-old and by 1.67 ($SD = 1.30$) years for the 41 year-old.

stubborn reliance on intuition, often at the cost of decision quality. Our work introduces and finds evidence for a complementary set of considerations that decision-makers appear to weigh in choosing how to approach a problem – namely, the hedonic value of the decision strategy. We predict and find support for the hypothesis that individuals favor intuition in part because it is more enjoyable than following a structured decision process. Even when the latter is quick and easy, decision-makers still believe that following their gut will be more fun.

We find support for this finding using a variety of approaches. Experienced engineers reported the use of intuition to be more pleasurable both in open-ended interviews, and in an experiment where they considered a common engineering challenge. Similarly, lay participants reported intuitive decision-making to be more pleasurable than several different structured processes across a variety of familiar tasks. Importantly, the reasons articulated by engineers for intuition being more pleasurable – the feelings of serendipity, the sense of natural flow, and pride in one's greater individual contribution – statistically mediated these experimental results.

We see further support for our theorizing across Studies 3-5, where participants' incentivized choices of intuitive versus structured decision processes were moderated by the identity of the decision-maker. Participants were more likely to choose intuitive decision-making for themselves versus a peer, even when the process was both effortless and more effective. They reported that they did so because they considered task enjoyment to be relatively more important for themselves than others when making decision strategy choices. Our final study also tested an intervention for increasing uptake of systematic processes: when participants were prompted to first advise a peer regarding which decision strategy to use, they were less likely to then select intuition for themselves.

The variety of reasons that our interview participants spontaneously offered for why intuition is enjoyable may go some distance toward explaining why the tendency toward intuitive judgment has been so difficult to overcome both in experimental literature and in practice. Qualitative interviews with expert engineers highlighted several considerations that future

research should explore in greater depth: the exhilaration that comes with taking a risk, the natural flow of a decision "feeling right," and the rewarding feeling of having made a greater personal contribution. In Studies 1b and 2 we found that these considerations mediated both participants' greater expected enjoyment of using their intuition as compared to following a structured process as well as their expectation of greater credit for success.

As in prior research, the preference for intuition often led participants toward inferior outcomes. Participants in Study 3 would have made more money at Blackjack had they followed a strategy table based on the laws of probability, and participants in Study 5 would have arrived at more accurate estimates had they more frequently used the averaged opinions of others rather than followed their own intuition. Ironically, participants who made a recommendation or chose for their peers, with their own outcomes tied to their peer's performance, tended to achieve greater accuracy. Their lesser focus on enjoyment led to better choices.

Our results were robust across a number of decision-making tasks and with different operationalization of the two decision strategy approaches. The structured process varied from relying on AI-driven predictions in Study 2, to using a strategy table in Study 3, to following a step-by-step procedure in Studies 1b, 2 and 4, to averaging the judgments of other individuals in Studies 2 and 5. In this way, the process varied in being likely more effortful than following intuition to minimally effortful, to requiring no effort at all.

Comparing individuals' choices of decision strategy to the choices they make for other people allows us to isolate the role of enjoyment, given that the many other factors on which intuitive versus structured processes might differ are "controlled for" in the self/other analysis. Previous research found that we tend to "follow our hearts" when making decisions for ourselves but not for others, prioritizing our feelings at the expense of other considerations (Scott & Williams, 2023). The pleasure and pain of others is both less salient and less important (Nordgren et al., 2011). When considering the enjoyment of following intuition versus the accuracy benefits of a structured process (which we made explicit to participants), individuals do not blindly ignore

accuracy considerations. This tension is reflected in the fact that in no study do people uniformly choose intuition. However, the self/other comparison (and our process evidence in Study 4), suggest that hedonic considerations win out more often when the choice is being made for the self, where enjoyment is highly salient.

It is important to recognize that our results do not imply that people will universally favor a structured process over intuition for others. In many domains, individuals have more faith in an expert's intuition than they do in an algorithm or decision aid (Larrick & Feiler, 2015). Relatedly, our results also do not imply that people will tend to universally favor intuition for themselves. However, even in cases where the use of a process requires no effort and would reliably benefit accuracy, the reliance on one's own intuition is surprisingly robust. As decisions become more consequential and the trade-off between accuracy and enjoyment tilts in favor of the former, however, people may be more likely to favor the approach resulting in higher accuracy even when it comes as a cost to their decision-making enjoyment.

Improving Decisions

How can we encourage people to follow a structured process in order to improve decision quality? Our studies suggest that a simple nudge can help. Rather than leaping into a task, individuals can first consider how their peers should approach the same problem. This shift in perspective tended to tilt attention away from the egocentric focus on enjoyment. If individuals believe that a structured process translates to better decisions, this intervention may lead them to more often employ it, even for themselves.

Future research should test other de-biasing strategies that may move individuals away from relying on their intuition in situations where it would be unwise to do so. For example, given our findings, presenting the structured process as more enjoyable may reduce use of intuition. Similarly, allowing decision-makers freedom in selecting or designing their own structured process could potentially increase the likelihood of it being chosen. Previous research has found a reduction in algorithm aversion when decision-makers were allowed to make

modifications to the algorithm (Dietvorst et al., 2016). Perhaps we would find a decreased reliance on intuition if the alternative was a modifiable structured process that participants recognized as presenting a smaller trade-off between accuracy and enjoyment.

One interesting question that our research raises is whether individuals are explicitly aware of the weight they put on the hedonic value of decision-making strategies. Whereas our interview participants frequently reported that they found following their intuition to be enjoyable, many of them also found the question surprising and thought-provoking. The joy of intuition may be something individuals frequently experience, but rarely reflect on. It may be the case that making this component salient could turn people toward more structured approaches, especially when the stakes are high.

Another direction for future research would be to carefully consider the aspects of intuition that make it particularly enjoyable as articulated by our interviewees and empirically supported by Study 2. Future empirical work can more systematically investigate these psychological mechanisms in an attempt to decrease their influence on decision strategy choice in contexts when they may be particularly prevalent. Bringing hedonic value into the conversation of how people approach decisions, make decisions, and evaluate their decisions in retrospect can help produce a richer and more accurate account of our decision-making experience.

References

Allison, P. D. (2012). *Logistic regression using SAS: Theory and application*. SAS Institute.

Arkes, H. R., Dawes, R. M., & Christensen, C. (1986). Factors influencing the use of a decision rule in a probabilistic task. *Organizational behavior and human decision processes*, *37*(1), 93-110.

Barkan, R., Danziger, S., & Shani, Y. (2016). Do as I say, not as I do: Choice–advice differences in decisions to learn information. *Journal of Economic Behavior & Organization*, *125*, 57-66.

Beisswanger, A. H., Stone, E. R., Hupp, J. M., & Allgaier, L. (2003). Risk taking in relationships: Differences in deciding for oneself versus for a friend. *Basic and Applied Social Psychology*, *25*(2), 121-135.

Camerer, C. F., & Hogarth, R. M. (1999). The effects of financial incentives in experiments: A review and capital-labor-production framework. *Journal of risk and uncertainty*, *19*, 7-42.

Chaiken, S., & Trope, Y. (Eds.). (1999). *Dual-process theories in social psychology*. Guilford Press.

Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

De Neys, W. (2014). Conflict detection, dual processes, and logical intuitions: Some clarifications. *Thinking & Reasoning*, *20*(2), 169-187.

Dietvorst, B. J., Simmons, J. P., & Massey, C. (2016). Overcoming algorithm aversion: People will use imperfect algorithms if they can (even slightly) modify them. *Management Science*.

Enke, B., Gneezy, U., Hall, B., Martin, D., Nelidov, V., Offerman, T., & Van De Ven, J. (2021). Cognitive biases: Mistakes or missing stakes?. *The Review of Economics and Statistics*, 1-45.

Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American psychologist*, *49*(8), 709.

Evans, J. S. B. (2007). *Hypothetical thinking: Dual processes in reasoning and judgement* (Vol. 3). Psychology Press.

Evans, J. S. B. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annu. Rev. Psychol.*, *59*, 255-278.

Faro, D., & Rottenstreich, Y. (2006). Affect, empathy, and regressive mispredictions of others' preferences under risk. *Management Science*, *52*(4), 529-541.

Fernandez-Duque, D., & Wifall, T. (2007). Actor/observer asymmetry in risky decision making. *Judgment and Decision Making*, *2*(1), 1.

Gigerenzer, G., & Goldstein, D. G. (1996). Reasoning the fast and frugal way: models of bounded rationality. *Psychological review, 103*(4), 650.

Handley, S. J., & Trippas, D. (2015). Dual processes and the interplay between knowledge and structure: A new parallel processing model. In *Psychology of learning and motivation*(Vol. 62, pp. 33-58). Academic Press.

Inbar, Y., Cone, J., & Gilovich, T. (2010). People's intuitions about intuitive insight and intuitive choice. *Journal of personality and social psychology*, *99*(2), 232.

James, W. (1950). *The principles of psychology: in 2 volumes*. Dover Publ., Incorporated.

Jones, B., & Rachlin, H. (2006). *Social discounting. Psychological science, 17*(4), 283-286.

Kahneman, D. (2003). A perspective on judgment and choice: mapping bounded rationality. *American psychologist*, *58*(9), 697.

Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.

Kahneman, D., & Frederick, S. (2002). Representativeness revisited: Attribute substitution in intuitive judgment. *Heuristics and biases: The psychology of intuitive judgment*, *49*, 81.

Kahneman, D., & Frederick, S. (2005). *A Model of Heuristic Judgment.* In K. J. Holyoak & R. G. Morrison (Eds.), *The Cambridge handbook of thinking and reasoning* (p. 267–293). Cambridge University Press.

Kahneman, D., Sibony, O., & Sunstein, C. R. (2021). *Noise: a flaw in human judgment*, Little, Brown Spark.

Kray, L. J. (2000). Contingent weighting in self-other decision making. *Organizational Behavior and Human Decision Processes*, *83*(1), 82-106.

Kray, L., & Gonzalez, R. (1999). Differential weighting in choice versus advice: I'll do this, you do that. *Journal of Behavioral Decision Making*, *12*(3), 207

Kruger, J., Wirtz, D., & Miller, D. T. (2005). Counterfactual thinking and the first instinct fallacy. *Journal of personality and social psychology*, *88*(5), 725.

Larrick, R. P. (2004). Debiasing. *Blackwell handbook of judgment and decision making*, 316-338.

Larrick, R. P., & Feiler, D. C. (2015). Expertise in decision making. *The Wiley Blackwell handbook of judgment and decision making*, *2*, 696-721.

Larrick, R. P., & Soll, J. B. (2006). Intuitions about combining opinions: Misappreciation of the averaging principle. *Management science*, *52*(1), 111-127.

Lawson, M. A., Larrick, R. P., & Soll, J. B. (2020). Comparing fast thinking and slow thinking: The relative benefits of interventions, individual differences, and inferential rules. *Judgment and Decision making, 15*(5), 660-684.

Lerner, J. S., & Tetlock, P. E. (2003). Bridging individual, interpersonal, and institutional approaches to judgment and decision making: The impact of accountability on cognitive bias.

Li, Z., Rohde, K. I., & Wakker, P. P. (2017). Improving one's choices by putting oneself in others' shoes–An experimental analysis. *Journal of Risk and Uncertainty*, *54*(1), 1-13.

Liberman, N., Trope, Y., & Wakslak, C. (2007). Construal level theory and consumer behavior. *Journal of consumer psychology*, *17*(2), 113-117.

Loewenstein, G. (1996). Out of control: Visceral influences on behavior. *Organizational behavior and human decision processes*, *65*(3), 272-292.

MacKenzie, S. B. (1986). The role of attention in mediating the effect of advertising on attribute importance. *Journal of consumer research*, *13*(2), 174-195.

Maglio, S. J., & Reich, T. (2020). Choice protection for feeling-focused decisions. *Journal of Experimental Psychology: General*, *149*(9), 1704.

Mannes, A. E., Larrick, R. P., & Soll, J. B. (2012). The social psychology of the wisdom of crowds.

McCauley, C., Kogan, N., & Teger, A. I. (1971). Order effects in answering risk dilemmas for self and others. *Journal of Personality and Social Psychology*, *20*(3), 423.

Miller, D. T., & Taylor, B. R. (2014). Counterfactual thought, regret, and superstition: How to avoid kicking yourself. In *What might have been* (pp. 317-344). Psychology Press.

Minson, J. A., Liberman, V., & Ross, L. (2011). Two to tango: Effects of collaboration and disagreement on dyadic judgment. *Personality and Social Psychology Bulletin*, *37*(10), 1325-1338.

Moore, D. A., Carter, A. B., & Yang, H. H. (2015). Wide of the mark: Evidence on the underlying causes of overprecision in judgment. *Organizational Behavior and Human Decision Processes*, *131*, 110-120.

Nordgren, L. F., McDonnell, M. H. M., & Loewenstein, G. (2011). What constitutes torture? Psychological impediments to an objective evaluation of enhanced interrogation tactics. *Psychological science, 22*(5), 689-694.

Oktar, K., & Lombrozo, T. (2022). Deciding to be authentic: Intuition is favored over deliberation when authenticity matters. *Cognition*, *223*, 105021.

Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993). *The adaptive decision maker*. Cambridge university press.

Pennycook, G., Fugelsang, J. A., & Koehler, D. J. (2015). What makes us think? A three-stage dual-process model of analytic engagement. *Cognitive Psychology*, *80*, 34-72.

Polman, E. (2012). Self–other decision making and loss aversion. *Organizational Behavior and Human Decision Processes*, *119*(2), 141-150.

Polman, E., & Wu, K. (2020). Decision making for others involving risk: a review and meta-analysis. *Journal of Economic Psychology*, *77*, 102184.

Pronin, E. (2008). How we see ourselves and how we see others. *Science*, *320*(5880), 1177-1180.

Risen, J. L., & Gilovich, T. (2007). Another look at why people are reluctant to exchange lottery tickets. *Journal of Personality and social Psychology*, *93*(1), 12.

Risen, J. L., & Gilovich, T. (2008). Why people are reluctant to tempt fate. *Journal of personality and social psychology*, *95*(2), 293.

Scott, S. E., & Williams, E. F. (2023). In goal pursuit, I think flexibility is the best choice for me but not for you. *Journal of Marketing Research*, *60*(5), 1008-1026.

Sievertsen, H. H., Gino, F., & Piovesan, M. (2016). Cognitive fatigue influences students' performance on standardized tests. *Proceedings of the National Academy of Sciences, 113*(10), 2621-2624.

Shafir, E., & LeBoeuf, R. A. (2002). Rationality. *Annual review of psychology*, *53*(1), 491-517.

Simmons, J. P., & Nelson, L. D. (2006). Intuitive confidence: choosing between intuitive and nonintuitive alternatives. *Journal of experimental psychology: General*, *135*(3), 409.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological bulletin*, *119*(1), 3.

Soll, J. B., & Larrick, R. P. (2009). Strategies for revising judgment: How (and how well) people use others' opinions. *Journal of experimental psychology: Learning, memory, and cognition*, *35*(3), 780.

Stanovich, K. E. (1999). *Who is rational?: Studies of individual differences in reasoning*. Psychology Press.

Stanovich, K. E. (2004). Metarepresentation and the great cognitive divide: A commentary on Henriques"“Psychology Defined”. *Journal of clinical psychology*, *60*(12), 1263-1266.

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate?. *Behavioral and brain sciences*, *23*(5), 645-665.

Stone, E. R., & Allgaier, L. (2008). A social values analysis of self–other differences in decision making involving risk. *Basic and Applied Social Psychology*, *30*(2), 114-129.

Stone, E. R., Yates, A. J., & Caruthers, A. S. (2002). Risk taking in decision making for others versus the self. *Journal of Applied Social Psychology*, *32*(9), 1797-1824.

Stone, E. R., YoonSun, C., Bruine de Bruin, W., & Mandel, D. R. (2013). I can take the risk, but you should be safe: Self-other differences in situations involving physical safety. *Judgment and Decision making*, *8*(3), 250-267.

Taylor, S. E. (1981). The interface of cognitive and social psychology. *Cognition, social behavior, and the environment*, *1*, 189-211.

Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological review*, *117*(2), 440.

Thompson, V. A., Turner, J. A. P., & Pennycook, G. (2011). Intuition, reason, and metacognition. *Cognitive psychology*, *63*(3), 107-140.

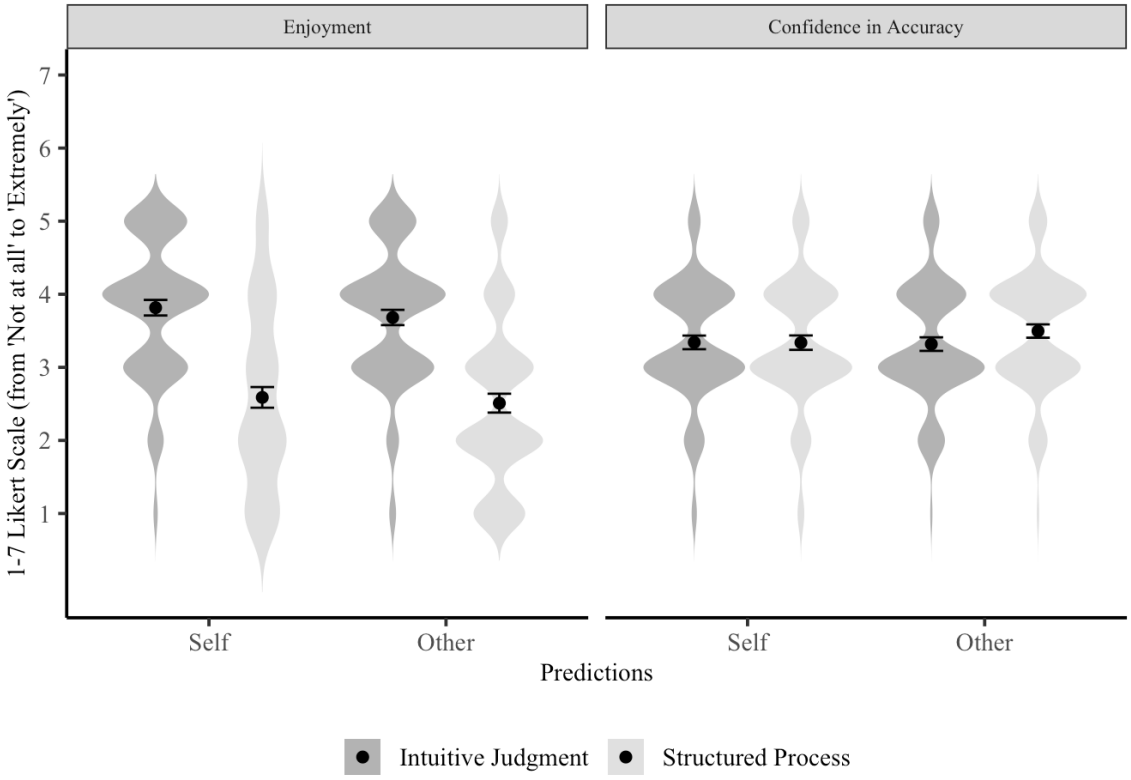
Thompson, V. A., Turner, J. A. P., Pennycook, G., Ball, L. J., Brack, H., Ophir, Y., & Ackerman, R. (2013). The role of answer fluency and perceptual fluency as metacognitive cues for initiating analytic thinking. *Cognition*, *128*(2), 237-251.

Topolinski, S., & Reber, R. (2010). Gaining insight into the “Aha” experience. *Current Directions in Psychological Science*, *19*(6), 402-405.

Walco, D. K., & Risen, J. L. (2017). The empirical case for acquiescing to intuition. *Psychological science*, *28*(12), 1807-1820.

Figure 1

Predicted enjoyment and confidence in accuracy as a function of role and judgment strategy (Study 4)



Note: Shaded areas display distributions. Black dots indicate means, and error bars represent 95% confidence intervals around the means. Participants expected following intuition to be far more enjoyable than following a structured process both for themselves and for other people. Participants expected no difference in accuracy for themselves when using either judgment strategy, but predicted others would be more accurate following a process than their intuition.

Figure 2

Percentage of Participants Choosing Intuitive Judgment, as Function of Role and Order

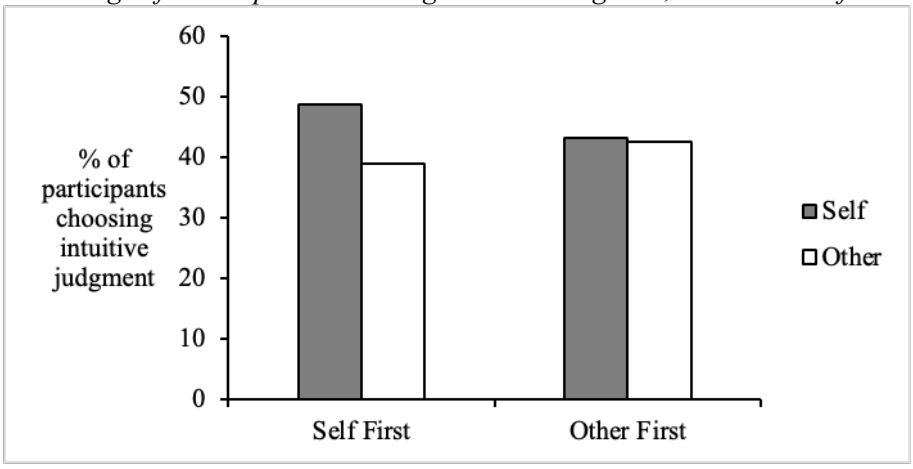


Table 1

Means and Standard Deviations for all Measured Dependent Variables

	Accuracy		Enjoyment		Importance	
	Intuitive Judgment	Structured Process	Intuitive Judgment	Structured Process	Accuracy	Enjoyment
Self	3.34	3.34	3.82	2.59	3.66	3.40
	(0.82)	(0.86)	(0.94)	(1.24)	(0.91)	(1.27)
Other	3.32	3.50	3.68	2.51	3.74	3.15
	(0.82)	(0.81)	(0.92)	(1.14)	(0.85)	(1.41)

Note: Values in parentheses are cell standard deviations. Observations within each row come from the same participants evaluating intuitive judgment and structured process (first four columns) and importance (last two columns).

Table 2

Logistic Regression Models Predicting the Log Odds of Choosing Intuitive Judgment

	(1)	(2)	(3)	(4)
(Intercept)	0.573 **	0.985 ***	0.311	0.831 ***
Role	1.327 ***	1.019 ***	0.848 ***	0.682 *
DiffAcc	1.378 ***	1.581 ***		1.595 ***
DiffJoy	0.321 ***		0.141	0.153
Role * DiffAcc		-0.563 *		-0.496
Role * DiffJoy			0.450 *	0.469 *
Observations	601	601	601	601
Tjur's R^2	0.310	0.308	0.090	0.324

** p<0.05 ** p<0.01 *** p<0.001*