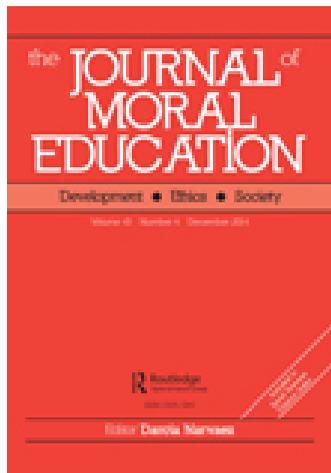


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Questioning intuition through reflective engagement

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Current literature on ethics and moral development focuses on discussion concerning the impact of intuition on moral decision-making. Through the use of student journal reflections over the course of one semester, this study utilized a grounded theory approach in order to explore and understand participant levels of awareness and understanding of intuition in this regard. The findings suggest that reflective engagement enables these participants to become more aware of and therefore *access* and *govern* intuitions so that they can be more equally integrated during a moral decision-making process. This study emphasizes the student's understanding of the impact of intuition on moral decision-making and therefore offers additional insight into the current discussion in the literature.

Keywords: intuition, reflection, grounded theory

Amid continuous discussions on the value of a liberal arts degree and the importance of developing career readiness skills for particular occupations, institutions of higher education continue to voice their commitment to providing moral and democratic education to students, as they have from their inception (Mayhew, Seifert, & Pascarella, 2012). This emphasis continues to be seen in the mission statements of colleges and universities that include reference to characteristics falling within the domain of moral education (Ehrlich, 2000). Beyond the university, accrediting bodies and higher education associations have explicitly committed to prioritizing moral education (e.g. The National Association for State Universities and Land-Grant Colleges 1997; Council on Social Work Education [Holloway et al., 2009]).

The cognitive processes involved in moral decision-making and therefore moral development are certainly complex. One of these complexities that has been a popular topic of debate over the past decade involves the relevance and influence of two critical elements: reasoning and intuition. Research findings from neuropsychology concerning intuition's influence on moral decision-making have generated renewed energy in this debate. Discussion continues in the literature about the

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relationship between intuition and reasoning and whether or not one should be considered more dominant than the other, or whether they can be viewed as equally influential on one's moral decision-making. While there are a multitude of philosophical articles, as well as neuroimaging research, speaking to the relationship between reasoning and intuition, to date no qualitative research has explored these issues explicitly. In particular, there have been no qualitative examinations of university students' awareness and/or understanding of the intuition and its connection to the reasoning process. Before translating fMRI research or philosophically based suggestions directly into educational interventions, it is important to inquire with the students themselves. Therefore, this grounded theory study sought to gain an in-depth understanding of whether or not a sample of students were aware of intuition's impact on their moral calculations without being prompted to explicitly address it. To the extent that they were aware of intuition and its impact, how do they understand intuition's influence?

Literature review

Research throughout the past decade, particularly within neuropsychology (Greene, Nystrom, Angell, Darley, & Cohen, 2004; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001) and empirical moral psychology (Haidt, 2001; Haidt & Kesebir, 2010), has shifted the focus further away from a rationalist perspective of moral decision-making (Blasi, 1995; Frimer & Walker, 2008; Lapsley & Hill, 2008). The research moderates a prior focus on the rational individual making deliberate choices and accentuates how decisions can be, and often are, made in the absence of conscious thought (Lapsley & Hill, 2008; Narvaez & Vaydich, 2008). Studies on mental disorders and brain lesions show the critical importance of emotions for moral judgment (Koenigs et al., 2007). Neuroimaging research uncovers the activation of brain regions connected with emotion and not reason when individuals make moral decisions (Barsky, Kaplan, & Beal, 2011; Moll et al., 2002; Moll et al., 2005). Earlier evidence (Libet, 1985) revealed that motor neurons are already active prior to an individual's conscious decision being made, therefore suggesting that unconscious systems are directing our decisions prior to conscious awareness (Narvaez & Vaydich, 2008). Automatic intuitions appear to play a significant role in what ultimately shapes our moral decisions (Greene et al., 2001, 2004).

Multiple comparisons have been made between the intuitive mind and the deliberative mind (Evans, 2003, 2008; Greene et al., 2001, 2004; Kahneman, 2003, 2011; Kahneman & Fredrick, 2002; Stanovich & West, 2000). The terminology of System I and System II used by Stanovich and West will be embraced here. System I refers to cognitions that are implicit, heuristic, intuitive, automatic, affectively laden ('hot') and acquired by biology and personal experiences. System I processes operate quickly and effortlessly and process information holistically and emotionally. In comparison, System II processes operate in a controlled, conscious and analytical manner. This system refers to cognitions that

are explicit, analytical, reasoned, effortful and rational ('cold') and acquired through formal instruction (Barsky et al., 2011; Haidt, 2001; Lapsley & Hill, 2008; Sauer, 2012). The *intuitive* (System I) and *reasoning* (System II) systems are not explicitly distinct but are each forms of cognition (Haidt, 2001) and therefore a 'collection of processes' (Kahneman & Fredrick, 2002, p. 51).

Jonathan Haidt's (2001) Social Intuitionist Model (SIM) of moral judgment appears to be the impetus for reinvigorating the discussion about the balance between the two systems. SIM integrates reasoning, emotion, intuition and social influence and posits that intuitions automatically generate moral judgments, and these judgments lead to post hoc reasoning. Hence, deliberate thought processes are used only for post hoc justification of an automatic intuitive judgment. While Haidt clearly identifies intuition as the senior partner of the two systems, his *reasoned judgment link* (link 5) and *private reflection link* (link 6) make acknowledgement of the potential for a rational influence. Reflection is used in these processes to override the intuition or alter the judgment already made. Haidt determines this type of corrective mechanism to be rare and to require extensive cognitive resources.

Currently, the literature reveals three perspectives concerning the level of influence of intuition and reasoning on the processes involved in moral decision-making. First, the intuitionists hold that reasoning plays a very minimal role (if any) in moral decision-making (Haidt, 2001; Haidt, Graham, & Joseph, 2009; Prinz, 2007). Proponents of a second perspective argue that emotions and reasoning function independently; more specifically, emotion is mainly necessary for deontological judgments, whereas controlled cognitions are used for consequentialist moral judgments (Greene et al., 2001). Third, other researchers continue to maintain that current research data remains consistent with the idea that moral decision-making, through deliberate reflective processes, ultimately produces moral judgments (Fine, 2006; Kennett & Fine, 2009). Alongside this third standpoint, Craige (2011) holds the perspective that moral reasoning is a metacognitive process that is both deliberate and influenced by emotions. This point of view 'conceives of emotional-intuition generating processes and reflective processes as operating in an integrated way in moral decision-making, assigning meta-cognition an essential role in the monitoring and shaping of moral intuitions' (2011, p. 54). This outlook endorses the importance of the reflective process in integrating intuition and reasoning; hence, she builds on and provides justification for Haidt's corrective processes (links 5 and 6 of the SIM).

Research purpose and approach

Much of the literature mentioned above calls for an increased understanding of the relationship between intuition and reasoning as it relates to moral development. The speed at which these processes occur can make it difficult to separate one from the other; even if successfully isolated, the time lapse between the judgment and the explanation of that judgment by a participant leaves room for impurity. Frimer and Walker (2008) note that, despite these challenges, it is

important to develop means for further understanding explicit and implicit judgments; unless this is accomplished, ‘the historical bifurcation of these processes may break down leaving the distinction between them merely quantitative in nature’ (p. 340).

A great deal of additional inquiry and examination will be required to more completely answer the question concerning which of these three perspectives truly captures the level of influence between these two systems. Such inquiry is needed to inform educational practices meant to enhance moral development. Neuropsychologists have attempted to deconstruct moral judgments by analyzing response time in areas of the brain, and while this research has been the predominant factor in reviving this discussion, others have called for a more interpersonal process approach (Haidt, 2001). Haidt et al. (2009) advocate a method suggested by Geertz (1984), who urged scientists to try and see things from the native’s point of view and gain a phenomenological understanding which might capture the depth of individuals’ perceptions of these types of questions.

In line with recent calls to understand individual perceptions of these categories of cognitive processes, a qualitative approach was found to be the most appropriate method for inquiry. This particular qualitative investigation cannot completely disentangle the complex influence of these systems on individual moral decision-making and therefore make immediate prescriptive suggestions. However, the use of a grounded theory approach, and the model this study provides, can begin to provide a step forward.

Methodology

Research questions

This research is focused solely on providing a step toward gaining a greater understanding of whether or not, and if so how, a group of individual students understands the influence of intuition as they contemplate moral questions and ethical dilemmas. Specifically: to what extent are the study’s participants aware of the impact of intuition on their cognitive processes without being explicitly prompted to consider intuition itself? If participants do explicitly recognize the impact of intuition, how do they understand it, and what are their views as to its impact when making moral decisions?

Participants and procedures

Participants for the study were recruited from an undergraduate ethics course at a selective public research university on the east coast. This required course was held once a week, delivered to four sections with around 45 students enrolled in each section. One of these sections was chosen randomly to participate in the study. Ages ranged from 18 to 35, with 80% of the students being 20 years old; 56% of the sample was male and 44% female. The researcher gained access to the sample through the course professor and sought students’ participation after an

explanation of the study, which involved a semester-long intervention in which they would be asked to submit, as a class assignment, bi-weekly reflective journal entries. The researcher collected, reviewed and responded to the entries and provided the professor with a general summary of the points the students were addressing. All students agreed to participate and completed the informed consent document.

Data collection

The journals entailed student responses to prompts meant to facilitate deeper introspection about ethical issues examined in class discussion and lecture and out-of-class readings. The prompts included questions related to student understanding of the honor code and its function, how to entertain different viewpoints when considering options, current and future stages of moral development, how ethical reasoning develops and the principles and personal characteristics that play a role in decision-making. Students were asked to consider the case study that was under review that week as well as their decision-making in their personal and professional lives.

The researcher provided written responses to journals aimed at assessing and matching students' current levels of meaning-making. These responses focused on accepting feelings, praising and encouraging efforts, clarifying ideas and prompting further reflection. Later, as students became comfortable with the reflection process, 'mismatching' responses were provided that challenged their current level of meaning-making by raising alternative points of view and requiring them to assume new perspectives or extend current ones. The journals acted as living documents that were submitted together each time, allowing the student to respond to feedback or expand on points they had made earlier. There was no explicit mention of intuition or System I and System II processing in the prompts. Students wrote 250–500 words in each journal and submitted the journals electronically, which allowed them to receive feedback within a few days.

Data analysis

'Grounded theory is a systematic yet flexible method that emphasizes data analysis, involves simultaneous data collection and analysis, uses comparative methods, and provides tools for constructing theories' (Charmaz, 2011, p. 165). This approach allows researchers to focus their data collection and to build theories through multiple levels of data analysis (Charmaz, 2005). Glaser and Strauss (1967) grounded theory approach has been developed over the years (Glaser, 1992, 1998, 2003; Strauss, 1987; Strauss & Corbin, 1990, 1998) and this study aligns with constructivist grounded theory (Bryant & Charmaz, 2007a, 2007b), which views the data as mutually constructed by the research participants and the researchers. All findings reveal the positions, conditions and contingencies of their mutual construction (Charmaz, 2011).

The systematic and hierarchical sets of coding procedures within grounded theory methodology allow researchers to inductively derive theory from the data. The two researchers utilized data coding procedures consistent with the grounded theory approach (Creswell, 2003; Jones, Torres, & Arminio, 2006). Line-by-line coding (Charmaz, 1983, 1995) was used for the first round of open coding and each concept was described using short, active terminology. Following this review and initial open coding, the researchers reviewed four recent articles from the literature related to the cognitive systems involved in moral decision-making. This step was integrated in order that the researchers could discuss together their understanding of the articles and, more importantly, their personal conceptualizations of intuition's impact on this type of decision-making. The second round of line-by-line coding then took place and the researchers compared and contrasted codes and then agreed on a unified list.

During axial coding, the researchers sought to generate patterns that effectively captured the participants' references to intuition. Each researcher took a macro approach first, looking for both implicit and explicit patterns. The fourth review of the data involved taking a micro approach, focused on the explicit references to intuition. Again, categories and subcategories from each researcher were brought together, discussed, deliberated and ultimately decided on. Out of these discussions, concepts were organized and made more abstract and, while the core category (recognizing and questioning intuition) began to appear clearly during open coding, it was finalized at this stage. During this time, the researchers began discussing *integrative diagrams* that could visually explain the developing categories being located.

The process of data analysis occurred over a four-month period and both researchers used *memoing* throughout the entire procedure to record thoughts and ideas as they evolved with the data analysis. These memos were reviewed and discussed throughout the coding process. Selective coding involved reviewing each of the categorized participant statements with the core category in mind. Through this review, the researchers were able to focus on the main idea of questioning intuition and more clearly explicate the categories under which the participant data would be organized; these categories were used to finalize the integrative diagram.

Numerous criteria have been suggested to provide trustworthiness in constructivist research (Morrow, 2005). The most relevant methods are *authenticity* criteria (Guba & Lincoln, 1989), also referred to as *intrinsic* criteria (Lincoln, 1995). These criteria (*fairness*, *ontological authenticity*, *educative authenticity*, and *tactical authenticity*) were addressed throughout data collection through multiple journal prompts and responses over a four-month period, the opportunity to expand or clarify previously shared thoughts, the opportunity to evaluate and check the researchers' understanding and offer feedback or corrections and the fact that the participants were encouraged to consider how their newfound understandings might translate into actionable steps. Patton (2002) built on Lincoln and Guba's criteria and identified *dependability*, *researcher reflexivity*, *verstehen* and *dialogue* (in addition to *triangulation* and *particularity*) as additional methods. The systematic

coding process used, the continuous use of *memoing*, and the numerous reflective meetings between the researchers each enhanced trustworthiness in this study. Additionally, the researchers completing the coding met each week to *dialogue* about the varied perspectives that they brought to the investigation, as well as the various perspectives that the participants shared in the research.

Findings

Findings from data analysis clearly revealed that participants were aware, to differing extents, of the impact of intuition on moral decision-making. Without being prompted to consider intuition, participants expressed their beliefs concerning the powerful influence that intuition holds on their decision-making. A portion of the 45 participants stood on opposing ends of this three-sided debate, expressing a belief that either intuition or reasoning was clearly the most dominant. To differing extents, many aligned with Craige (2011) and others who hold that there can be an equal partnership between the two. The indication that intuitive responses needed to be questioned was the principal theme articulated by the participants. Participants conveyed that the reflective process was the catalyst for doing this type of questioning, which encompasses both *accessing* intuitions and *governing* them. This emergent conceptual model can be seen in Figure 1. In the next section of the manuscript, each element of the model is discussed and supported with representative quotations from participant journal reflections.

Questioning intuition through reflection

It became clear early on in the process of data analysis that not only did participants recognize the impact of intuition on their decision-making but also, as the semester progressed, they gradually expressed it as something that needed to be questioned. While many participants expressed that they had relied mainly on their intuition for decision-making, they did not realize that this was taking place until they began to engage in a reflective process. Generally, they shared that while intuition could be helpful, it was also suspect, in that it was generated from either a selfish or biased point of view. Hence, in questioning intuition, they began to question themselves. One participant stated: 'I think the most important thing that I've learned is that I don't necessarily know what is always the most ethical thing to do, of my own beliefs and conscience.' Another stated: 'I have learned that some situations require us to separate our personal feelings and bias. It is not always our initial response or instinct that provides the best course of action.' Participants expressed a desire to hesitate more often before making a final decision, due to their doubts about their intuitive judgments. One stated: 'I realize that it is necessary to think about all the possible options and weigh these options with the possible results. Sometimes choosing your first instinct could better be solved in another manner.' Another expressed their feelings in this way:

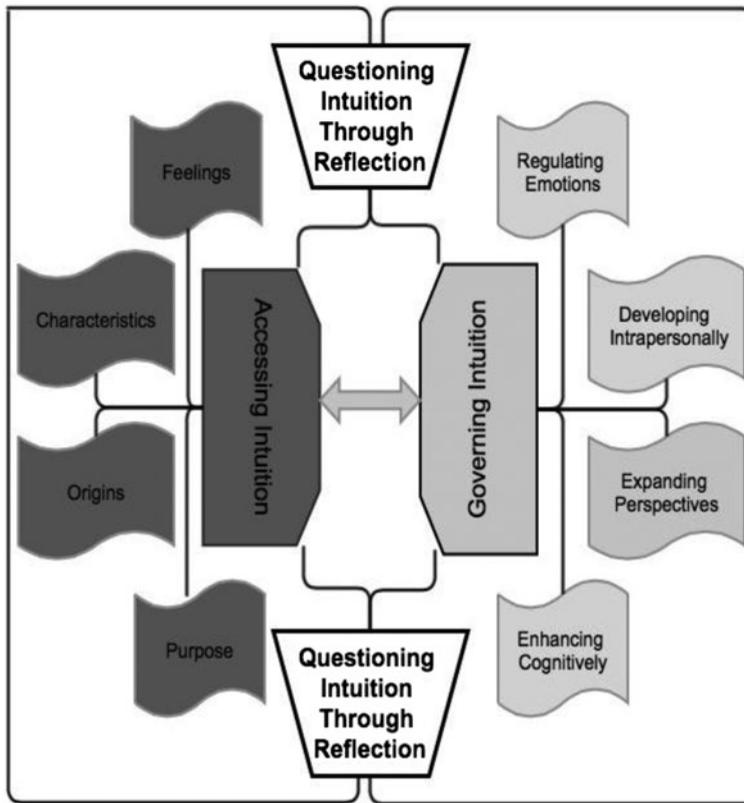


Figure 1. Process of Questioning Intuition.

The reason that this is so important is because there may be something valid in another person's point of view which you could not immediately perceive, or your own initial judgment may have been biased, without you even knowing it.

The reflective journals appeared to be the main access point through which these realizations were achieved. In addition to responding to the prompts and reflecting on their perspective toward ethical dilemmas, students would also use the journals to reflect on class discussions and the peer interactions outside of class. Most expressed the importance of using the reflective process. One student stated it very plainly:

There are many ways to look at a situation. And there are many good answers to the same question sometimes. I have realized that there needs to be time for reflection, whereas before I felt as if I had the right answer all the time. Sometimes the answer does not pop out at you, and sometimes the answer that does pop out at you is ultimately not the best choice. I feel that I have (been) humbled to the point of realizing that I don't always have the best answer to ethical dilemmas. Sometimes it is the council of ourselves or with others where we truly see the light.

Participants repeatedly emphasized a key first step when confronted with these types of decisions—the need to slow down. One put it this way: ‘Even if a person feels that there is only one possible correct moral choice when it comes to making some kind of a decision, they still need to step back before making any rash decisions.’ Another focused on taking the time to evaluate things once they have slowed down: ‘It is a good idea to just pause and think for a moment to make sure that they have evaluated every perspective towards the situation.’

The global themes of questioning intuition and using the reflective process to do so can be seen throughout the themes outlined in Figure 1 and discussed further in the next sections. Data analysis revealed that the participants’ reflections could be organized into two main processes, which work in concert with one another. *Accessing intuition* refers to the participants utilizing reflection to gain awareness of intuition itself: how it is experienced (feeling), how it might be characterized (characteristics), where they believe it develops from (origin) and what its objective is (purpose). *Governing intuition* refers to utilizing reflective engagement in order to recognize and manage the impact of personal feelings that arise (regulating emotions), understand and question one’s biases and beliefs (developing intrapersonally), gather the viewpoints of others (expanding perspectives) and develop greater cognitive complexity (enhancing cognitions).

Accessing intuition

Feeling. Participants shared how they were able to gain awareness of intuition’s influence through emotional experiences and particular feelings about issues in question. Participants shared comments such as ‘I find that when I am faced with a moral dilemma, I base my decision on what feels right inside’ and ‘I am personally focused on what I feel is right and what people close to me feel is right’. Another student stated: ‘I’ve realized that my ethical principles aren’t really principles at all, I’ve simply been following what my unconscious and gut feeling tell me is the “right thing.” Many participants utilized the terminology of ‘gut feelings’ to explain these emotional intuitions and one stated that it can allow ‘decision-making to become a reaction where we “do” without thinking’ or, stated another way: ‘I have made choices based solely on what I feel is morally right; I don’t consciously think while making a decision.’

Other participants were more specific about the feelings they experienced. In response to particular case studies covered in class, students recognized that they had immediate emotional reactions toward things like provision of prescription medication for college students or picturing a single mother being deceived in a business transaction. One participant expressed the powerful influence such an emotion can have in decision-making: ‘Even though my option was likely not the correct pathway for handling the ethical dilemma, I know that it’s the one I would choose if placed in that same situation.’

Characteristics. Participant descriptions of the defining features of intuition align with how they experienced the feelings just referred to. These descriptions correspond to those of System I processing. They used phrases such as ‘instinctual’, ‘an impulse’, ‘an internal drive’, ‘immediate’, ‘quick judgment’ and ‘rash decision.’ In their descriptions of these features, they often used the word ‘easy’ to represent how natural it felt to submit to these instinctive cues, while also recognizing the negative aspects of doing so. For instance: ‘It is very easy to fall into step with preconceived notions and narrow quick thinking that could lead to a solution to the dilemma, but probably not the most effective and justified.’

Origins. Being a part of society causes me to seek acceptance amongst my peers and people close to me. I have adopted what is viewed as acceptable and unacceptable by people around me to steer my life and these beliefs have been engraved internally.

This participant statement encapsulates many of the reflections that sought to understand from where these instinctual emotions developed. The vast majority of participants spoke to the influence of past experiences, close relationships, societal norms and personal belief systems (religion in most cases) on their decision-making. Many recognized that these ideas ‘hinder our ability to remain neutral in a discussion’ because they ‘affect judgment unconsciously’. They referred to family (parents in particular) and peers as most influential in statements such as: ‘...what they think of me and what they think about the decisions that I make in life, carries a lot of weight and means a great deal to me.’ Participants’ feelings about how they should address this realization of their intuitions’ origins varied. Some felt that the beliefs passed down to them did not need alteration; others felt that they were in the process of taking what they agreed with in order to develop their own set of principled beliefs. Statements from a few participants seem to express that they are just realizing their influence: ‘This tells me that my ability to make moral decisions is somewhat limited to both subjective norms and other’s thoughts’; ‘[this has] led me to believe that I place more weight on the influence of my peers and society than I do my own idea of “morality”’. Another participant appeared to be exploring other options: ‘Initially, much of my ethical nature was dependent on engrained principles without really having an understanding of why these principles are important.’

Purpose. As referred to in the section on origins, many participants felt that their intuitions, which stemmed from the beliefs of those with whom they were close, had a powerful influence. Participants shared how important it often seemed to make decisions in order to gain the approval of others. While this was a significant sub-theme, even more frequently they noted the self-preservation aspects of intuitive drives. This bias toward the self was pointed out throughout their reflections: for instance, one noted, ‘the majority of the time my decisions are determined by the effect they will have on me’. Another participant shared that his ‘first instinct

is to take care of one's self'. As participants shared their awareness that 'my way is not always the best way', they began to expand their realizations using reasoning and considering the perspectives of others:

I know that in the past I have made decisions based on what would be best for me. I sometimes still make these decisions, but now I am aware of them, which I believe is a vital step in the moral decision-making process.

Another student stated that there 'are many other things to consider when making decisions', and one summarized the statements of many of her peers: 'Using just your own instincts can lead to obvious bias to your own feelings and greed depending on the situation; looking through others' eyes gives you an ethically rounded position.'

Governing intuition

The second major theme that emerged focused on not only becoming aware of intuitions but also utilizing that awareness to enhance the decision-making process. As participants reflected on ethical dilemmas over the course of the semester, they began to recognize the complexity and difficulty inherent in intentional reflection. One stated that these types of dilemmas 'are exceptionally hard to solve, and therefore, the more practice [we have] analyzing these situations, the more apt we are to realize an effective solution'. Participants who gained increased comfort with important elements of reflective practice began to recognize that they could challenge intuitions. One stated: 'Although at first your intuition may prompt you to select one outcome over another, in reality that is not necessarily the option that you are going to take because there are many other factors involved'. Another felt that 'there are different ways of looking at the situation that can open up new options and may allow the person to act in a more satisfying manner than the one option they had previously believed was the only one'. Sub-themes of *Governing intuition* describe methods of reflective practice that participants used to assist the balancing out of intuition's impact.

Regulating emotions. This subtheme describes the types of processes referred to participants across both major themes. Because participants so frequently referred to the importance of cautiousness and modulating the intuitive feelings that arise within moral dilemmas, it is necessary to highlight some of their more explicit references to this deliberate action step. One participant refers to needing to 'step back' in order to 'think about the next step and ask the question: "why do I feel the way I do about this situation? I know something doesn't feel quite right, but why?"' Another participant felt that asking these types of questions helps to evaluate his emotional responses and 'helps make decisions less about what you want,

or what emotions may shout at you, which could cause rash or hurtful decisions, and more about what would be best for most people’.

The act of emotional regulation emerged as being critical to governing intuitions, as it is this act of pausing and questioning that enables one to engage in developing intrapersonally, expanding one’s perspective, and cognitive enhancement. In the words of one participant:

So by asking myself about these feelings, I approach problems less with a full head of steam and try to focus on evaluating every aspect of the dilemma. I am realizing that what I believe isn’t always the most moral or ethical solution, and all sides of a situation are valuable and need to be taken into consideration.

Developing intrapersonally. Many participants noted how guided reflection activities presented opportunities for them to develop aspects of their intrapersonal selves. Alongside their growing *awareness* of the characteristics, purpose and origins of intuition, they were forced to manage questions of whether or not they wanted to retain their current outlook or whether they saw areas for further growth. One stated that the process of reflecting on these issues ‘forces one to think about the “how” and “why” he or she comes to a particular standpoint. Being aware of this process in turn makes a person more aware of themselves, which I think helps them grow as people’.

Some participants clearly exhibited a sense of vulnerability as they recognized faults in their current values, belief systems, biases, and so on. In particular, many recognized an instinctual bias toward the self or toward wanting to please others that would benefit from adjustment. In the words of one participant:

I may be a little closed-minded and not view every aspect of ethical situations especially if they do not coincide with my view. I have learned that this may not be the best course of action when it comes to ethics because a person may violate someone else’s ethics while keeping their own intact and morality is about what is doing right to benefit all, not just yourself.

While many participants were able to recognize the origin of value-laden intuitions, some of these individuals continued the reflective process and began questioning whether or not they should retain all or part of these values: ‘Without clearly sorting out personal values, understanding why they are important to oneself, and figuring out if they need adjustment, one acts based only on his or her experiences in society.’ Another participant noted that the process of redefining one’s value system and standards for making ethical decisions enhances one’s awareness of the decision itself as well as one’s awareness of oneself as an individual.

Expanding perspectives. An important aspect of governing intuitions that emerged from the data involved taking the time and effort to incorporate the perspectives of others in order that one’s viewpoint on an ethical situation might be better

informed. In order to gain these alternative points of view, participants referred to utilizing empathy, 'standing in the shoes' of another, and consulting with those outside the dilemma. One participant expressed the realization that when instinct plays a role, decision-making narrows: 'When I think I know what is right, I definitely have a tendency to limit my overall perspective.' Another stated:

It is very important to understand and acknowledge the point of view of others in moral deliberation. Often, individuals get caught up in their own personal opinion and develop a type of 'tunnel vision' where they have trouble seeing any outside perspective.

One participant noted a particular technique to assist in these efforts: 'If I can push myself to initially start with a different perspective when I evaluate the dilemmas instead of starting with my own "usual" way of evaluation, I think it will help to further develop my ethical reasoning abilities.' It appears that individuals who were able to question their emotions and see opportunities for growth were more willing to both question their own viewpoint and look to others for assistance. Another participant noted this type of thinking as a developmental step: 'I'd say my most significant growth has been in the moral options I would consider. Before, I had more of a "black and white" perspective on moral options, but now I would be more apt to consider the shades of gray.'

Cognitive enhancement. There are similarities between the emergent themes described to this point and some of the characteristics of cognitive complexity (e.g. tolerance for ambiguity, consideration of multiple perspectives, openness to new ideas, re-evaluation of previously held beliefs, emotional regulation, etc.). Participants shared in their later reflective journals many realizations about their own cognitive development over the course of the semester. Examples of these statements help summarize some of the developments they felt they experienced. Two categories emphasized by multiple participants will be highlighted here: depth of awareness and analysis, and development of cognitive reflection.

First, in summarizing statements, participants reiterated their realizations that the previous depth with which they analyzed ethical scenarios was insufficient. One participant noted this as the 'main change that I recognized within myself over the course of the semester'. Another stated:

But it is clear to me that I now take a longer look at any moral or ethical dilemmas. I am more inclined to take a look at the problem from all angles rather than just what I perceive to be right. My 'moral radar' goes off a little bit more frequently. In cases where I would not have had any problem with something, I can at least now see how it might affect others and look at it from their perspective.

Second, seemingly due to reflective activities, participants referred to never having 'thought about thinking this much before'. One stated: 'I never usually stopped to think about my decision-making process and how I look at ethical situations, but after taking this course I am much more aware of my cognitive processes.'

Another referred to their new approach to reasoning: ‘I guess the biggest factor that changed was it seems that I’m taking a proactive approach to moral reasoning rather than a reactive one.’ Such statements, and others like them, speak to the way in which enhanced cognitive abilities play a role in the act of governing intuitions. Many participants appeared to gain a greater sense of control over their cognitive reflections over the course of the semester. One individual refers to altering her analytic process and appears to be speaking directly to the relationship between reasoning and intuition when she states:

This semester we were faced with a multitude of cases. Each one of these has forced me to adapt my reasoning in some way to the particular situation. My reasoning, which was formerly driven by mostly quantitative values, is now mixed with both qualitative and ethical reasoning.

Discussion

This study investigated participant recognition of intuition’s impact on the moral decision-making process. The results demonstrate that this group of participants was keenly aware of intuition’s influence; additionally, the results show that participants held many similar thoughts about how intuition impacts their decision-making, the primary theme being that intuition needed to be questioned. The findings suggest that ultimately, the participants shared the belief that deliberate and effortful reflective practice enabled them to cultivate doubt about intuitive responses. This practice allowed them to begin to examine the intrapersonal evolution of intuitions and therefore enhance the regulating mechanisms helpful in managing them. The theoretical model (Figure 1) developed from student voices outlines these processes as *accessing intuitions* and ultimately seeking to *govern intuitions*.

The sub-themes of governing intuitions reiterate some of the suggested methods of enhancing student moral development. Regulating emotions and expanding perspectives are often applied elements of developmental interventions, and enhanced cognition and intrapersonal development are often outcomes of these interventions. In particular, the act of incorporating multiple perspectives into one’s decision-making process has been well researched. However, this study expands on these elements by showing that for this group, governing intuitions must consistently work in concert with accessing intuitions. The awareness gained through self-analysis is more closely connected with intrapersonal development. This type of introspection into the feelings, characteristics, origins and internal purposes of intuition appears critical to the effective use of the governing processes.

The act of accessing intuitions is discussed to a lesser extent in the literature, potentially due to the elusive nature of intuitions themselves. First, as described by participants, intuitions are generally outside of our awareness. Kahneman (2002) refers to the production of intuitions as a ‘silent process’ (p. 472). Second, there is a feeling of certainty that tends to be associated with intuitions (Craigie, 2011), at least initially. Participant descriptions of the characteristics of intuition illustrate

this feeling. Kahneman suggests that we are generally less inclined to doubt these intuitive responses unless reflective processes are deliberately engaged.

While this study is a descriptive one, and cannot translate immediately to educational interventions, there are a few points worth considering as researchers look toward further investigation of these topics. Considering the participants' explanations of the strengths and weaknesses of each cognitive system, it is clear that they felt competent decision-making required the integrated function of both (Craigie, 2011). The model generated provides a student voice in the discussion of whether or not individuals reflect on their intuitions. In particular, it provides a student voice concerning Haidt's (2001) links 5 and 6. The model suggests that *if* intentional and effortful reflective engagement is applied, there could be a potential balance of influence between intuition and reasoning. Even though part of our moral decisions, and therefore behavior, is controlled by implicit processes, this 'does not mean that it cannot be the object of education, development, or training. Indeed, one could argue that the whole point of moral education is to educate moral intuitions' (Narvaez & Lapsley, 2005, p. 150). This study suggests that engaging and training students in a reflective process can allow them the space to explore their deepest intrapersonal selves. The emotional processing of their intuitions can act as a training ground, enhancing their ability to more often access not only the intuition itself, but also the evolution of it. While questioning intuitions through reflection can be uncomfortable and time-consuming at first, like any skill, practice enhances one's ability to do so and increases the speed of accessibility. Haidt's (2001) private reflection links will not develop naturally; they need training. The participants in this study appeared ready and willing to delve into their deepest selves in order to enhance the cognitions at play in moral decision-making.

Limitations and future research

Despite the potential theoretical significance of these findings, there are a few important limitations and areas for future research to mention. First, the study participants were predominantly white (89%) and therefore the researchers cannot confidently say that the voices of the sample were representative of a more diverse population. Future studies should seek to enhance the diversity of the sample. Second, this data was all based on individual reporting through journal reflections. These reflections were directed in a sense, due to the journal prompts. Explicit observation procedures were not utilized within the classroom or during small group activities; both of these procedures would have helped triangulate the data. Future research should seek out opportunities for observation in order to understand how participants acknowledge and reflect on intuition when among others. The small group activities that occur in a course like this would be excellent opportunities for observation and data collection.

This researcher believes that future research involving individual interviews with students, asking questions specifically about their reflections on intuitions, would

add great benefit to the further understanding of these processes. Finally, due to the stated importance of the process of accessing intuitions, it might be beneficial for future research to focus more explicitly on the affective elements of the reflective process. This would encourage students to go deeper into the intrapersonal aspects of influences on their decision-making.

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