

# How subtle sensing develops and affects well-being throughout childhood

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# How subtle sensing develops and affects well-being throughout childhood

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## ABSTRACT

The purpose of this study is to map the empirical and theoretical evidence of children’s ability for ‘subtle sensing’ as a core capacity for life within the Learning for Well-Being Foundation’s (L4WB) theoretical framework and how it interacts with overall child development (ages 0–18). More specifically, this review aims to contribute to existing knowledge in three ways: (i) it adds to the evidence of ‘subtle sensing’ as a core capacity for children from a childhood development perspective, (ii) it assesses the interaction of ‘subtle sensing’ with other core capacities and with overall child well-being, and (iii) it looks at the development of ‘subtle sensing’ as a core capacity among significant adults in children’s lives (e.g., teachers, educators, parents). The available evidence is limited, and the evidence base was limited to 11 studies. Nevertheless, the results show a possible role for intuition in science and science education, mathematics and morality. Moreover, a review concludes that intuition follows an expertise-related development trajectory rather than a clear developmental age-related trajectory. No studies were explicitly linked to other core capacities, spirituality or well-being.

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## 1. INTRODUCTION

A growing body of evidence suggests that successful performance in school, work and life needs to be supported by a wide range of skills, the development of which should be nurtured and expanded throughout childhood (Galloway et al., 2017). The role of these life competences is attracting increasing interest in academic and public sectors. However, despite a growing amount of research on children's life skills, very few studies have attempted to uncover the capacities that support the development of the knowledge and skills necessary for learning in both formal and informal (or everyday) settings; that is, the building blocks of these 21st-century skills (O'Toole, 2016). An overview of existing evidence across domains and contexts is needed to inform priority actions and interventions taken by policymakers and professionals working with children. Specifically, there is a need to understand how these capacities evolve throughout childhood, how practitioners, educators and caregivers can nurture them, and how they are linked.

Among these capacities, the framework proposed by the Learning for Well-Being (L4WB) Foundation hypothesizes that subtle sensing is essential for child learning and development (O'Toole, 2016). The purpose of this literature review is to map empirical and evidence-based theoretical knowledge of subtle sensing. The aim is to inform real, positive and efficient changes in general policies and practices for child development. From a developmental perspective, life skills or capacities, such as 'subtle sensing', are commonly considered 'necessary' for children to achieve optimal development and reach their full potential. To the best of our knowledge, this is the first attempt to map the existing evidence of cultivating 'subtle sensing' as a key core capacity and understanding its possible age-related development, links to well-being and other core capacities, and the levels and application of 'subtle sensing' among significant adults in children's lives.

In this study, the literature on subtle sensing was reviewed and organized according to the research streams resulting from a search conducted with multiple keywords and strict inclusion criteria. The relationship between subtle sensing and well-being was explored holistically, and the evidence-based literature found was mapped onto the four perspectives approach to development proposed by the L4WB theoretical framework.

This review is separated into four sections. The first section gives an overview of the background and general context of the project. The second section details the methodology used for the literature search and the selection of articles. The third section details the results of the literature review. The fourth section discusses these results regarding streams of main findings, data quality, limitations, contribution to existing knowledge and implications for future research.

## 2. CONCEPTUAL UNDERPINNINGS

Subtle sensing refers to the capacity to engage with what is not visible, acknowledging and expanding non-rational ways of knowing. L4WB defined subtle sensing in a broad manner:

The term “subtle sensing” is used as a broad way of characterising those senses or faculties that are outside the range of what we typically consider ‘the five senses’. Familiar ways of describing non-rational types of knowing include intuition, use of the imagination, and attuning to resonance with an object or person (Learning for Well-Being, 2019, p. 4).

Moreover, they explained that subtle sensing refers to “[cognitive and] non-cognitive forms of knowing such as intuition, imagination and resonance” (Learning for Well-Being, 2019, p.4).

This working paper initially started by following the broad L4WB definition. Search terms included ‘subtle sensing’, ‘intuition’, ‘resonance’, ‘creativity’, and ‘imagination’. After expert review, the scope was narrowed down to solely focus on ‘subtle sensing’, ‘intuition’, and ‘resonance’. While creativity and imagination formed part of the initial L4WB definition, for this paper there is a distinction drawn between subtle sensing itself (i.e., intuition, resonance), how to engage with subtle sensing (i.e., through imagination), and other areas where subtle sensing may be applied (e.g., for creativity). While creativity and imagination may be helpful for or benefit from subtle sensing, these are not considered direct synonyms and fall beyond the scope of this working paper. One of the expert reviewers suggests considering an extra separate core capacity involving creativity, play and imagination.

L4WB argued that every capacity can be understood through physical, emotional, mental and spiritual perspectives, which interact on a continuum from material to immaterial. Applying the definition of ‘subtle sensing’ to the four dimensions of L4WB’s framework, this capacity is expressed under each dimension as follows:

Table 1 shows the Matrix of Four Perspectives that was applied to the studies identified in this mapping paper in order to incorporate the four perspectives into the literature. The mental, emotional and physical categories are combined by the matrix in a continuum, from the material/tangible experience to the immaterial/intangible experience, which can be seen also as spiritual. Indeed, L4WB theory states: “[c]ore capacities engage the physical, mental and emotional aspects – along a continuum from the material to the spiritual” (O’Toole, 2014, p. 30).

All the studies presented have been placed inside this matrix (Table 1) and compared as a complete body of evidence in the discussion of this paper. Table 2 provides examples from the L4WB structure that reflect the different categories and show how the four perspectives are defined specifically in relation to the ‘subtle sensing’ capacity. The application of the matrix to the reviewed literature will illustrate the degree to which the literature helps with the theoretical classification of a basic capacity or skill within the four perspectives of L4WB.

According to the L4WB hypothesis, it is possible to experience every major ability through every single perspective (mental, emotional and physical), and each of these should have a spiritual dimension.

This mapping also aims to deepen and explain to what extent the literature informs the L4WB hypothesis. As such, each study that was included in this review was analysed using the matrix (see Table 1).

Table 1: Matrix of Four Perspectives on subtle sensing

			SPIRITUAL (S)
	<i>content</i> 'what'	<i>process</i> 'how'	<i>intention</i> 'why'
MENTAL (M)	A <i>mental perspective</i> refers to “our cognitive and rational processes” and the functions of “envisioning, planning and valuing” (O’Toole, 2016, p. 17).	“a <i>mental</i> expression of subtle sensing may take the form of illuminating insights – these are the so-called ‘bolts from the blue’ which occur when connections are made seemingly out of nowhere” (Learning for Well-Being, 2019, p. 4).	“At a <i>spiritual</i> level, subtle sensing is more often described as all-encompassing knowing” (Learning for Well-Being, 2019, p. 4).
EMOTIONAL (E)	An <i>emotional perspective</i> refers to both “our intrapersonal functions – our inner feelings, motivations and our interpersonal functioning – [and] our interactions with others” (O’Toole, 2016, p. 17).	“an <i>emotional</i> expression of subtle sensing is associated with imagination and intuition” (Learning for Well-Being, 2019, p. 4).	
PHYSICAL (P)	A <i>physical perspective</i> refers to “the physical senses, to our bodies, and to the material and natural environments” (O’Toole, 2016, p. 17).	“a <i>physical</i> expression of subtle sensing relates to the signals in our body and may also be experienced as <i>resonance</i> ” (Learning for Well-Being, 2019, p. 4).	

### 3. METHOD

To map the existing scientific literature on ‘subtle sensing’, we reviewed the available literature using a scoping approach. This approach was based on current best practice recommendations for the conduct of scoping reviews (Colquhoun, 2016; Munn et al., 2018) and on the PRISMA extension for scoping reviews protocol (Tricco et al., 2018).

The identification of the potentially relevant literature for the review included several phases. A systematic search of published references was conducted using three electronic databases: ERIC (Education Resources Information Centre), Google Scholar and PubMed. Reference lists from identified articles and recent literature reviews were then hand-searched to ensure that a comprehensive list of relevant articles was considered for inclusion. After selecting a list of keywords through the consultation of a board of experts, a set of search strings was created by using Boolean logic. The search strings included one element related to the capacity itself (Subtle sensing; Imagination; Intuition; Creativity; Resonance), one element related to the research question (Life skill\*<sup>1</sup>; Education\*),

<sup>1</sup> A first series of searches using core *capacit\** instead of *life skill\** did not result in much relevant literature. Since core capacities are loosely defined as basic components or building blocks necessary for the development of life skills, this latter concept of life skill encompasses the concept of core capacity. In that sense, most of the literature on life skills is relevant to the objectives of this review.

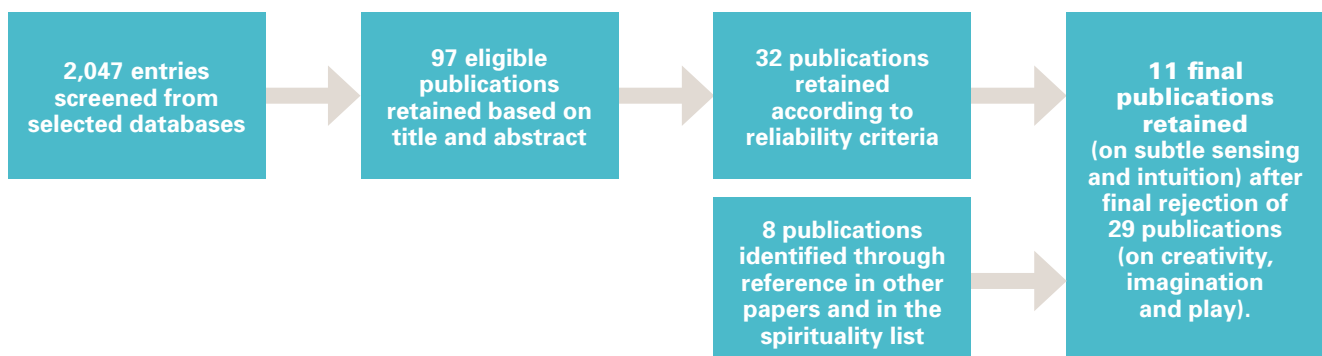
and one element related to the population (Child\*; Development). An example of generated string was: 'Subtle sensing AND life skill\* AND child\*'. The strings were adapted to each database's set of symbols of Fuzzy logic and elements of Boolean logic. During the search process, L4WB's full definition was applied. After the search process, results were selected based on a narrower definition for subtle sensing. This is explained further in the Results section.

For each search string, two consecutive searches were conducted in each database: a first search limited to the publications in the past 5 years (2014–2019), and a second search limited to the publications in the last 20 years (1999–2019). The chosen time frame allowed for an up-to-date overview of the most recent empirical findings and theoretical perspectives in this area of research. Because the searches resulted in a vast number of entries, they were sorted based on 'relevance' (i.e., studies with relevant wording and content appeared first), and the first 40 entries were screened for inclusion.

The following screening process included two stages. Several eligibility criteria were used in the first screening stage based on title and abstract: (a) only English peer-reviewed publications were taken into consideration; (b) the study included research on subtle sensing; and (c) the study focused on child or adolescent populations, or on an adult population directly linked to children, such as teachers, educators or parents.

The reliability of the retained publications was then assessed in a second stage based on three criteria: (a) the study was conceptually coherent; (b) the study used an appropriate methodological approach; and (c) the study was scientifically valid (see Appendix A for a description of these criteria). Only publications meeting all the criteria were included in the review (see Figure 1). Information about the searches (including database, search terms, dates of search, number of search results, number of abstracts reviewed, and number of papers selected for screening) was archived in an Excel file. Details of studies screened and reasons for acceptance or rejection were also recorded.

**Figure 1: Flowchart of the article selection process**



We underline the fact that the literature cited and discussed in this scoping review is not exhaustive. When a substantial number of studies on one specific topic met the selection criteria, only the most relevant were selected to give a comprehensive understanding of the stream of literature. When available, meta-analyses and systematic literature reviews were preferred for inclusion.



Responding to the gap in evidence of ‘subtle sensing’ from the perspective of spirituality, an additional search round was conducted. To identify high-quality evidence relating to spirituality and subtle sensing, the input of various experts was considered, including the Learning for Well-Being Foundation, the Fetzer Institute and individual researchers studying spirituality. Among a list of 45 publications, the key search terms for subtle sensing (‘subtle sensing’ and ‘intuition’) were used in the text of each publication to search for connections of the ‘subtle sensing’ capacity linked to spirituality. The inclusion and exclusion criteria were applied to the resulting list of spirituality articles. Moreover, the same quality assurance inclusion criteria as in the general ‘subtle sensing’ searches applied (Appendix A). After this process, no studies were encountered across the list of articles that mentioned subtle sensing or intuition in a meaningful way for the objective of this review.

### 3.1. Applying the Matrix of Four Perspectives

Each of the studies included in the review was positioned within the Matrix of Four Perspectives to determine to what extent the L4WB hypothesis is supported with evidence. The matrix from Table 1 was applied to organize the articles in the various categories (mental, emotional, physical or spiritual) and levels (content, process or intention). Table 2 shows descriptions of possible studies for the various categories, and this matrix was applied to the included studies. The descriptions of studies in the boxes are based on L4WB publications.

After the matrix was applied, two of the authors compared the application matrix, discussed the placement of articles, raised questions, and made necessary adjustments. When agreement was not reached, the authors checked the application of the matrix again and discussed the questioned papers until agreement was reached. Overall, of the 31 articles initially placed in the matrix, after review, the placement of 7 articles was adapted. Finally, only 11 papers were retained in the working paper and final matrix (see Table 3).

**Table 2: Types of studies for the Matrix of Four Perspectives**

			SPIRITUAL (S)
	<i>content</i> ‘what’	<i>process</i> ‘how’	<i>intention</i> ‘why’
MENTAL (M)	Studies on the presence of the capacity in children.	Studies that explore how the capacity develops throughout childhood/ in response to specific individual interventions.	Studies that focus upon why children perform/show the capacity and studies on spirituality.
EMOTIONAL (E)	Studies on the relationship between the capacity and feelings/interpersonal relationships.	Studies on how relationships and/or feelings relate to the capacity.	
PHYSICAL (P)	Studies that focus upon the physical aspects of the capacity, or on doing the action.	Studies into how doing the action and/or the physical environment relate to the capacity.	

## 4. RESULTS

A first assessment of the literature using the described methodology revealed that the wording ‘subtle sensing’ did not emerge in the recent evidence-based studies included in this review. Using the proxy keyword ‘intuition’ was instead helpful to retain enough studies. The scientific literature employing the word ‘resonance’ did not relate to child capacities, development and/or education. This working paper uncovered 11 papers that passed quality assurance steps for the applied search terms. The section below reports the stream of literature on intuition.

As explained earlier in section 2 on the conceptual underpinnings of this paper, earlier versions included the search terms ‘creativity’ and ‘imagination’ as well. This resulted in a total of 40 included studies. The L4WB framework defined subtle sensing broadly, but a narrower definition focusing solely on the capacity of subtle sensing itself was applied in the final version of the working paper.

### 4.1. Intuition

Intuitions can be defined as hunches or feelings generally not expressible in words that influence thought with little conscious awareness of processing (Brock, 2015). Intuition is therefore a process through which tacit knowledge (i.e., knowledge not expressible in words) interacts with conscious thinking. Another similar process is insight, defined as an explicit awareness of novel relations that arrives with apparent suddenness but resulting from processes mostly unconscious (Brock, 2015). While the distinction between intuition and insight exists in the literature, it falls beyond the scope of this review. For the purpose of simplicity, the term ‘intuition’ is hereafter broadly used to reference intuitive thinking and insight.

A concept, and in particular a scientific concept, can be seen as a combination of tacit and explicit components. Since tacit knowledge may be an important part of scientific knowledge, intuition may have an important role in science and science education (Brock, 2015). Research has shown that learners possess concepts about the physical world prior to teaching. This intuitive knowledge can relate to physical rules (such as the speed of a falling object or the trajectory of a moving one) or relate to more abstract knowledge; it may be completely non-conscious, resistant to verbal explanation and transfer, or partly tacit, and researchers speculate that it is formed partly through physical experience (Brock, 2015). This intuitive knowledge persists throughout life and sometimes beyond the acquisition of mutually exclusive scientific knowledge, with which it can interfere.

Not only could intuition interfere with new taught knowledge, but various degrees of expertise and knowledge could also impact intuitive abilities. According to a model from Baylor (2001), the development of intuition follows a U-shaped progression, in which the level of available intuition within a given subject area (e.g., mathematics) starts at a relatively high level, decreases to a minimum and later increases with the level of expertise (i.e., the amount of knowledge accumulated). Indeed, the literature suggests that children’s intuitive understanding of various domains first tends to decrease when they start learning new analytical procedures and theoretical knowledge in school. But as individuals develop increasingly more advanced knowledge structures in a specific area, they can make more complex intuitive connections. Consequently, their intuitive abilities tend to increase with their level of expertise (Baylor, 2001). This model suggests that intuition does not follow a clear developmental age-related pattern but an expertise-related trajectory varying according to the areas of expertise. Finally, the question of whether intuition can be taught remains highly debated, although

some researchers conjecture that intuition is a species of recognition memory and can therefore be enhanced by training procedures (e.g., Seligman and Kahana, 2009).

A large stream of literature has explored intuition in mathematics, especially in preschool and school-age children. Since early mathematical competency is a predictor of later academic achievement and various measures of adult health and economic well-being, it is vital that children enter the school years prepared for formal mathematical learning (Szkudlarek and Brannon, 2018). Because it is known that children's first understanding of mathematics relies in part on intuitive mathematical skills, the key question of how best to prepare children for 'school mathematics', or formal mathematics, is still discussed: is it necessary to focus on acquainting them with the future concepts of formal mathematics, or is it possible to facilitate the future integration of formal mathematics by developing their intuitive skills?

Current research has challenged the previous postulate that exercise over the preschool years can enhance children's learning of primary school mathematics by improving universal, early emerging mathematical abilities (i.e., intuitive mathematical abilities: Dillon et al., 2017). Recent studies show that, while these intuitive mathematical abilities can be improved by training at a very young age, this training does not seem to transfer to subsequent learning of the language and concepts of school mathematics. A large-scale study with 1,540 children (mean age: 4.9 years) from Indian schools revealed that four months of training on a maths game yielded significant and lasting improvements in the targeted intuitive mathematical abilities and in symbolic mathematical skills, but did not impact the subsequent learning of formal mathematics (Dillon et al., 2017). Similar results were found with children between 3 and 6 years old (mean age 4.6 years) from United States preschools in a study of the impact of two commercially available educational applications for approximate arithmetic training<sup>2</sup> on informal mathematical performance (Szkudlarek and Brannon, 2018). While approximate arithmetic training significantly improved informal mathematical performance compared to training that focused on letter knowledge for children with low maths scores, this positive effect was restricted to informal mathematical abilities and did not transfer to formal mathematical abilities. As for arithmetic abilities, a study on intuitive geometry of fourth and fifth graders (from Italian schools; mean age 9.3 years) found that intuitive geometry abilities do not predict geometrical achievement at school (Giofrè et al., 2014).

Even though intuitive mathematical abilities may play an important role in situations requiring children and adults to quickly and approximately process numbers or quantities (e.g., Ganor-Stern, 2016), some studies revealed that intuition can also hinder children's ability to respond correctly in certain situations, and suggest that teaching should explicitly make children aware of their intuitions, and that they should always think twice (i.e., inhibit their immediate response tendency) before they respond to a given task (Borst et al., 2012; Obersteiner et al., 2015).

Another domain in which research has explored children's intuitive capacities is morality. In the last two decades, a large literature has explored morally relevant concepts and behaviours in toddlers and infants, often focusing on whether some parts of morality are innate or emerge independently from relevant experiences (Dahl and Killen, 2018), and whether children's and adult's moral judgement emerges from some intuitive form of morality in infants (van de Vondervoort and Hamlin, 2016). The existence of various developmental models and theories, and a clear lack of consensus on the matter, still makes it difficult to draw conclusions on the importance of intuition in morality, at different stages of life.

2 "The Approximate Number System supports an intuitive sense of number that allows adults, human infants, and many non-human animals to compare, estimate, and manipulate non-symbolic and approximate numerical quantities" (Szkudlarek and Brannon, 2018, p. 2).

#### 4.2. Subtle sensing and its physical, emotional, mental and spiritual dimensions

The studies included in this literature review were categorized using the matrix of L4WB's four perspectives (see Table 2). Most studies fall within the mental category (8 out of 11) towards the tangible and middle part of the continuum. Instead, one article focused on the emotional category and one on the physical one. It was not possible to categorize one theoretical article into any of the categories.

The results show that 'subtle sensing' and its proxies possess clear cognitive features (thinking, reasoning, envisioning) that can be placed under the mental dimension of the L4WB theoretical framework, which are grouped within the mental category.

**Table 3: All studies in the Matrix of Four Perspectives**

			SPIRITUAL (S)
	<i>content</i> 'what'	<i>process</i> 'how'	<i>intention</i> 'why'
MENTAL (M)	5 studies <sup>3</sup>	3 studies <sup>4</sup>	0 studies
EMOTIONAL (E)	1 study <sup>5</sup>	0 studies	
PHYSICAL (P)	0 studies	1 study <sup>6</sup>	

Note. 1 study is not placed.<sup>7</sup>

3 The five studies placed at the Mental (M) content level are: Borst et al., 2012; Ganor-Stern, 2016; Giofrè et al., 2014; Obersteiner et al., 2015; Szkudlarek and Brannon, 2018.

4 The three studies placed at the Mental (M) process level are: Baylor, 2001; Dillon et al., 2017; Seligman and Kahana, 2009.

5 The one study placed at the Emotional (E) content level is: Brock, 2015.

6 The one study placed at the Physical (P) process level is: Dahl and Killen, 2018.

7 The one study not placed is: Van de Vondervoort and Hamlin, 2016 (theoretical perspective).

## 5. DISCUSSION

The purpose of this review was to map empirical and evidence-based theoretical knowledge of subtle sensing intended as core capacity. The search of the literature revealed that the wordings ‘subtle sensing’ and ‘resonance’ did not result in relevant evidence-based studies. On the other hand, research found some data and evidence-based literature on ‘intuition’, related to childhood, development and education.

Since tacit knowledge may be an important part of scientific knowing, intuition may have an important role in science and science education. This intuitive knowledge persists throughout life and sometimes beyond the acquisition of mutually exclusive scientific knowledge, with which it can interfere. Not only could intuition interfere with newly taught knowledge, but various degrees of expertise and knowledge could also impact intuitive abilities. According to certain models, the development of intuition follows a U-shaped progression, where the level of available intuition within a given subject area (e.g., mathematics) starts at a relatively high level, decreases to a minimum and later increases with the level of expertise (i.e., the amount of knowledge accumulated). This model suggests that intuition doesn’t follow a clear developmental age-related pattern, but an expertise-related trajectory varying according to the areas of expertise.

A large stream of literature has also explored intuition in mathematics, especially in preschool and school-aged children. The question if it is best to prepare children in mathematics during preschool years is still open in scientific research. Current research has challenged the postulate that exercise over the preschool years can enhance children’s learning of primary school mathematics by improving universal, early emerging mathematical abilities. Recent studies show that, while these intuitive mathematical abilities can be improved by training at a very young age, this training doesn’t seem to transfer to subsequent learning of the language and concepts of school mathematics. Even though intuitive mathematical abilities may play an important role in situations requiring children and adults to quickly and approximately process numbers or quantities, some studies reveal that intuition can also hinder children’s ability to respond correctly in certain situations, and suggest that teaching should explicitly make children aware of their intuitions, and that they should always think twice (i.e., inhibit their immediate response tendency) before they respond to a given task.

Another domain in which research has explored children’s intuitive capacities is morality. But the existence of various developmental models and theories, and a clear lack of consensus on the matter still precludes drawing conclusions on the importance of intuition in morality, at different stages of life. Future research needs to address this gap by providing larger sample size studies and exploring probable cultural differences. All in all, early intuition and intuitive knowledge may have positive but also negative impacts on the development of future knowledge and abilities.

### 5.1. Complementarity with other core capacities

In the small evidence base of this working paper, no meaningful relationships or links between subtle sensing/intuition and other core capacities during childhood were found. More evidence is needed to confirm the hypothesis of an interlinkage and complementarity between subtle sensing and other capacities among children.

A suggested starting point is exploring the understanding of tacit knowledge (Brock, 2015) as more than knowledge not expressed in words. Instead, it is suggested that tacit knowledge can also be

expressed when subtle sensing is combined with other capacities such as reflecting to make tacit knowledge explicit (Stivers and Smit, 2002).

## 5.2. Limitations

One of the main limitations of this study relates to the search of studies documenting the empirical and theoretical evidence of the ‘subtle sensing’ capacity in children. The search involving the exact term ‘subtle sensing’ did not produce studies relevant for the scope of this review. Using the proxy keyword ‘intuition’ was helpful to retain some studies, but the evidence base of this working paper remains very small. This finding suggests that the term ‘subtle sensing’ is not an established keyword in domains measuring this core capacity among children. Another limitation was that studies lacked similarities in the methodological tools, enrolled samples and measured outcomes. This leads to difficulties in comparing the true effects of subtle sensing and its proxies on children well-being in a systematic way.

## 5.3. Implications for practice and next steps

From a developmental perspective models of intuitive thinking explain its development primarily with endogenous factors such as expertise and knowledge acquisition. Since the cognitive and emotional processes underlying intuition are not well known, it is difficult at this stage to understand whether or not intuitive thinking can be developed or trained as a capacity. Future research needs to address the lack of clear understanding of the transition in various domains between intuitive knowledge and thinking and formal knowledge, and thinking during early childhood and adolescence.

Overall, the evidence bases for ‘subtle sensing’ were limited. The initial L4WB definition provided no results for the ‘subtle sensing’ and ‘resonance’ searches, and only limited studies for the ‘intuition’ searches. Moreover, the definition led into an exploration of an evidence base related to ‘imagination’ and ‘creativity’, which proved to be beyond the scope of the ‘subtle sensing’ capacity. The definition of ‘subtle sensing’ needs to be further specified in order to effectively explore its evidence base.

After the working paper review, it was suggested that opening up the search for this core capacity to the adult literature can be helpful for understanding both the core capacity and its spiritual dimensions. This working paper followed strict inclusion criteria to include only literature on children and adults who work with children. In the field of subtle sensing, evidence of intuition, subtle sensing and spirituality in adults can be meaningful when further insights are missing. For instance, Claxton’s (2000) anatomy of intuition can be helpful to create further understanding of the construct of intuition. Fields that can be explored further include the somatic psychology literature, the contemplative literature, and the paranormal literature on subtle senses. Distinguishing between the other core capacity of ‘enriching sensory awareness’ (embodying) and ‘subtle sensing’ seems relevant here. Initial studies found explored meditation research and development (Vieten et al., 2018), sense of bodily signals and interoception (Farb et al., 2015), and Body-Centered Psychotherapy including Gendlin’s focusing technique (Sabin-Farrell and Bretherton, 2015).

In conclusion, there is still a gap in the literature regarding ‘subtle sensing’ itself and other practices that could foster it. Empirical studies are scarce, use different methodology of analysis and, in many cases, do not use sufficiently large sample sizes. Moreover, intuition was not related to child well-being in a straightforward manner.

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## APPENDIX A: INCLUSION CRITERIA

	Criteria	Sub-categories	Description
1	What does it mean for a study to be <b>Conceptually Coherent</b> ?	Introduction	Topic, purpose, and study rationale are clearly stated.
		Literature Review	The relevant conceptual underpinnings of the issue are fully explained.
		Research questions	Research questions and/or hypotheses are well defined and drawn from sound evidence-based theoretical or conceptual framework.
2	What does it mean for a study to use <b>Appropriate Methods</b> ?	Methods	The research design and sampling are appropriate for the study. The study includes a well-articulated rationale.
		Theory (especially for studies with a primary theoretical framework)	A sound and established theoretical line is present.
		Data	Relevant data have been employed. Where survey data are used, the sample is well described and clearly appropriate for the task at hand.
		Analyses	The procedures and measures have been selected correctly and applied correctly.
3	What does it mean for a study to be <b>Scientifically Valid</b> ?	Results	The results of the statistical/empirical tests are fully and correctly interpreted. Basic statistical information, such as probability stats, sample sizes, etc., and coherent explanation of findings are included – avoids overstating the study's importance and generalizability.
4	<b>Ethics (important but not a requirement to be accepted)</b>	Ethical review	If the research involves primary data collection and/or the use of sensitive secondary data, ethical considerations are described in the study. For example, the article might include details of the procedures followed to ensure the ethical review of data, an indication that the study received the proper oversight from review board or any mitigation strategies.

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