

**THE SCIENCE OF CHILDREN'S RELIGIOUS AND SPIRITUAL DEVELOPMENT** by Annette Mahoney. Cambridge, UK: Cambridge University Press, 2021. 86 pages. Paperback; \$20.00. ISBN: 9781108812771.

*The Science of Children's Religious and Spiritual Development* by Annette Mahoney is a recent addition to the Cambridge Elements Child Development series. Between an introduction and conclusion, Mahoney has five sections to guide her summary. Overall, her approach is well conceived, approachable, and highly informative. Having taught undergraduate courses on child development for fifteen years at Christian liberal arts institutions, I found Mahoney's volume to be a thorough yet concise resource on religious and spiritual development from which I can draw resources as well as enrich discourse with engaged students.

In her introduction, Mahoney quickly sets the stage for the importance of religious and spiritual development in children. She notes how parents around the world desire to raise "good" (prosocial) children. Religion is frequently cited as influencing their parenting practices. The emphasis in research is on adolescence and adulthood for the specific study of religious and spiritual development, leaving a large gap when it comes to how these issues pertain to children's development.

Mahoney draws from Harold Koenig, Michael McCullough, and David Larson to define Religious/Religion (R) and Spiritual/Spirituality (S).<sup>1</sup> She acknowledges that this is not an agreed upon straightforward process, and that often R and S are not substantively different in the social science literature. With children, perceptions of God are commonly examined, though this only begins to scratch the surface of what's beneath their RS development.

After a quick historical look at RS, Mahoney offers a brief overview of Fowler's faith development theory, citing his 1981 book, *Stages of Faith: The Psychology of Human Development and the Quest for Meaning*.<sup>2</sup> She concludes that his "assumptions perhaps helped to dampen interest by mainstream developmental scientists in investigating children's RS" (p. 6). Here I wanted to better understand her conclusion and felt that more explanation would be beneficial for her argument.

Mahoney frequently reminds the reader that most of the research, both historically and currently, occurs in Western societies. There have been a handful of measures developed, which she presents in a table with the name, authors, definitions of R and S,

subscales, and example items (pp. 11-19). This is followed by a helpful narrative of each measure and a comparison of four models that emerge. The reader quickly observes the murky state of measuring RS. Prosocial behaviors and positive psychology concepts are intertwined with RS, and Mahoney calls for clearer communication and increased transparency.

Due to the lack of studies with children, Mahoney reviews adolescents' RS and related psychosocial adjustment. RS appears to influence the views and choices of adolescents in areas such as risk taking, self-esteem, and depression. Mahoney presents a well-articulated description of the "muddled middle" (p. 28). Adolescents with either a high or a low state of RS are best adjusted. It appears that RS ambivalence places adolescents at greatest risk. Factors such as cognitive dissonance and moral inconsistencies appear to be at play.

The few studies on children's psychosocial adjustment and RS seem to suggest that children with significant life stressors (e.g., family conflict) may benefit from RS. The reciprocal nature of the parent-child relationship has relevance, as greater parental RS shows both positive and negative outcomes. On the upside, parents with higher levels of RS are more efficacious and warm, which in turn increases children's social and academic functioning. On the downside, greater parental RS predicts greater parental behavioral control and less autonomy in children. This in turn can be linked to more emotional problems in children, both internalizing (e.g., depression, anxiety) and externalizing (e.g., acting out, delinquency). It is important to note that these levels of problems are typically subclinical.

Mahoney also reviews the relationship between corporal punishment and parental RS. The research is clear on physical punishment (e.g., spanking) being ineffective, resulting in greater negative outcomes. The findings are mixed with regard to RS. Parents with higher RS, particularly those with lower education, implement harsher parenting strategies; however, greater attendance of religious services has been linked to less use of such strategies. Furthermore, higher religious attendance has been found to be a protective factor when it comes to child maltreatment (i.e., abuse and neglect).

When parents are asked specifically about their parenting goals, it becomes evident that not many place fostering a high level of RS to their children at the top of the list. Goals that surpass it include nurturing high self-esteem and interpersonal skills,

## Book Reviews

contributing to the larger society, carrying on family and cultural traditions, and providing the necessary education for a good future. Again, these are primarily Western reports and Mahoney reminds the reader that other countries' perspectives are needed. Like non-Western studies, studies of nontraditional parenting units, such as single parents, same-sex parents, and economically disadvantaged parents, are underrepresented. Furthermore, the type of theistic schema provides another area of diversity that is lacking, as children can be reared in polytheistic, nontheistic, atheist, or agnostic environments.

Mahoney's final section looks at social and cognitive-developmental research. Concepts such as theory of mind and attachment enter the scene. The primary area that has been studied in children's RS development is their concept of God. Preliminary findings suggest that children's perceptions of God mirror how they are being parented (e.g., punishing parents → punishing God, nurturing parents → nurturing God, powerful parents → powerful God, etc.). Examining children's prayers also sheds some light on RS development, though again findings are mixed and limited. There is more work to be done.

Mahoney calls on social scientists to take the lead in providing guidance to parents to uphold the United Nations' 1989 *Convention on the Rights of the Child* Article 14, 1–2 that states: "States Parties shall respect the right of the child to freedom of thought, conscience and religion; States Parties shall respect the rights and duties of the parents and, when applicable, legal guardians, to provide direction to the child in the exercise of his or her right in a manner consistent with the evolving capacities of the child."<sup>3</sup> More intentional investigation of children around the globe can help parents directly but also inform policy makers. Mahoney states that "one central observation is that this literature is in its infancy stage" (p. 62).

Overall, Mahoney's review of children's RS development in this volume is thorough yet concise, troubling yet hopeful, vague yet nuanced. She concludes with six key areas and related findings to recap how the scientific study of children's RS development can be improved in the years to come. Thankfully, RS has begun to attract significant attention in the field, including from the Templeton Foundation's attempt to build a more global community of social scientists.<sup>4</sup> After reading this book, I feel much better equipped to elucidate what is known and what is yet to be discovered. This is important, not only in academic communities of colleagues and students,

but also in the broader communities of church and society and in our personal communities.

### Notes

<sup>1</sup>Harold G. Koenig, Michael E. McCullough, and David B. Larson, *Handbook of Religion and Health* (New York: Oxford University Press, 2001).

<sup>2</sup>James W. Fowler, *Stages of Faith: The Psychology of Human Development and the Quest for Meaning* (New York: Harper-SanFrancisco, 1981).

<sup>3</sup>United Nations Human Rights, "Convention on the Rights of the Child," *Treaty Series* 1577, no. 3 (1989): 1–23, <https://www.ohchr.org/en/professionalinterest/pages/crc.aspx>.

<sup>4</sup>J. D. Warren, "\$10 Million Grant Will Study Children's Religious Views," University of California, Riverside, February 19, 2020, <https://news.ucr.edu/articles/2020/02/19/10-million-grant-will-study-childrens-religious-views>.

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## TECHNOLOGY

**GENIUS MAKERS: The Mavericks Who Brought AI to Google, Facebook, and the World** by Cade Metz. New York: Dutton, 2021. 371 pages including notes, references, and index. Hardcover; \$28.00. ISBN: 9781524742676.

As Cade Metz says in the acknowledgments section, this is a book "not about the technology [of AI] but about the people building it ... I was lucky that the people I wanted to write about were so interesting and so eloquent and so completely different from one [an]other" (p. 314).

And, that's what this book is about. It is about people such as Geoff Hinton, founder of DNNresearch, who, once he reached his late fifties, never sat down because of his bad back. It is about others who came after him, including Yann LeCun, Ian Goodfellow, Andrew Ng, Yoshua Bengio, Jeff Dean, Jürgen Schmidhuber, Li Deng, Ilya Sutskever, Alex Krizhevsky, Demis Hassabis, and Shane Legg, each of whom had their strengths, weaknesses, and quirks.

The book also follows the development of interest in AI by companies like Google, Microsoft, Facebook, DeepMind, and OpenAI. DeepMind is perhaps the least known of these. It is the company, led by Demis Hassabis, that first made headlines by training a neural network to play old Atari games such as Space Invaders, Pong, and Breakout, using a new technique called reinforcement learning. It attracted a lot of attention from investors such as Elon Musk, Peter Thiel, and Google's Larry Page.