Management Review Quarterly
https://doi.org/10.1007/s11301-025-00547-z

Religion and entrepreneurship: a meta-analysis

Erik E. Lehmann[1] · **Laurenz Weiße**[1]

Received: 12 September 2024 / Accepted: 22 July 2025

Abstract
Research on religion and entrepreneurship has come to constitute a significant field of academic interest in recent years. Whether, how, and the degree to which religion affects entrepreneurship has been analyzed intensively, yet these inquiries have yielded mixed results. This study contributes to the literature by clarifying what we know and what we do not know (as well as why we do not know it) through the use of meta-analytical regression techniques. Examining 75 empirical studies and 306 effect sizes, we confirm that there is an overall positive but small correlation between religion and entrepreneurship. Notably, however, the results show that this effect varies by religion and country as well as in terms of its impact on measured outcome or performance.

Keywords Entrepreneurship · Religion · Self-employed · Meta-analysis · Systematic literature review

JEL Classification L26 · M13 · Z12

1 Introduction

Religion has always been and will continue to be an important market factor in a globalized world. With about 90% of the world's population identifying with a religion or belonging to a religious institution, the ongoing significance of religion in people's lives is undeniable. At the same time, entrepreneurship has become an essential driver of economic growth around the world. We know that

Communicated by Joern Block.

✉ Laurenz Weiße
laurenz.weisse@uni-a.de

Erik E. Lehmann
erik.lehmann@uni-a.de

[1] Chair of Management and Organization, University of Augsburg, Universitätsstraße 16, 86159 Augsburg, Germany

Published online: 29 August 2025

religion is a significant factor behind social and economic welfare on the macro level of an economy (Becker et al. 2024) as well as on the local or micro level via entrepreneurship and new firm creation (Block et al. 2020)—even though the direction and degree of this impact is often unclear. The question that remains unanswered is not whether it is important to analyze the impact of religion on our lives and economic affairs; it is why and how religion should matter.

The current understanding in the literature on entrepreneurship and religion can be structured as follows. First, research on whether religion shapes entrepreneurship can be divided into three directional categories: religion shapes entrepreneurship positively, shapes it negatively, or has no impact. The main argument in this body of research is that religion promotes values within societies, and these values shape attitudes toward entrepreneurship (Block et al. 2020; Dodd & Seaman 1998; Rehan et al. 2019). Thus, religion-associated values can either encourage (positive effect), discourage (negative effect), or have no effect on entrepreneurship (Wiseman & Young 2014). Testing this relationship between religion and entrepreneurship (R&E) reveals either a statistically significant positive relationship, a statistically significant negative relationship, or no statistically significant effect. Evidently, the empirical results are mixed, making it difficult to draw clear theoretical conclusions from the empirical results.

Second, research has tackled not just the impact of religiosity in general on entrepreneurship but also the impact of individual religions, such as Christianity, Islam, Buddhism, Hinduism, and Judaism. Each religion's associated values could impact entrepreneurship in different ways on account of them being, for example, contradictory or inconsistent. The famous Weber Thesis posits that the Protestant ethic encourages entrepreneurship while Catholic values discourage entrepreneurship due to economic profits being the primary goal of venture creation. Still, there is no empirical evidence of the R&E relationship with regard to the varying effects of different religions.

Third, research has looked into how the precise dynamics of any religion often depend on its political context. This was true in the times of the Reformation, and it remains true today. Macro-level factors—state-level economic dynamics and political systems—are more significant than individual-level factors. Attitudes toward entrepreneurship are also attitudes toward economic activities, and religious values that shape economic activities also shape attitudes toward entrepreneurship. State religions, religious diversity, and religious restrictions or discrimination can thus encourage or discourage entrepreneurship. Just as entrepreneurship differs between countries and states due to varying contextual factors (e.g., infrastructure, legal system, financial dynamics), entrepreneurship differs between countries due to varying "religious infrastructures" and their underlying values.

This study aims to clarify these research strains using meta-analytic estimation techniques for at least two reasons. First, because the notion of "what we do not know" is rooted in a lack of theory. The matter of why people believe cannot easily be explained by a single theory or reason; consequently, the nature and underlying mechanisms of the relationship between R&E remain contested and multifaceted. In turn, this paper aims to identify the manifold theoretical arguments in the literature. Second, even when it comes to theoretical arguments (e.g., the Weber Thesis) that

are identifiable and commonly accepted in the scientific field, the problem of how to test them empirically persists. Religions—defined as underlying institutional systems of norms and rules of belief—vary dramatically. Rules and norms accepted by one religious group are frequently neglected or even actively opposed by another.[1] Thus, empirical tests of the R&E relationship are inherently ungeneralizable. Meta-analytical regressions may help to cluster different religious groups (e.g., one cluster comprising Protestants, Catholics, Jews, and Muslims) to test how their similar features impact outcomes.

Our study answers Block et al.'s (2020) call for meta-analytic estimations to answer these questions raised in prior literature. Their comprehensive literature review provides the foundation and motivation for this study, which fits into the current entrepreneurship literature regarding the influence of religion on individual entrepreneurial behaviors (e.g., Azim & Islam 2022; Durak et al. 2020; De Noble et al. 2007; Scheepers et al. 2017). More specifically, Block et al. (2020) show that the field has expanded dramatically since about 2005 (nearly two decades ago), that most of the 270 considered articles were published in the East Asia and Pacific region (followed by Europe and North America), that the most commonly investigated religions are Christianity and Islam, and that the overwhelming majority of research in the field is qualitative (based on interview data) while only a small share (about 25%), is quantitative (based on survey data). However, Block et al. (2020) also made clear that the debate over whether religion shapes entrepreneurship remains controversial.

There are two main explanations for the current body of results being so mixed. The first is a lack of a convincing and testable theory. While there are many research strains arguing that religion does or does not shape economic activity, there is no generally accepted theoretical argument that could be brought through the data. Individuals are rather homogenous, including those who do and those who do not believe in or belong to a religion. Reducing these aspects according to the methodological individualist framework in the social sciences or economics would fail to provide an answer to such complex questions. While about 90% of the world's population are believers (with the rest perhaps believing that they do not believe), believing cannot be simply equated to belonging to a religious group. People may believe in spiritual powers and transcendent gods, but people may also believe in themselves—in their power and strength. What is often expressed as "belief" is what the field of economics dubs "overconfidence"—an overconfidence that stems either from others (as with spirituality and religious belief) or from oneself (as with most entrepreneurs). Even within many religious groups are manifold subgroups. Christianity houses Orthodox Christians, Protestants, Roman Catholics, and many others, all of whom differ in their values and norms with regard to economic activity. Studies may undertheorize the effects of religion, particularly with regard to its relationship with cultural dimensions (and whether they complement or substitute for each other). In reality, while religions may reinforce or undermine entrepreneurship

[1] It is worth recalling the number of conflicts and wars spurred by religious differences with regard to norms and rules—even within the same overarching religion. One particularly notable case is that of the long-lasting conflict between Catholics and Protestants in Ireland.

depending on the context, religions can also serve as complementary variables or substitutes in relation to cultural variables. The second explanation for the current body of results being so mixed is measurement problems and a failure to clearly define variables. This is particularly attributable to imprecision surrounding the meaning of entrepreneurship, which, in qualitative data, ranges from registration of self-employment to nascent entrepreneurship (Szaban 2018).

This meta-analytical study aims to shed light on the questions raised above. First, we argue that institutionalized state religions complement hierarchical societies. For as long as there has been religion, there have been cases of intolerance and persecution. Religious organizations often leverage the power of states to secure legitimacy, enabling them to exert considerable influence over policymaking (Barro & McCleary 2003). Such interactions can have profound; and sometimes unintended; impacts on culture and entrepreneurship. Second, rather than value-impacted individual behavior, we argue that religion's afterlife-informed cosmological view of time-perception serves as a substitute for uncertainty avoidance, influencing believers' approach to entrepreneurship (Gala & Mueller 2024). This discussion makes a significant contribution to the literature on why religion has a significant impact on entrepreneurship in many contemporary countries despite modernization.

In this paper, we follow the tradition of meta-analysis-based entrepreneurship research by assessing the impact of religion on entrepreneurship across 75 studies and 306 effect sizes. Entrepreneurship here refers to a broad swath of activities, including a desire to start or own a business as well as the activities of organizing, managing, and bearing the risks of a venture (Audretsch & Lehmann 2023). Religion here refers to a set of beliefs, activities, and institutions rooted in assumptions about "the existence and nature of superhuman power, which seeks to help adherences to avert misfortunes and receive blessings and deliverance from crisis of many kinds" (Smith 2017, p. 22). We concentrate on the ways in which various facets of religion influence contributions to various academic areas related to entrepreneurship. Thus, we examine the following factors: (1) attributes of entrepreneurship itself, (2) attributes of a religion, and (3) interactions between religious attributes and cultural attributes. Moreover, we incorporate several potential moderators, including cultural dimensions and study and publication characteristics. The discrepancies observed in past research alongside previously unexamined potential moderating factors point to the need for a comprehensive meta-analytical review to investigate the R&E relationship. Such a review is the primary goal of this research. Its outcomes will be valuable to scholars navigating and aiming to understand this complex field (Dodd & Seaman 1998).

This paper begins with a review of relevant theories in the literature to systematically and theoretically explore what religion *is* to entrepreneurship and what religion *does* to entrepreneurship. Following this, we outline our meta-analytic methods for assessing prior empirical literature on R&E. We then present the results alongside an interpretation of those results. Finally, we discuss the study's implications and limitations followed by potential directions for future research.

2 Research on religion and entrepreneurship

For as long as there has been entrepreneurship research, there has been the question of why the levels and characteristics of entrepreneurship vary by country—and this question has been central to the broader literature on economic growth (Audretsch et al. 2023; Koyama & Rubin 2022). Research on entrepreneurship has drawn on Schumpeter's (1934) seminal work on creative destruction, Kirzner's (1973) work on opportunity recognition, and Knight's (1921) work on the distinction between uncertainty and risk. Rather than assuming a given context and examining how individual differences impact entrepreneurship (Audretsch & Lehmann 2005), contemporary research has shifted toward a more thorough, context-sensitive approach that investigates the effects of institutional, spatial, social, and cultural factors on entrepreneurship (e.g., Acs et al. 2009; Audretsch et al. 2021; Chowdhury et al. 2018; McMullen et al. 2008; Mitchell & Shepherd 2016). However, in what Gümüsay (2015, p. 199) describes as "the elephant in the room: impossible to overlook, yet largely ignored," one dimension has been surprisingly underdeveloped: religion. Over the last two decades, a wealth of studies has arisen illustrating the diverse ways in which religion influences different aspects of entrepreneurship. Due to its complexity, entrepreneurship is impacted by a wide range of factors. However, establishing a clear relationship between R&E has proven to be difficult (e.g., Carswell & Roland, 2004; Dejardin et al. 2024; Smith et al. 2023). At the individual level, elements like identity, ethnicity, network structures, education (Avnimelech & Zelekha 2023; Du 2017; Dubard Barbosa & Smith 2024), and risk-taking propensity (Caliendo et al. 2009) mediate this relationship. On a macro level, institutional, national, and cultural contexts are highly influential (Zelekh et al., 2014). Consequently, theoretical propositions demand precise empirical validation.

Most research on R&E (especially in contemporary contexts) adopts a microeconomic rather than a macroeconomic lens. Moreover, these studies often lack a direct theoretical link between their observations and the broader concept of entrepreneurship. The field features a diverse mix of case studies, qualitative studies, and quantitative studies. Empirical studies often showcase effects that are magnified by large samples while explaining only minimal variance (Dvouletý, 2023; Falck & Woessmann 2013; Ghosh 2023). This likely stems from the use of survey data (Balog et al. 2014) in analysis (e.g., Audretsch et al. 2013; Dodd & Seaman 1998; Parboteeah et al. 2015). Analyses are almost always survey-based and are rarely longitudinal or cross-sectional, resulting in conclusions that may be too specific to a regional context or religious group. Notable exceptions utilize the World Values Survey, the European Social Survey, or the Global Entrepreneurship Monitor (GEM) (Klein et al. 2023; Zafar & Ammara 2023); however, the overall research landscape remains scattered and imprecise. Oftentimes, studies overestimate the role of religious influences on entrepreneurial ventures due to a failure to control for relevant political economy variables. While we know much more about the interplay of R&E today than we did two decades ago, the literature still lacks an overarching objective review with analytical rigor (Dejardin et al. 2024).

2.1 The main effects of religion on entrepreneurship

The relationship between R&E has long intrigued scholars across disciplines. Religious traditions often shape individual values, social norms, and institutional environments in ways that can either support or constrain entrepreneurial activity. Rather than offering a single, uniform effect, religion operates through multiple channels; ranging from personal belief systems to collective practices and institutional structures.

First, Weber's (1904) notion of the "Protestant ethic" posits that a divine calling toward diligence and frugality is closely associated with entrepreneurial endeavors (Dodd & Gotsis 2009; Dodd & Seaman 1998; Gümüsay 2015). According to Weber, Protestants exhibit a unique ethic that shapes their economic activities. His research was inspired by the observation that German Protestants had higher incomes than German Catholics. He found that Protestant Christianity—especially Calvinism, which is wary of hierarchical religious structures- fosters a sense of divine vocation that values hard work and personal thriftiness. These principles, in turn, elevate business activities to a sacred level through divine approval of entrepreneurship.

However, the literature offers mixed support for Weber's hypothesis. Minns and Rizov (2005) found support for it by studying various Protestant sects in 1901 Canadian census data, and Nunziata and Rocco (2011) showed that Protestants were 3% more likely than Catholics to be entrepreneurial across 22 European countries. This was reaffirmed using a narrower dataset from West Germany between 1979 and 1984 (Carroll & Mosakowski, 1987; Wyrwich 2018). Moreover, Shane (1996) reported that Protestant values and risk-taking were positively correlated in the U.S. between 1899 and 1988—and risk-taking is generally associated with entrepreneurship. However, these studies employed quantitative microdata analyses of entrepreneurship, meaning that they may have overlooked how different types of entrepreneurial activities are perceived as indicators of virtue (e.g., the concept of "right living" in Buddhism) (Henley 2019). For example, De Noble et al. (2007) investigated students' entrepreneurial attitudes and Protestant affiliations. They reported that intrinsic religiosity among Protestant students increased entrepreneurial intentions, whereas extrinsic religiosity decreased them. Other studies have explored the historical relationship between R&E, demonstrating that religious backgrounds can influence entrepreneurial activity in certain contexts. Nunziata and Rocco (2018) reported that, in the former Holy Roman Empire, Protestantism was more positively associated with entrepreneurship than Catholicism. This relationship was further supported by their contemporary research in Switzerland, where they discovered that minority Protestants; those living in areas where Protestantism is not the dominant religion—were 3% more likely than minority Catholics to engage in entrepreneurial activities (Nunziata & Rocco 2018).

Some recent research supports Weber (1904) by linking religious belief in virtuousness to increased social (or nonprofit-related) entrepreneurship (Duong 2023; Giacomin et al. 2023). This association is consistent across religious contexts (Azim & Islam 2022; Kumar et al., 2022; Rietveld & van Burg 2014; Xu et al. 2022). Notably, however, religious beliefs may influence the availability of secular education. In the past, religious organizations were often the primary suppliers of

formal education, which expanded the scope and length of education and, ultimately, benefitted the economy. One noteworthy example is the increase in Protestant literacy that resulted from the emphasis on reading the Bible, which has had long-lasting benefits in terms of economic growth (Becker & Woessmann, 2013).

The second way religions can impact entrepreneurship pertains to the "prosperity gospel," or the tendency of religious teachings to support prosperity. Entrepreneurs often believe in a God who supports their economic success (Ferguson et al. 2014). Christian denominations that link faith to work may even encourage entrepreneurial ventures (Griebel et al. 2014). However, traditional religious beliefs may discourage risk-taking and reduce entrepreneurship (Ferguson et al. 2014). Only Dougherty et al. (2019) have directly examined and affirmed the relationship between prosperity gospels and entrepreneurship. They provided evidence that prosperity gospels influence entrepreneurial decisions in the U.S. by fostering a mindset that aligns financial success with spiritual fulfillment in the U.S.

Third, religious teachings that promote frugality may encourage investment in long-term growth rather than short-term profit (Dana & Dana 2008). In Switzerland, for example, Di Pietro and Masciarelli (2022) discovered that regions where people share the same primary religion tend to have stronger financial interactions with one another. In this way, homogenous regions interact with other homogenous regions, but not necessarily that the regions interacting share the same religion. Moreover, a whole subdivision of research is dedicated to studying how Islamic teachings impact areas like profit sharing, social justice, and microfinance, which in turn influence entrepreneurial financing practices within Islamic communities (Gümüsay 2015; Jaffar & Musa 2016; Roomi 2013).

The fourth way religions can impact entrepreneurship was proposed by Novak (1982), who suggested that divinely sanctioned political and economic freedom validates entrepreneurial activities as expressions of personal choice. This concept is particularly evident in democratic capitalism, which aligns with Catholic social teaching and Evangelicalism. However, critics argue that Novak overlooked Schumpeter's concept of "creative destruction" and the Catholic Church's emphasis on social justice within entrepreneurial values (Kidwell 2015; Zelekha et al. 2014). Certain religions may restrict entrepreneurial endeavors by prioritizing socially beneficial or "spiritual" activities, such as healthcare, education, and religious study and asceticism over profit-driven work. Indeed, in their cross-country study, Miao et al. (2022) revealed that religiosity moderates the impact of government efficiency on total entrepreneurial activity through political freedom. This effect is particularly pronounced among countries with lower levels of religiosity.

Fifth, drawing from Scott's (2013) emphasis on the role of institutional forces, the literature increasingly acknowledges religious institutions' pivotal role in disseminating religious values (Gladys & Ganiel 2017; Wilson 1988). This role gives way to a multifaceted and context-specific relationship between religious institutions and entrepreneurship (Barro & McCleary 2003; Scott 2013).

Sixth, religious social structures offer unique advantages in terms of providing access to the social capital necessary for information and resource exchanges, which may drive entrepreneurial success (Alemayehu et al. 2023). Religious beliefs and practices are often developed and reinforced within social contexts, making social

capital critical for trust, support, and networking among religious entrepreneurs (Anderson et al. 2000; Baranik et al. 2018; Hoogendoorn et al. 2016; Stam et al. 2014). More contemporary perspectives on social capital, however, have sparked concerns that excess social capital could impede entrepreneurship by driving mental conformity among organizations (Aldrich & Kim, 2007, p. 160), hindering objectivity (Locke, 1999), safeguarding mediocrity (Light, 2010), and inhibiting business owners from separating themselves from unsatisfactory partners and allies (Adler & Kwon, 2002). For instance, a survey conducted by Zhang and Liu (2021) involving 4,727 Chinese enterprises revealed that religious entrepreneurs are more likely to prioritize building social relationships. However, such efforts may divert attention from; or even adversely affect; their business, especially if their beliefs diverge from those of the majority business partners. This highlights the significant focus on networking within religious entrepreneurship, where religiosity can sometimes be almost essential for success (Ghosh 2023).

Taken together, these diverse theoretical perspectives illustrate that religion influences entrepreneurship through multiple, context-dependent pathways, including shaping individual virtues and risk preferences (Weber 1904; Shane 1996), structuring social networks (Anderson et al. 2000; Hoogendoorn et al. 2016), legitimizing economic activities (Barro & McCleary 2003; Novak 1982), and shaping institutional and cultural environments (Scott 2013). Despite this rich body of conceptual and empirical work, current findings remain fragmented across disciplines and contexts, often examining single traditions, mechanisms, or outcomes in isolation (Dodd & Seaman 1998; Gümüsay 2015). Thus, an integrated assessment is needed to move beyond isolated studies and advance theory on how religion shapes entrepreneurship broadly. To address this gap, we conduct a comprehensive meta-analysis that systematically synthesizes evidence across religious traditions, measures, and outcomes. In the following section, we outline our empirical strategy to rigorously examine the overall relationship between religion and entrepreneurship and identify the mechanisms and contextual factors that moderate this relationship.

3 Method

3.1 Inclusion criteria

To screen for potential studies for this paper, we adhered to a systematic literature search. Such searches aim to encompass all pertinent studies in a given field using a transparent and replicable methodology (Kraus et al. 2020). In line with Tranfield et al. (2003), we employed a three-stage search strategy to find qualified studies (Fig. 1). The main steps for any systematic literature review are as follows: planning, collection, and analysis. We followed these three main steps and adapted our search process using specific inclusion criteria, screening, and coding to ensure a structured and methodical identification of relevant studies.

The planning stage entailed the formulation of multiple inclusion criteria. We included all English-language studies published through December 2023 with a focus on the nexus of R&E. As academic journal articles are reliable and

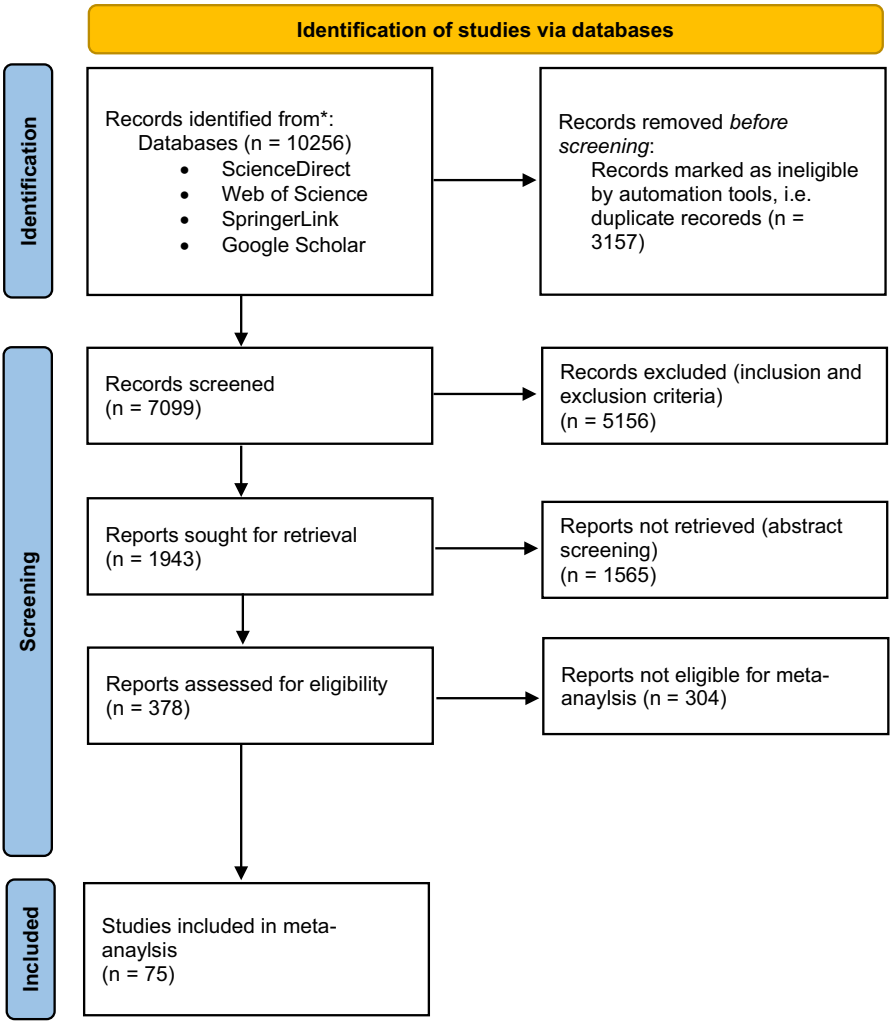

Fig. 1 Strategy and steps underlying meta-analysis

peer-reviewed sources, most effort went into identifying such sources. However, to mitigate the risk of publication bias, the search scope was expanded to include unpublished dissertations (Rosenthal 1979). Additionally, we reached out to various scholars involved in the study of R&E in pursuit of article recommendations and relevant thoughts.

We identified 12 keywords related to the theme of entrepreneurship and three keywords related to the theme of religion, resulting in a total of 360 keyword combinations (Table 1). We excluded book chapters as well as studies that did not contain any keywords.

Table 1 Keywords used to identify relevant articles

Themes	Keywords
Entrepreneurship	"adventist*" OR "anglican*" OR "assyrian" OR "baptis*" OR "buddhi*" OR "calvin*" OR "cath*" OR "christ*" OR "condomblé" OR "confucia*" OR "faith" OR "hindu*" OR "islam" OR "jehovah's witness" OR "juda*" OR "latter-day saints" OR "luth*" OR "methodis*" OR "musl*" OR "pentocostal" OR "presbyterian" OR "prot*" OR "quaker" OR "rastafarian" OR "religio*" OR "shintoism" OR "spirituality" OR "taoism" OR "ubuntu" OR "voodoo"
Religion	"early stage business" OR "entrepreneur" OR "new venture" OR "new-venture" OR "self-Empl" OR "small Busines:" OR "sme" OR "solo-Self" OR "soloself" OR "start-up" OR "startup" OR "venture creation*" OR "Innovation'*"

3.1.1 Article screening and selection

We utilized four databases: Web of Science, ScienceDirect, SpringerLink, and Google Scholar. For the structured databases (Web of Science, ScienceDirect, and SpringerLink), we crafted database-specific search strings and applied them to fields such as titles, abstracts, and keywords. Given its broad coverage, we included Google Scholar to identify potentially relevant grey literature or publications not indexed in the other databases. This targeted approach minimized the inclusion of irrelevant articles.

Additionally, we examined previous literature reviews on the topic, incorporating any noteworthy studies that were not identified in the initial search. We also utilized the snowball sampling method, screening the reference lists of pertinent articles and the publication lists of scholars to uncover additional qualified studies. In total, we screened 3,157 articles. Finally, we applied inclusion and exclusion criteria (Table 2). During the first screening phase, we eliminated duplicates and carefully reviewed abstracts to ensure they were relevant to the topic. Ultimately, 348 items were included as a result of this phase.

3.2 Coding the studies

The literature on R&E encompasses a wide range of theoretical foundations, concepts, measures, and analytical approaches. To be included in this meta-analytic review, studies had to be empirical in nature and report sufficient statistical

Table 2 Inclusion and exclusion criteria

Inclusion and exclusion criteria	
Inclusion criteria	
	Article published in peer-reviewed journal
	Empirical paper
	Article in English
	Studies needed to address the religion-entrepreneurship relationship as the major research question
	As there is no universal construct used to measure religion, we consider multiple religion measures, including religiosity indicators, based on survey data or country-level data
Exclusion Criteria	
	Comments, conference papers, book chapters, book reviews, unpublished papers
	The article does not focus on religion and entrepreneurship
	Keywords (Table 1) not included in the article's title, abstract, or keywords

information to allow for the calculation of effect sizes. When such information was missing, we contacted the authors directly to request the necessary data.

Considerable variation exists not only in the religious traditions examined but also in how religion was operationalized across studies. Common approaches included self-reported religious affiliation, frequency of religious behavior (e.g., weekly service attendance), and composite religiosity scales that captured belief intensity or depth of practice. In some cases, religion was assessed using value-based constructs or personality-like religious traits.

Entrepreneurship was similarly measured through a diverse set of outcomes, reflecting the multidimensional nature of entrepreneurial activity. These outcomes included entrepreneurial intentions (e.g., plans to start a business), actual entry or activity (business creation), business performance metrics (e.g., revenue, employment growth), and entrepreneurial capabilities (e.g., innovativeness, self-efficacy). Additionally, some studies focused on specific subpopulations, such as female entrepreneurs or social enterprises, further diversifying the measures used. To account for this heterogeneity, we systematically coded these variations and incorporated them into the moderator framework of the meta-analysis. This approach allowed us to explore potential differences in how the relationship between R&E manifests across varying contexts, traditions, and measurement approaches (see Tables 3 and 4).

The dependent variable is entrepreneurship and was additionally coded into thematic categories: (1) entrepreneurial intentions, (2) entrepreneurial entry or activity, (3) start-up performance, (4) innovation or capabilities, (5) entrepreneurial finance, (6) social entrepreneurship, and (7) woman entrepreneurship. This categorization helped clarify the diversity in outcome measures and served as the basis for moderator analyses exploring whether the relationship between R&E varies across these domains.

The independent variable is religion. Scholars have long argued over many rival definition what religion actually is and what it does (e.g., Jones, 1981). The term *religion* has its roots in the Latin word *religiō*, which is derived from

Table 3 Examples of coding of different types of religion

Religion	Examples of coding	Religion	Examples of coding
Affiliation: Coded as self-reported identification with a specific religious tradition or denomination (e.g., being Catholic or not)	- Country-level (Woodrum 1985) - Individual-level (Avnimelech & Zelekha 2023)	Traits: Coded as personality-like characteristics or values influenced by religious beliefs	- Values (Rietveld & Hoogendoorn 2022)
Strength: Coded as the intensity of an individual's religious belief or conviction, often measured through self-assessment scales	- Strength of faith (David & Lawal 2018) - Commitment (Klein et al. 2023)	Practice: Coded as the frequency or regularity of religious activities and behaviors	- Attendance (Hoogendoorn et al. 2016) - Praying (Graafland et al. 2006)

Table 4 Examples of coding of different types of entrepreneurship

Entrepreneurship	Examples of coding	Entrepreneurship	Examples of coding
Entrepreneurship Finance: Coded as financial aspects related to entrepreneurship	- Financial literacy (Agyei 2018) - Assess to credit (Ghosh 2023)	Start-Up Performance: Coded as business outcomes after entrepreneurial entry	- Success (Zhou et al. 2021) - Business Performance (Liu et al. 2019)
Social Entrepreneurship: Coded as entrepreneurial ventures aimed at achieving social, cultural, or environmental objectives	- Social Entrepreneurship (McIntyre et al. 2023) - CSR (Li et al. 2019) - Philanthropy (Du 2017)	Woman Entrepreneurship: Coded as entrepreneurial activity, performance, and outcomes specifically related to female entrepreneurs or gender-focused entrepreneurial studies	- Gender (Allison et al., 2023) - Cognitive (Avnimelech & Zelekha 2023)
Entrepreneurial Intention: Coded as an individual's self-reported intention or motivation to start a business or engage	- Intentions (Audretsch et al. 2013) - Opportunities (Assmann & Ehrl 2021)	Innovation Capabilities: Coded as the ability of individuals or ventures to create, implement, or manage innovative ideas, products, services, or processes	- Behavior (Gursoy et al. 2017)
Entrepreneurship Capabilities: Coded as individual competencies or skills related to entrepreneurship	- Skills (Xu et al. 2023)	Entrepreneurial Activity: Coded as actual engagement in entrepreneurial behavior, such as starting or operating a business	- Start-up rates (Henley 2014) - Institutions (Zelekha et al. 2014)

religāre—combining the prefix *re* (again) with the post-classical verbum *ligāre* (to bind or connect) (Doty, 1996). Notwithstanding, empirical reasons why individuals actually engage in religious activities are of subjective and may not specifically be of religious nature, i.e., seeking community, social and cultural tradition, social welfare, identity, etc. (Hungerman, 2014). Religious beliefs manifest organizationally through various religious groups, each with their distinct practices and tenets. According to the Pew Research Center, the world hosts roughly 4,200 cults, faith groups, tribes, belief systems, movements, and religious bodies.

Given the extensive diversity of religious traditions, this study focuses on seven specific religions—Buddhism, Catholicism, Protestantism, Hinduism, Islam, Confucianism, and Judaism—each operationalized as a binary variable. Studies that did not specify a religious affiliation (e.g., those simply referring to generic belief or social bonding) were excluded. Additionally, we classified the type of religious variable into four categories: (1) affiliation (e.g., self-identified as Catholic), (2) strength of belief (e.g., intensity of faith or conviction), (3) religious practices (e.g., frequency of prayer or service attendance), and (4) religious traits (e.g., stable dispositions or values informed by religion). This classification allowed us to examine differences in how religion was operationalized across studies and to conduct subgroup analyses and moderator tests based on these categories. Furthermore, potential moderators of the intersection of R&E were grouped into one of three domains: cultural dimensions, study characteristics, and sample characteristics.

Regarding cultural dimensions, previous meta-analyses on entrepreneurship have found that culture has significant moderating effects on entrepreneurial activity (Bae et al. 2014; Lorenzen et al. 2024). Therefore, we employed Hofstede's framework, which provided a comprehensive understanding of the cultural contexts housing entrepreneurial activities. More specifically, we coded each sample according to various cultural dimensions, including individualism, masculinity, uncertainty avoidance, and power distance. Drawing on the cultural indices provided by national culture researchers, the analysis focused on the overall configuration of cultural values unique to each country to avoid examining individual-level variations in cultural values and instead considering broader cultural perspectives (Hofstede 2011).

To obtain all of the necessary study characteristics, we first coded the impact factor of the journals in which the studies were published (Saha et al. 2003). To test for a potential non-linear relationship between the studies and the journals, we also tested for quadratic relationships between the studies and their journals. This effectively checked whether top-tier journals tend to be more circumspect in publishing novel or contemporary research (Acs 2008). Furthermore, we distinguished between studies based on survey data and those not based on survey data, as this methodological distinction could influence the results. The study's research methodology was classified as either cross-sectional or longitudinal. In survey-based studies (which are cross-sectional), the relationship between entrepreneurship and religion is assessed at a single point in time with a focus on the simultaneous presence of religiosity and entrepreneurial intention. Longitudinal studies, in contrast, consider the evolving nature of the R&E link, examining religiosity as a potential moderating factor for entrepreneurial intention.

Moreover, building on Barro and McCleary's (2003) sample, we incorporated a binary variable to indicate whether each study's sample was derived from a period in

which a state religion was imposed. This consideration of state religion was particularly fruitful, as it represents an institutional "all-or-nothing" stance, either favoring a particular religion or constraining others. Such scenarios have significant implications for religiosity, church attendance, and tolerance toward diverse beliefs (Iannaccone 1998). State religion is also noteworthy for its potential influence on macroeconomic outcomes. Thus, we created a binary variable indicating whether the country considered in each study had a state religion in the twentieth century. Another underexplored area in the literature is the impact of polytheism versus that of monotheism on time perception. For this analysis, religions such as Buddhism, Hinduism, Confucianism, Jainism, Taoism, Shinshu, and other smaller Eastern religions—reflecting a polychronic time perception—were categorized as polytheistic. All other religions—reflecting a monochronic time perception—were classified as monotheistic. Next, we considered the level of freedom within the country considered in each study. This factor is of interest, as countries with high-quality institutions often guarantee greater freedoms, potentially fostering an ideal environment for entrepreneurs to initiate and develop successful businesses. These conditions can reduce the transaction costs associated with entrepreneurial activities. For example, streamlined and cost-effective entry regulations can lower barriers to new firm creation (Goltz et al., 2015).

Notably, we incorporated the Secularization Index based on World Value Survey for each considered country, hypothesizing that religious beliefs may exert a less direct influence on entrepreneurial behavior in more secular societies. The degree of secularization may be correlated with the regulatory framework underlying entrepreneurship. Laws and regulations in secular societies tend to be more neutral toward religious influences, affecting multiple factors (e.g., ease of doing business, resource access, market opportunities) differently than those in religious societies.

Additionally, we coded the gross domestic product (GDP) for each considered country, reflecting the economic context in which their entrepreneurs operate. All variables were coded independently by the author. In instances where specific variables regarding the effect size were missing, formal requests were sent to the original study authors for additional information. Of the 26 such inquiries sent, 14 led to responses, and 10 led to the acquisition of information that was initially missing. Unfortunately, three studies had irretrievable data and, consequently, were excluded from further analysis. Table 5 presents an overview of all studies included in the analysis.

3.3 Calculations of effect sizes

In this paper, the selection of effect sizes was guided by the objective of representing the bivariate association between entrepreneurship and religion, thereby reflecting the overall relationship between the two variables. To achieve this, the analysis included the following effect size statistics: Pearson product-moment correlation coefficients, Spearman rank correlation coefficients, and standardized beta regression coefficients. Standardized regression coefficients were excluded unless converted into partial correlations following established guidelines (Aloe 2014).

A positive correlation indicated support for the hypotheses, suggesting that religion has a positive relationship with entrepreneurship. Among the studies analyzed

Table 5 Overview of studies

Author(s)	Title	Journal	s	ES	Topic	Religion
Zhao and Lounsbury (2016)	An institutional logics approach to social entrepreneurship: Market logic, religious diversity, and resource acquisition by microfinance organizations	Journal of Business Venturing	2261	+	Ent. Intention	Islam
Liu et al. (2019)	Buddhist entrepreneurs and new venture performance: The mediating role of entrepreneurial risk-taking	Small Business Economics	1032	+	Start-Up Perf.; Ent. Cap	Buddh
Xu et al. (2022)	Buddhist entrepreneurs, charitable behaviors, and social entrepreneurship: Evidence from China	Small Business Economics	3486	+	Social Ent	Buddh
Xu et al. (2023)	Buddhist entrepreneurs, managerial attention allocation and new ventures' access to external resources	Journal of Management Studies	941	-	Ent. Cap.; Start-Up Perf	Buddh., Cat., Prot., Islam, Other
Bagis (2022)	Building students' entrepreneurial orientation through entrepreneurial intention and workplace spirituality	Heliyon	397	+	Ent. Intention	Islam
Agyei (2018)	Culture, financial literacy, and SME performance in Ghana	Cogent Economics & Finance	300	±	Ent. Finance; Ent. Perf	Cat., Prot

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Jaffar and Musa (2016)	Determinants of attitude and intention towards Islamic financing adoption among non-users	Procedia Economics and Finance	205	+	Ent. Intention	Islam
Klein et al. (2023)	Dimensions of religiousness and entrepreneurship: Evidence from Muslim Countries	Dimensions of Religiousness and Entrepreneurship	3393	±	Ent. Activity	Islam
Zhu et al. (2022)	Does religion belief matter to self-employment of rural elderly? Evidence from China	Journal of Asian Economics	5826	+	Ent. Intention	Buddh
Henley (2017)	Does religion influence entrepreneurial behaviour?	International Small Business Journal: Researching Entrepreneurship	74	±	Ent. Activity	Buddh., Cat., Prot., Islam, Hindu., Other, No Rel
Jones et al. (2024)	Does religion matter to angels? Exploring the influence of religion in entrepreneurial investor decision-making	Small Business Economics	208	+	Ent. Cap.; Ent. Finance	Other
Wibowo et al. (2022)	Does religious values matter in predicting youth entrepreneurial intention? An empirical study in Indonesia	The Social Sciences	173	+	Ent. Intention	Islam

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Scheepers et al. (2017)	Entrepreneurial women's cognitive ambidexterity: Career and cultural influences	South African Journal of Business Management	309	+	Woman Ent	Other
Zhou et al. (2021)	Entrepreneur-region fit and entrepreneurial success in China: The effect of "Confucian" personality	Frontiers in Psychology	26,405	−	Start-Up Perf	Confucianism
Kauanui et al. (2010)	Entrepreneurship and spirituality: A comparative analysis of entrepreneurs' motivation	Journal of Small Business & Entrepreneurship	205	+	Ent. Cap	Prot
Rehan et al. (2019)	Entrepreneurship in Islamic communities: How do Islamic values and Islamic practices influence entrepreneurship intentions?	Journal of Enterprising Communities: People and Places in the Global Economy	1895	+	Ent. Intention	Islam
Shane (1996)	Explaining variation in rates of entrepreneurship in the United States: 1899–1988	Journal of Management	U.S. population	−	Ent. Activity	Prot
Khan et al. (2021)	Factors affecting women entrepreneurs' success: A study of small- and medium-sized enterprises in emerging market of Pakistan	Journal of Innovation and Entrepreneurship	181	+	Woman Ent	Islam

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Zafar et al. (2022)	Factors influencing entrepreneurship capabilities in Pakistan	International Journal of Social Sciences and Entrepreneurship	79	+	Ent. Intention	Islam
Jiang et al. (2015)	Family-firm risk-taking: Does religion matter?	Journal of Corporate Finance	4159	+	Ent. Cap.; Ent. Perf	Confucianism
Kolade et al. (2023)	Guts, grit and God? Spiritual capital and entrepreneurial resilience in a turbulent environment	Social Science Network	622	+	Ent. Cap	Islam
Chen et al. (2022)	How does Confucian culture affect technological innovation? Evidence from family enterprises in China	PLOS one	1360	−	Innovation Activity	Confucianism
Abdullahi et al. (2015)	Impact of religion on entrepreneurial intention of university students in Kano State, Nigeria	Proceedings of ICIC2015 – International Conference on Empowering	380	+	Ent. Activity	Cat
Margaça et al. (2021)	Impact of the optimistic perspective on the intention to create social enterprises: A comparative study between Portugal and Spain	Frontier in Psychology	1476	+	Ent. Intention	Cat

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Ayob and Mohd Nor (2022)	Individual religiosity and career choice: Does cultural religiosity moderate the relationship?	Cross-Cultural Research	39,606	±	Ent. Activity	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other
Assmann and Ehrl (2021)	Individualistic culture and entrepreneurial opportunities	Journal of Economic Behavior & Organization	69	±	Ent. Intention, Innovation Activity	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other, No Rel
McIntyre et al. (2023)	Investigating the impact of religiosity on entrepreneurial intentions	Journal of Business Research	563	+	Ent. Intention	Cat
Yao and Zhang (2020)	Is private entrepreneurs' religiosity conducive to environmental investment? Evidence from China	Sustainability	3983	±	Social Ent	Confucianism, Cat
Henley (2014)	Is religion associated with entrepreneurial activity?	Institute of Labor Economics	74	±	Ent. Activity	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other, No Rel
Graafland et al. (2006)	Islam and socially responsible business conduct: An empirical study of Dutch entrepreneurs	Business Ethics: A European Review	50	+	Social Ent	Islam
Ayob and Saiyed (2020)	Islam, institutions and entrepreneurship: Evidence from Muslim populations across nations	International Journal of Islamic and Middle Eastern Finance and Management	88	±	Ent. Activity	Islam

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Duong (2023)	Karmic beliefs and social entrepreneurial intentions: A moderated mediation model of environmental complexity and empathy	Journal of Open Innovation: Technology, Market, and Complexity	401	+	Ent. Intention	Buddh
Stamm et al. (2024)	Marriage: An institution you cannot disparage? Evidence on the marriage norms of entrepreneurs	Small Business Economics	14,820	+	Ent. Activity	Catholic
Dougherty et al. (2019)	Prosperity beliefs and value orientations: Fueling or suppressing activity	Journal for the Scientific Study of Religion	1022	−	Ent. Activity	Prot
Woodrum (1985)	Religion and economics among Japanese Americans: A Weberian study	Social Forces	1047	+	Ent. Activity	Buddh., Other
Dodd and Seaman (1998)	Religion and enterprise: An introductory exploration	Entrepreneurship Theory and Practice	5704	±	Ent. Activity	Prot
Audretsch et al. (2007)	Religion and entrepreneurship	Jena Economic Research Papers	87,181	±	Ent. Activity	Buddh., Cat., Islam, Hindu., Other
Avnimelech and Zelekha (2023)	Religion and the gender gap in entrepreneurship	International Entrepreneurship and Management Journal	102	−	Woman Ent	Catholic, Islam, Judaism
Dvouletý (2023)	Religion attitudes and youth entrepreneurship performance	Journal of Small Business & Entrepreneurship	1162	−	Start-Up Perf., Ent. Activity	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Sulung et al. (2020)	Religion, attitude, and entrepreneurial intention in Indonesia	South East Asian Journal of Management	146	−	Ent. Intention	Islam
Ghosh (2023)	Religion, caste and access to credit by SMEs: Is there a link?	Cogent Economics & Finance	854,312	−	Ent. Finance	Hindu
Audretsch et al. (2013)	Religion, social class, and entrepreneurial choice	Journal of Business Venturing	81,973	±	Ent. Intention	Cat., Islam, Hindu., Other
Wiseman and Young (2014)	Religion: Productive or unproductive?	Journal of Institutional Economics	48	−	Ent. Activity	Cat., Prot., No Rel
Wibowo (2017)	Religiosity and entrepreneurial intention	Etikonomi	412	−	Ent. Intention	Islam
Rao et al. (2022)	Religiosity and entrepreneurial intentions in Pakistan	Journal of Business and Social Review in Emerging Economies	338	+	Ent. Intention	Islam
Gursoy et al. (2017)	Religiosity and entrepreneurship behaviours	International Journal of Hospitality & Tourism	300	±	Innovation Activity	Islam
Du (2017)	Religious belief, corporate philanthropy, and political involvement of entrepreneurs in Chinese family firms	Journal of Business Ethics	2779	±	Ent. Finance; Ent. Perf., Ent. Cap	Buddh
Rietveld and van Burg (2014)	Religious beliefs and entrepreneurship among Dutch Protestants	International Small Business Journal	756	+	Ent. Activity, Ent. Cap	Prot

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Li et al. (2019)	Religious beliefs, socially responsible investment, and cost of debt: Evidence from entrepreneurial firms in India	Emerging Markets Review	638	−	Social Ent	Hindu
Anglin et al. (2023)	Religious expression and crowdfunded microfinance success: Insights from role congruity theory	Journal of Business Ethics	253,130	±	Ent. Capabilities, Ent. Perf	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other
Zelekha et al. (2014)	Religious institutions and entrepreneurship	Small Business Economics		±	Ent. Activity	Buddh., Cat., Prot., Islam, Hindu., Judaism, Other
Azim and Islam (2022)	Role of religiosity, social factors, and perceived subjective norms on entrepreneurial intention: A study on tertiary level students	Journal of Global Entrepreneurship Research	429	+	Ent. Intention	Islam
Falck and Woessmann (2013)	School competition and students' entrepreneurial intentions: International evidence using historical Catholic roots of private schooling	Small Business Economics	188,075	−	Ent. Intention	Cat

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Zelekha and Dana (2019)	Social capital versus cultural capital determinants of entrepreneurship: An empirical study of the African continent	The Journal of Entrepreneurship	51	+	Ent. Intention	Cat., Prot., Islam
Deller et al. (2018)	Social capital, religion and small business activity	Journal of Economic Behavior and Organization	3236	±	Ent. Activity	Cat., Prot., Islam, Judaism, Other
Dubard Barbosa and Smith (2024)	Specifying the role of religion in entrepreneurial action: A cognitive perspective	Small Business Economics	1648	−	Ent. Activity	Christian
Lily et al. (2022)	Study on the relationship between Confucian filial piety culture and Chinese youth's entrepreneurial intention	Frontiers in Psychology	206	+	Ent. Intention	Confucianism
Wyrwich (2018)	The effect of being Protestant on entrepreneurial choice	Jena Economic Research Papers	2812	+	Ent. Intention, Ent. Activity	Cat., Prot
Di Pietro and Masciarelli (2022)	The effect of local religiosity on financing cross-regional entrepreneurial projects via crowdfunding (local religiosity and crowdfinancing)	Journal of Business Ethics	533	+	Ent. Finance	Cat

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Maniyalath and Narendran (2016)	The human development index predicts female entrepreneurship rates	International Journal of Entrepreneurial Behavior & Research	61	+	Woman Ent	Cat., Islam
Benk et al. (2016)	The impact of religiosity on tax compliance among Turkish self-employed taxpayers	Religions	403	+	Ent. Finance	Islam
Wijaya (2019)	The impact of religiosity on self-employment	Journal of Enterprising Communities: People and Places in the Global Economy	67	−	Ent. Activity	Islam
Ibrahim and Angelidis (2005)	The long-term performance of small businesses: Are there differences between "Christian-based" companies and their secular counterparts?	Journal of Business Ethics	312	+	Ent. Perf	Cat
Rietveld and Hoogendoorn (2022)	The mediating role of values in the relationship between religion and entrepreneurship	Small Business Economics	150,498	±	Ent. Activity	Cat., Prot., Islam, Judaism
Junaidi et al. (2023)	The role of religion and social capital on entrepreneurship self-efficacy and motivation among students in Indonesia	Cogent Business & Management	422	+	Ent. Intention	Islam

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Neubert et al. (2017)	The role of spiritual capital in innovation and performance: Evidence from developing economies	Entrepreneurship Theory and Practice	4000	+	Innovation Activity	Cat
Margaça et al. (2022)	The role of spiritual mindset and gender in small business entrepreneurial success	Frontiers in Psychology	233	+	Ent. Intention	Cat
Du et al. (2022)	Value of faith: Religious entrepreneurs and corporate longevity	Journal of Management & Organization	3325	+	Start-Up Perf	Buddh
Rodrigues et al. (2023)	What it is important to know about the effect of religious beliefs on entrepreneurial intention: The case of university students	Journal of Multicultural Counseling and Development	508	+	Ent. Intention	Cat
Baranik et al. (2018)	What makes Muslim women entrepreneurs successful? A field study examining religiosity and social capital in Tunisia	Journal of Sex Roles	84	±	Woman Ent	Islam
Parboteeah et al. (2015)	When does Christian religion matter for entrepreneurial activity? The contingent effect of a country's investments into knowledge	Journal of Business Ethics	9307	+	Ent. Activity	Prot., Cat

Table 5 (continued)

Author(s)	Title	Journal	s	ES	Topic	Religion
Aygün et al. (2008)	Work values of Turkish and American university students	Journal of Business Ethics	266	+	Ent. Cap	Prot

in this meta-analysis, 52 explicitly reported their findings in terms of correlation coefficients as the standardized coefficients of a univariate regression. When an effect size estimate was not directly reported, we attempted to calculate it using the information provided in the article in line with the formulas from Lipsey and Wilson (2001). Correlation coefficients (r) were converted into Fisher z-values to facilitate analysis. For reporting the overall relationship between entrepreneurship and religion (as well as in the intercepts of the moderator analyses), these Fisher z-values were then transformed back into correlation coefficients to facilitate interpretation. Additionally, standard errors and the sampling variance of the effect sizes were estimated according to the guidelines provided by Lipsey and Wilson (2001).

3.4 Empirical strategy

Given the hierarchical and multidimensional structure of our data, with multiple effect sizes nested within studies and diverse entrepreneurial outcomes across religious traditions, we adopted a two-stage meta-analytic approach to estimate the overall relationship between religion and entrepreneurship and to test potential moderators (Borenstein et al. 2009; Konstantopoulos 2011).

In the first stage, we employed a disaggregation strategy, conducting separate random-effects meta-analyses for each category of interest (e.g., religious traditions, measures of religiosity, entrepreneurial outcomes). This allowed us to obtain pooled effect sizes and heterogeneity statistics for each subgroup. Table 6 reports mean correlations (mean r), confidence intervals, heterogeneity parameters (τ and I^2), and p-values.

While informative, these disaggregated models do not account for dependencies arising from multiple effect sizes within studies. To address this, we implemented two-level random-intercept meta-regression models, treating effect sizes (Level 1) as nested within studies (Level 2). This structure corrects for non-independence and provides more accurate moderator estimates (Hox et al. 2017). The outcome variable $ES_{i,s}$ represents the effect size for observation i in study s, modeled as:

$$ES_{i,s} = \beta 0 + \sum\nolimits_{(k=1)}^{k} \beta_k X_{k,i,s} + \theta_{i,s} + \phi_s + \varepsilon_{i,s} \tag{1}$$

with β_k being the coefficients standardized to ensure comparability, $X_{k,i,s}$ being a vector variable containing a set of k among the effect sizes i within the studies s, $\theta_{i,s}$ symbolizing the random effect of the effect sizes i, and ϕ_s symbolizing the random effect for studies s. The hierarchical structure of the data implies that, over i ($i = 1,\ldots,I$), effect sizes are clustered within the studies s ($s = 1,\ldots,S$). We could estimate the model with a standard regression, and, in this case, $\beta_{0\mathrm{i,s}}$ and $\beta k_{\mathrm{i,s}}$ would be β_0 and β_{k}, respectively. However, applying a multilevel regression model allows for the modeling of coefficients across the considered studies and, thus, takes the heterogeneity across the studies' effect sizes into account.[2]

[2] The meta-analysis was conducted using stata 18.

Table 6 Basic multilevel meta-analysis results

	s	i	N	Mean r (SE)	*p*-value	CI_{lb} and CI_{ub}	τ(within)	τ(between)	I^2(within) (%)	I^2(between) (%)
Overall Relationship R&E	75	306	926,525	0.037 (0.011)	0.001	[0.035–0.058]	0.164	0.276	26.24	73.76
Disaggregated by religion										
Buddhism	17	40	428,976	0.02 (0.029)	0.49	[−0.037–0.077]	0.195	0.013	99.53	0.47
Catholic	30	67	653,493	−0.079 (0.013)	0.001	[−0.093–0.065]	0.141	0.107	63.4	36.6
Protestant	24	69	458,528	0.021 (0.01)	0.001	[0.018–0.059]	0.135	0.135	49.4	50.6
Hinduism	11	28	510,139	−0.012 (0.017)	0.43	[−0.045–0.021]	0.071	0.037	78.5	21.5
Islam	36	70	624,675	0.047 (0.017)	0.007	[0.014–0.08]	0.096	0.305	9	91
Confucianism	5	14	36,113	0	0.998	[−0.117–0.118]	0.06	0.786	0.06	99.4
Judaism	9	18	344,175	0.037 (0.014)	0.01	[0.011–0.064]	0.096	0.098	48.7	51.3
Disaggregated by religiosity										
Affiliation	34	232	747,323	0.011 (0.012)	0.32	[−0.01–0.032]	0.173	0.031	96.8	3.2
Practice	9	34	68,721	0.086 (0.005)	0.024	[0.039–0.088]	0.16	0.406	86.5	13.5
Traits	43	18	53.719	0.096 (0.028)	0.001	[0.04–0.151]	0.115	0.474	94.5	5.5
Strength	36	22	127.376	0.105 (0.014)	0.036	[0.005–0.058]	0.011	0.115	91.3	8.7
Disaggregate by entr.outcome										
Entrepreneurship Finance	6	11	104,211	−0.028 (0.001)	0.001	[−0.029–0.027]	0.084	0.007	0.1	99.9
Social Entrepreneurship	7	11	8,928	0.033 (0.032)	0.304	[−0.032–0.097]	0.095	0.122	37.7	62.3
Entrepreneurial Activity	22	128	485,454	0.015 (0.013)	0.484	[−0.012–0.042]	0.191	0.167	56.7	43.3
Entrepreneurship Performance	14	37	145,342	−0.008 (0.013)	0.716	[−0.043–0.027]	0.119	0.007	99.9	0.01
Woman Entrepreneurship	6	9	798	0.036 (0.011)	0.001	[0.015–0.057]	0.078	0.159	19.1	80.9
Entrepreneurial Intention	23	54	404,878	0.109 (0.028)	0.001	[0.054–0.165]	0.160	0.449	11.3	88.7
Innovation Capabilities	6	23	13,844	0.031 (0.025)	0.215	[−0.017–0.079]	0.025	0	100	0
Entrepreneurship Capabilities	10	56	1774	−0.031 (0.030)	0.304	[−0.090–0.029]	0.097	0	100	0
Disaggregated by religious characteristics										
State Religion	16	39	82,211	0.054 (0.023)	0.19	[0.009–0.098]	0.159	0.404	13.5	86.5

Table 6 (continued)

	s	i	N	Mean r (SE)	*p*-value	CI_{lb} and CI_{ub}	τ(within)	τ(between)	I^2(within) (%)	I^2(between) (%)
Secular State	59	290	4,524,025	0.26 (0.011)	0.018	[0.005, 0.047]	0.171	0.036	95.7	4.3
Polytheistic Religion	25	85	565,089	0.011 (0.017)	0.51	[−0.022, 0.044]	0.129	0.387	10	90
Monotheistic Religion	50	238	875,552	0.05 (0.014)	0.000	[0.050−0.077]	0.178	0.166	53.7	46.3

s = number of independent samples, i = number of effect sizes, N = non-redundant sum of participants, mean r (SE) = mean r and its standard error, p-value, CI_{lb} and CI_{ub} = lower and upper bound of a 95%, τ(within) = Standard deviation of true effects within clusters, τ(between) = Standard deviation of true effects between clusters, I^2(within) = Proportion of variance within clusters due to heterogeneity, I^2(between) = Proportion of variance between clusters due to heterogeneity

Table 7 reports the results. First, we examined each moderator independently (Model 2), followed by a full model including all moderators (Model 3) to assess their joint effects. The intercept in these models reflects the grand mean of the R&E relationship across categories, rather than a no-religion baseline.

To further examine theoretical mechanisms, we included interaction terms. Specifically, we tested whether the impact of monotheistic religion depends on uncertainty avoidance, and whether state religion effects vary with power distance. These interactions draw from theories linking cosmological beliefs and hierarchical norms to entrepreneurial behavior (Barro & McCleary 2003; Weber 1904; Zimbardo & Boyd, 1999).

Figure 2 outlines the analytical framework, linking the research objectives to the corresponding chapters.

3.5 Reporting bias

The threat of publication bias was assessed through statistical tests and visual inspection, specifically by examining the funnel plot depicted in Fig. 3. While statistical tests for publication bias are limited in terms of their ability to distinguish between actual heterogeneity and publication bias (Borenstein et al. 2021), the need for such an assessment is clear when considering the preferential publication of significant findings. To measure heterogeneity, we calculated the Cochran's I2 statistic, yielding an I2 value of 99.85%. This high figure indicates that the variability among the effect sizes is largely attributable to true heterogeneity rather than sampling error. Moreover, the Egger test revealed non-significance, suggesting that there is no statistical evidence of publication bias. However, this does not definitively prove its absence, especially in contexts where there are other reasons to suspect bias or for which the meta-analysis includes a small number of studies.

In the funnel plot (Fig. 3), the effect sizes of the included studies are plotted against their corresponding standard errors. Two extreme outliers were dropped. The overall effect size is marked by a solid vertical line at 0.1. Flanking this central line, the pseudo 95% confidence intervals (designed to capture the expected distribution of studies in the absence of publication bias) are depicted by two dotted lines. The distribution of studies across the plot displays minimal asymmetry, reinforcing the inference of negligible publication bias within the meta-analytic sample. This is further substantiated by the inclusion of studies with both low and negative effect sizes. Moreover, the uniformly low standard errors across the included studies suggest a commendable level of statistical quality.

4 Meta-analysis

4.1 Overall relationship between religion and entrepreneurship

For many individuals, entrepreneurship is a core life pursuit; it is their way to find meaning in the world, fulfill their ambitions, or achieve prestige in society.

Table 7 Multilevel meta-analysis moderators results

			Cultural factors	Study characteristics	Cosmological view / political economy	Full model
Moderator Variables	*s*	*i*	ß$_1$ / *SE*	ß$_1$ / *SE*		ß$_1$ / *SE*
Cultural Factors						
Individualism	66	285	**0.006**			**0.003**
			0.004			*0.004*
Indulgence	74	321	**−0.004**			**−0.009****
			0.003			*0.003*
Uncertainty Avoidance	66	306	**−0.002**		**−0.059*****	**0.006**
			0.003		*0.013*	*0.003*
Masculinity	66	285	**0.021*****			**0.010****
			0.004			*0.004*
Power Distance	66	306	**−0.009**		**−0.153****	**−0.010***
			0.006		*0.005*	*0.005*
Long-Term Orientation	74	321	**−0.004**			**−0.004**
			0.003			*0.005*
Sample Characteristics						
GDP per Capita	75	306		**0.000**		**0.000***
				0.000		*0.000*
Secularization Index	75	306		**0.004***		**0.008*****
				0.002		*0.002*
Journal Impact Factor	72	294		**−0.189*****		**0.082***
				0.029		*0.045*
Journal Impact Factor^2	72	294		**−0.005**		**−0.008***
				0.004		*0.004*
Google Scholar Citations	74	306		**0.011*****		**0.003****

Table 7 (continued)

			Cultural factors	Study characteristics	Cosmological view / political economy	Full model
				0.001		*0.001*
Survey Study	52	155		**0.021**		**0.068**
				0.095		*0.089*
Publication Year	75	306		**0.170*****		**0.029*****
				0.004		*0.010*
Region: Asia	32	81		**−0.031**		**0.084**
				0.171		*0.372*
Africa	8	20		**0.062*****		**0.181**
				0.019		*0.559*
Europe	16	58		**−0.031**		**−0.387**
				0.213		*0.861*
Middle East	11	21		**0.144**		**0.046**
				0.196		*0.645*
North America	16	58		**−0.155**		**−0.721**
				0.244		*0.891*
Interactions						
Monotheistic Religion	50	238			**−0.014*****	**−0.014*****
					0.001	*0.001*
Monothestic Rel. X Uncertainity Avoidance					**0.001*****	**0.037*****
					0.000	*0.001*
State Religion	16	39			**−0.451**	**−0.496**
					0.485	*0.700*
StateReligionl X Power Distance					**0.001**	**0.011**
					0.007	*0.005*

Table 7 (continued)

	Cultural factors	Study characteristics	Cosmological view / political economy	Full model
Constant	**0.311**	**−0.343*****	**3.438*****	**−0.480*****
	0.668	*0.539*	*0.825*	*0.207*

s = number of independent samples, *i* = number of effect sizes, ß = coefficient, standard errors italicized, *$p < 0.1$, **$p < 0.05$, ***$p < 0.001$

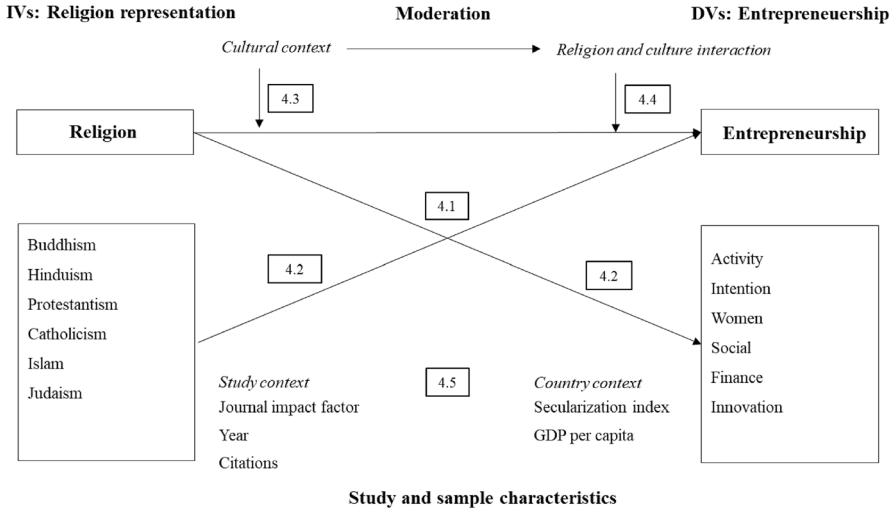

Fig. 2 Framework

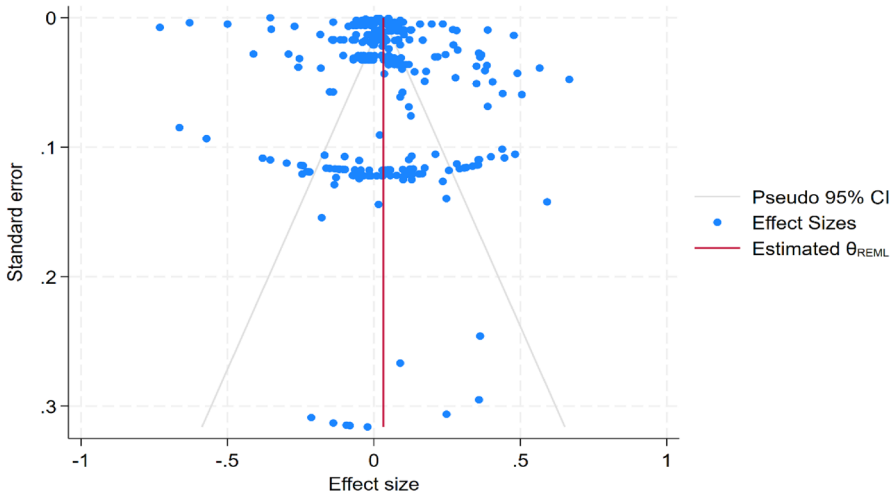

Fig. 3 Research design meta-analysis on religion and entrepreneurship

Entrepreneurs often attribute their actions to a range of motivations, including existential drivers, achievement-oriented goals, and moral imperatives shaped by cultural norms (Audretsch et al. 2021; Smith et al. 2021; Smith et al. 2019; Wiklund & Shepherd, 2003). However, religious values and institutions can shift these motivations from market-focused activities to religious objectives, such as the pursuit of salvation, blessings, or spiritual fulfillment (Dodd & Seaman 1998). Religious practices and beliefs may help form certain behaviors (e.g., the realization of human desires, decision-making processes), and religious–institutional arrangements may shape

entrepreneurship by promoting human capital through religious education, demographic developments, technological change, and the accumulation of social capital (Nunziata & Rocco 2018). Given the complex interplay between R&E, it is crucial to consider both specific religions and specific entrepreneurial fields when assessing their relationship. Each religion has unique doctrines, values, and norms that influence entrepreneurial activities in distinct ways. In other words, religious cultures and institutions can hinder or foster entrepreneurship depending on the specific religion and sociocultural context.

Moreover, the impact of religion on entrepreneurship varies significantly by context. The same religious values can lead to different outcomes due to variations in the cultural, social, or economic environment. For example, a religion that promotes frugality may encourage sustainable entrepreneurship in resource-poor contexts but discourage high-risk investments in affluent environments (Xu et al. 2022). Although many religions overlap in terms of their values (e.g., caring for others, thriftiness, prosperity) (Dougherty et al. 2019), these values may lead to different outcomes in different contexts. The value of caring for others may inspire social entrepreneurship in one community while reinforcing conservative, risk-averse practices in another. Additionally, research methods in entrepreneurship studies can introduce bias. For example, using tax data to identify entrepreneurs as anyone with self-employment income may not accurately capture true entrepreneurial intentions. Similarly, studies on students' entrepreneurial intentions may be biased because those predisposed to entrepreneurship are more likely to enroll in related courses (Noel, 2002).

The analysis presented in Table 6 draws on 306 effect sizes from 75 independent studies. Using a random-effects meta-analysis to account for heterogeneity across studies, we find a small but statistically significant positive overall relationship between religion and entrepreneurship (mean $r = 0.037$, $p < 0.05$). While this effect size is modest, it suggests that religious beliefs, practices, and institutional characteristics tend to be positively associated with entrepreneurial outcomes on average.

However, it is crucial to interpret this finding with caution. The significant heterogeneity indicates that the strength and direction of the relationship vary considerably across studies, likely due to differences in religious traditions, cultural contexts, measurement approaches, and definitions of entrepreneurship used across the literature. Therefore, the average effect should be seen as an indication of a general positive association rather than a universal finding. In the following sections, we disaggregate these results by religious tradition, measures of religiosity, and types of entrepreneurial outcomes to provide a more nuanced understanding of how religion influences entrepreneurship across contexts.

4.2 Weber's hypothesis: values and behavioral norms

A positive causal correlation between religious beliefs and entrepreneurial activity (even one that is very small, as in our case) suggests that certain religious values may contribute positively to entrepreneurship. However, context matters. This notion is rooted in Weber's seminal analysis of the Protestant ethic, in which

he argued that Protestant Christian practices, particularly those within Calvinism, played a critical role in the rise of European capitalism (Weber 1904). Weber identified the Protestant work ethic—the belief that diligent labor is divinely endorsed. This ethic not only legitimized industriousness but also sanctified entrepreneurial endeavors, framing success in business as evidence of divine favor or "election" (McCullough & Willoughby 2009).

The idea of sanctification, especially within the Calvinist tradition, supports the notion that entrepreneurial success is a sign of divine approval. This concept has evolved, with the modern "prosperity gospel" in certain Evangelical and Pentecostal circles representing an extreme interpretation in which economic prosperity is considered to be a reward for religious devotion (Dougherty et al. 2019). The enduring influence of religious values on entrepreneurial behavior is well documented, especially the emphasis on hard work and frugality—core ideas in Weber's original thesis (Nunziata & Rocco 2024; Rietveld & Hoogendoorn 2022). While Weber's analysis began with Protestantism's impact on the emergence of capitalism in Northern Europe, his broader exploration of world religions continues to drive interest in the relationship between religion and economic behavior (Weber 1904).

Overall, these arguments suggest that religious values, especially those rooted in Protestant ethics, may shape behavioral norms that are favorable to entrepreneurship. However, the extent to which this pattern generalizes across contexts and religious traditions remains an empirical question.

The results of our disaggregated meta-analysis provide evidence in support of Weber's hypothesis. Studies conducted in Protestant contexts report a small but statistically significant positive association with entrepreneurship (mean $r = 0.021$, $p < 0.001$). In contrast, Catholic contexts show a significant negative association (mean $r = -0.079$, $p < 0.001$). Buddhism shows a small positive but non-significant effect (mean $r = 0.020$, $p > 0.1$). Hinduism is negative and non-significant (mean $r = -0.012$, $p > 0.1$). Islam shows a significant positive association (mean $r = 0.047$, $p < 0.01$). Confucianism shows no effect (mean $r = 0.000$, $p > 0.1$). Finally, Judaism shows a small positive significant effect (mean $r = 0.037$, $p < 0.05$).

These findings align with Weber's proposition that Protestant values are associated with greater entrepreneurial activity, while also highlighting that this relationship varies considerably across religious traditions.

4.3 Moderators of the relation between religion & entrepreneurship

The next section examines how cultural, study and sample characteristics, and different cultural aspects moderate the relationship between religion and entrepreneurship. The analysis draws on multilevel meta-regression models reported in Table 7, which presents results from four specifications. The first column tests each moderator individually (Sect. 4.3.1), the second tests study and sample characteristics (Sect. 4.5), the third includes interaction terms (Sect. 4.4),

and the fourth estimates all moderators jointly as a robustness check. Unless otherwise stated, interpretations refer to Model 4 (full model), which controls for all moderators simultaneously and serves as our main specification. Unless otherwise noted, interpretations are based on Model 4, the full specification including all moderators simultaneously.

4.3.1 Different cultural aspects as moderators

We also aim to explore how culture, defined as "the values, beliefs and assumptions learned in early childhood that distinguish one group of people from another" (Newman & Nollen 1996, p. 754), influences the relationship between religion and entrepreneurship. Prior work suggests that culture comprises multiple dimensions, including power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence (Hofstede 1980; House et al., 2004). Religion may shape these cultural factors in two ways: by transmitting values directly to individuals (Nunziata & Rocco 2018) and by shaping societal perceptions of uncertainty, which can either inhibit or encourage entrepreneurship (De Noble et al. 2007).

Our argument posits that the dynamics of power distance and uncertainty avoidance play particularly significant roles in moderating the interplay between religion and entrepreneurship. For example, high power distance societies emphasize hierarchical structures and respect for authority, potentially discouraging entrepreneurial activities that challenge traditional norms (Joy & Kolb, 2009). Conversely, in low power distance cultures, individuals may view entrepreneurship as an acceptable means of personal advancement. Similarly, uncertainty avoidance, defined as the extent to which members of a society strive to avoid uncertainty by relying on established norms and rules (House et al., 2004), influences entrepreneurial behavior. In cultures with high uncertainty avoidance, entrepreneurship is often perceived as overly risky, resulting in a weaker association between religion and entrepreneurial outcomes. In contrast, low uncertainty avoidance cultures, which accept risk and ambiguity, may strengthen this relationship (Hofstede 1980).

The meta-regression results presented in Table 7, Model 3 indicate that *Power Distance* has a small negative moderation effect ($\beta = -0.010$, $p < 0.1$). This suggests that in cultures with higher power distance, the positive relationship between religion and entrepreneurship is slightly weakened, potentially due to religious endorsement of hierarchical stability over individual economic experimentation. In contrast, *Uncertainty Avoidance* exhibits a significant negative moderation effect in Model 3 ($ß = -0.059$, $p < 0.001$), suggesting that in cultures where uncertainty is avoided, the positive relationship between religion and entrepreneurship is substantially weakened. This aligns with the theoretical argument that such cultures may perceive entrepreneurship as overly risky.

Beyond these, *Masculinity* shows a positive effect ($\beta = 0.010$, $p < 0.05$), suggesting that cultures emphasizing achievement and assertiveness amplify the entrepreneurial implications of religious beliefs. This effect is even stronger in the individual model (Model 1: $ß = 0.021$, $p < 0.001$). *Indulgence* exhibits a small negative effect ($\beta = -0.009$, $p < 0.05$), indicating that cultures prioritizing leisure and gratification slightly dampen this relationship.

Overall, these results support the argument that cultural contexts shape how religious beliefs translate into entrepreneurial outcomes. Specifically, societal hierarchies and value orientations such as masculinity and indulgence condition the influence of religion on entrepreneurship. This highlights the need for future research to integrate cultural dimensions systematically when examining the mechanisms linking religion and economic behavior.

4.3.2 Cosmological view: the effects of monotheism compared to those of polytheism

Time is a subjective construct that is central to many religions, influencing the emotions, behaviors, and actions of their followers (Gala & Mueller 2024). Entrepreneurs often view time in the context of their business decisions and processes, but religious beliefs can alter this perception of the future from one of weeks, months, and years to one of eternity (Gielnik et al. 2014). Such beliefs can change how entrepreneurs view past successes and failures and shape their future expectations and risk-taking behaviors. This shift in cosmological perspective can give way to calm acceptance rather than hope and despair in response to successes and failures, respectively (Weiner 1979).

Polytheistic belief systems often perceive time cyclically, emphasizing sustainability and respect for traditions.[3] Entrepreneurs guided by such beliefs tend to adopt long-term timelines, consciously reframing their decisions and actions with an eye toward eternity. This can encourage more measured approaches to entrepreneurial risk. Conversely, monotheistic belief systems promote a linear understanding of time and the concept of a singular, finite life, fostering a heightened awareness of the present (Weber 1904). This perception may instill a sense of urgency and purpose in entrepreneurial endeavors, encouraging risk-taking and forward-thinking in pursuit of one's purpose. This, in turn, may make adherents to monotheism more willing to embrace novel, untested innovations, including the development of new ventures (Jiang et al. 2015).

We rely on the same analysis as in the previous sections but concentrate on the effect of Monotheistic Religion on the relationship between R&E. The results indicate that monotheistic religions are negatively associated with entrepreneurial outcomes compared to polytheistic religions ($\beta = -0.014$, $p < 0.001$). Additionally, the interaction term between monotheism and uncertainty avoidance is positive and significant ($\beta = 0.037$, $p < 0.001$), suggesting that monotheistic beliefs may mitigate the dampening effect of uncertainty avoidance on entrepreneurship.

This finding supports calls for deeper analyses of entrepreneurship's temporal dimensions (Lévesque & Stephan, 2020) that integrate ideas from the concept of temporal depth (Bluedorn, 2002) and time perspectives theory (Zimbardo & Boyd, 1999). These findings suggest that variation in temporal focus (on either the present moment or eternity) can shape entrepreneurs' decision-making processes. This

[3] The term "monotheism" refers to belief in a single God; it is typically associated with Judaism, Christianity, and Islam (Smith 2017). In contrast, "polytheistic" religions like Hinduism and Buddhism worship multiple gods and deities.

dynamic could be attributed to the implemented control variables, which we examine in the following section.

4.3.3 Political economy view: the effects of state religions

Social tolerance fosters individual freedom, diversity, and innovative entrepreneurship (Audretsch et al. 2018; Audretsch & Moog 2022). However, when governments establish a state religion (or otherwise regulate religious practices), they may suppress heterodox views. Countries with state religions often exhibit higher levels of both religiosity and autocracy (Bentzen & Gokmen 2023). Theocrats use divine legitimacy to establish organizations that maintain adherence to religious doctrines while bolstering autocratic rule. Even where there is no formal state religion, legal frameworks can still be heavily influenced by religious beliefs. The consequent lack of cultural diversity can dampen the creativity- and innovation-strengthening processes that are essential to entrepreneurship (Barro & McCleary 2003; Stoeckl 2016). Additionally, resources dedicated to maintaining a state religion or regulating religious practices are necessarily resources that are not being put toward entrepreneurial initiatives, broadly hindering entrepreneurship.

We rely again on the same specification but focus on the effect of State Religion on the relationship between R&E. The results confirm that the overall relationship is mitigated by a religion being institutionalized by the state. We find that State Religion exhibits a negative effect ($\beta = -0.496$), though this result is not statistically significant, indicating a weak and inconclusive empirical link, despite theoretical expectations. This could be an initial indication that countries having had a state religion implemented in the twentieth century (rather than religious institutional factors) has an impact on entrepreneurship.

Our findings indicate that State Religion can weaken the R&E relationship ($\beta = -0.496$, $p > 0.1$). Although this effect is not statistically significant, its negative direction aligns with theoretical expectations that state religions may suppress entrepreneurial activity by limiting cultural diversity and reallocating economic resources. In countries with established state religions, autocratic rule and the suppression of diverse views may limit the cultural diversity necessary for entrepreneurial innovation (Barro & McCleary 2003; Stoeckl 2016). The persistence of state religions, as noted by Bentzen and Gokmen (2023), suggests that these religious institutions have deep historical roots, continuing to shape contemporary political and economic practices.

The resources and regulations that necessarily accompany the maintenance of a state religion may detract from entrepreneurial efforts, particularly in countries where these institutions were established more recently. Thus, we provide a preliminary look at how state religions influence entrepreneurship, highlighting the need for further research to better understand these dynamics and their broader economic implications.

4.4 Different moderators and their interactions with entrepreneurship and religion

4.4.1 Cosmological view and uncertainty avoidance

Cultures with high uncertainty avoidance may exhibit a more measured approach to entrepreneurial risk due to the belief that opportunities recur in line with the cyclical nature of time (Gielnik et al. 2014). However, this belief in recurring opportunities could also encourage risk-taking, as the fear of failure is mitigated by the assurance of future opportunities (Weiner 1979). Entrepreneurs in these settings may be more willing to engage in innovative ventures, balancing the need for stability with the willingness to take risks (Jiang et al. 2015).

Conversely, monotheistic belief systems emphasize a linear perception of time, viewing life as a singular, finite progression rather than a recurring cycle (Weber 1904). This perception instills a sense of urgency and purpose, potentially encouraging entrepreneurial action in pursuit of individual goals within a limited timeframe. However, this linear time orientation can also heighten sensitivity to uncertainty, potentially discouraging risk-taking when future opportunities are perceived as limited or non-repeating.

This framing interacts with cultural uncertainty avoidance: while monotheism alone is negatively associated with R&E ($\beta = -0.014$, $p < 0.001$), its interaction with uncertainty avoidance is positive and significant ($\beta = 0.037$, $p < 0.001$). These findings suggest that in uncertainty-averse cultures, monotheistic time orientations may counterbalance risk aversion, supporting entrepreneurial engagement. This aligns with recent work on temporal framing in entrepreneurship (Lévesque & Stephan, 2020).

4.4.2 Political economy and power distance

State religions often reinforce societal hierarchies, potentially curbing entrepreneurial freedom. While both state religion ($\beta = -0.496$, *n.s.*) and power distance ($\beta = -0.010$, $p < 0.10$) individually dampen R&E, their interaction is weakly positive and not significant ($\beta = 0.011$). This suggests a potential compensatory dynamic: hierarchical religious states may still permit entrepreneurship—so long as it conforms to established institutional norms. Future research should further investigate this potential mechanism, examining whether hierarchical societies with entrenched state religions channel entrepreneurial activities towards maintaining social cohesion and institutional stability rather than fostering disruptive innovation.

4.5 Study and sample characteristics

Finally, we again focus on the results of the full model. The R&E relationship is positively influenced by Journal Impact Factor coupled with a negative coefficient on its squared term ($\beta = -0.008$, $p < 0.10$), indicating a non-linear relationship. The result suggests that studies published in higher-ranked journals have a positive

Table 8 Summary of results

Religion—Entrepreneurship	Chapter	Result
Main Effect: Overall positive	4.1	Support
Effect of specific religions	4.2	Mixed support
The positive effect will be dependent on the religion and entrepreneurship topic and will not be different from zero	4.2	Support
Moderation effect		
Positive effect of Monotheistic Religion	4.3.1	No support
Positive effect of State Religion	4.3.2	No support
Positive effect of Uncertainty Avoidance	4.3	No support
Positive effect of Power Distance	4.3	No support
Moderators and Their Interaction with Religion and Entrepreneurship		
Moderation effect of time perception and interaction with cultural dimensions	4.4.1	Support
Moderation effect of State Religion and interaction with cultural dimensions	4.4.2	No support

effect on overall effect size. However, as the impact factor increases beyond a certain threshold, the effect begins to diminish, meaning there are diminishing returns at higher impact levels. We also identified a positive significant effect of Google Scholar Citations ($\beta = 0.003$, $p < 0.05$) and Publication Years ($\beta = 0.029$, $p < 0.001$) on the relationship between R&E, indicating that more recent studies and those with higher citation counts report stronger relationships.

5 Conclusion

This meta-analysis investigated the extent to which religion influences entrepreneurship by systematically testing 35 different factors grouped into four categories: religious attributes, entrepreneurial attributes, interactions between religious and cultural factors, and study quality indicators. Overall, we found a statistically significant but substantively small relationship between religion and entrepreneurship (mean $r = 0.037$, $p < 0.05$), consistent with prior qualitative syntheses suggesting that religion can shape entrepreneurial motivation and behavior (Dodd & Seaman 1998; Gümüsay 2015).

Our disaggregated analyses showed that this relationship varies by religious tradition and entrepreneurial outcome (Table 8). For example, Protestantism displayed a small positive effect, supporting aspects of Weber's (1904) Protestant ethic thesis (see also Shane 1996; Rietveld & Hoogendoorn 2022). In contrast, Catholicism showed a negative association, aligning with research suggesting that hierarchical religious traditions may constrain entrepreneurial initiatives (Nunziata & Rocco 2018). Other traditions such as Buddhism, Hinduism, and Islam displayed mixed or nonsignificant results, underscoring the context-dependent nature of religious influences (Azim & Islam 2022; Henley 2019).

Our moderator analyses revealed nuanced cultural effects. For instance, cultures with high power distance exhibited a negative moderation effect ($\beta = -0.010$, $p < 0.10$),

implying that hierarchical societies may inhibit the translation of religious values into entrepreneurial action (Joy & Kolb, 2009). Similarly, uncertainty avoidance showed mixed effects depending on model specification, resonating with research linking risk aversion to reduced entrepreneurial intent (Hofstede 1980; House et al., 2004). Contrary to expectations, monotheistic religions did not show a consistent positive effect. In our full model, monotheism was negatively associated with the R&E relationship ($\beta = -0.014$, $p < 0.001$), suggesting that linear time perceptions common in monotheistic traditions may heighten sensitivity to uncertainty and thus dampen entrepreneurial risk-taking (Weber 1904; Gielnik et al. 2014).

State religions similarly weakened the R&E relationship, with a negative coefficient indicating that formal religious institutionalization may limit cultural diversity and economic freedom essential for entrepreneurship (Barro & McCleary 2003; Bentzen & Gokmen 2023). Furthermore, the interaction between monotheism and uncertainty avoidance was positive ($\beta = 0.037$, $p < 0.001$), suggesting that the combination of linear time perception and cultural uncertainty avoidance may under certain conditions support entrepreneurial decision-making (Lévesque & Stephan, 2020; Zimbardo & Boyd, 1999).

What remains an unsolved problem shaping the results is the religious attitude of each considered source's author or authors. No work, be it in the sciences or the arts, is independent of the eye of the beholder. Their values, concerns, and interests not only shape the selection of the research topic but also their theories, empirical methods, and interpretations. Axiological neutrality—a methodological position that Weber (1904) framed as integral for the social sciences which insists that researchers must be aware of their own values in order to reduce (as much as possible) the biases that their own value judgments could cause—dominates this field of research in a particular way. The aim of researchers in the social sciences is to conduct research about subjects that are structured by values without offering an analysis that is itself based on value judgments. In many of the studies reviewed in this meta-analysis, the authors' personal values or beliefs may have served as a driving force behind their research on R&E. These underlying beliefs may have unintentionally (and sometimes intentionally) shaped both the research process and the interpretation of the results, compromising the studies' objectivity and rigor (Dejardin et al. 2024). For example, would an author who is a committed Protestant be convinced by their own negative results? Would a committed Muslim be convinced by results pointing to the positive effect of Islamic values on entrepreneurship? Must all researchers dealing with this topic be atheists? Many academic journals require any financial support provided to studies to be disclosed in order to maintain transparency with regard to the potential effects of researchers' dependence. To maintain transparency, should authors not also express their religious and moral beliefs, attitudes, and values when theoretically or empirically analyzing the impact of religion on social and economic phenomena?

Accordingly, this study opens avenues for future research to better understand R&E. First, future research could refine and expand on our results by incorporating economic growth models. Second, it is important to address selection-variable bias, such as the impact of religion on individual self-employment and broader entrepreneurial activities. Third, the high I^2 value observed in our study indicates

considerable variability, suggesting that additional moderating factors may be at play; future research should explore these factors in subgroups with particularly high heterogeneity.

Moreover, a critical examination of the measurement approaches used in prior studies reveals significant inconsistencies. The operationalization of religion varied widely, with some studies focusing on affiliation, others on practice, strength, or traits. Similarly, entrepreneurship was defined and measured in diverse ways, i.e., ranging from entrepreneurial intention and activity to start-up performance and capabilities. This heterogeneity in measurement likely contributes to the variability in effect sizes and complicates cross-study comparisons. To advance the field, future research should aim to develop more standardized, theory-driven measurement frameworks. Such efforts will not only enhance the precision of empirical findings but also deepen our theoretical understanding of how religion influences entrepreneurial outcomes. The meta-analysis presented a heterogeneous field.

Author contributions Author 1: Conceptualization, Supervision, Writing—review & editing. Author 2: Conceptualization, Data curation, Writing—original draft, Writing—review & editing, formal analysis. All authors read and approved the final manuscript.

Funding Open Access funding enabled and organized by Projekt DEAL. The authors declare that no funds, grants, or other support were received during the preparation of this manuscript.

Data availability Data and material are available on request.

Declarations

Conflict of interests The authors have no relevant financial or non-financial interests to disclose.

References

Acs ZJ (2008) Foundations of high impact entrepreneurship. Found Trends® Entrepreneurship 4(6):535–620. https://doi.org/10.1561/0300000025

Acs ZJ, Braunerhjelm P, Audretsch DB, Carlsson B (2009) The knowledge spillover theory of entrepreneurship. Small Bus Econ 32(1):15–30. https://doi.org/10.1007/s11187-008-9157-3

Adler PS, Kwon SW (2002) Social capital: Prospects for a new concept. Acad manage review 27(1):17–40

Agyei SK (2018) Culture, financial literacy, and SME performance in Ghana. Cogent Econ Finance 6(1):1463813. https://doi.org/10.1080/23322039.2018.1463813

Aldrich HE, Kim PH (2007) Small worlds, infinite possibilities? How social networks affect entrepreneurial team formation and search. Strateg Entrepreneurship J 1(1–2):147–165

Alemayehu BZ, Steffens P, Gordon SR (2023) The formation and role of religious social capital in driving entrepreneurial action. J Busi Vent Ins 20:e00426
Aloe AM (2014) An empirical investigation of partial effect sizes in meta-analysis of correlational data. J Gen Psychol 141(1):47–64. https://doi.org/10.1080/00221309.2013.853021
Anderson AR, Drakopoulou-Dodd SL, Scott MG (2000) Religion as an environmental influence on enterprise culture – the case of Britain in the 1980s. Int J Entrepreneurial Behav Res 6(1):5–20. https://doi.org/10.1108/13552550010323050
Anglin AH, Milanov H, Short JC (2023) Religious expression and crowdfunded microfinance success: insights from role congruity theory. J Bus Ethics 185(2):397–426. https://doi.org/10.1007/s10551-022-05191-1
Assmann D, Ehrl P (2021) Individualistic culture and entrepreneurial opportunities. J Econ Behav Organ 188:1248–1268. https://doi.org/10.1016/j.jebo.2021.06.035
Audretsch DB, Lehmann EE (2005) Does the knowledge spillover theory of entrepreneurship hold for regions? Res Policy 34(8):1191–1202. https://doi.org/10.1016/j.respol.2005.03.012
Audretsch DB, Lehmann EE (2023) Narrative entrepreneurship: bringing (his)story back to entrepreneurship. Small Bus Econ 60(4):1593–1612. https://doi.org/10.1007/s11187-022-00661-2
Audretsch DB, Moog P (2022) Democracy and entrepreneurship. Entrep Theory Pract 46(2):368–392. https://doi.org/10.1177/1042258720943307
Audretsch DB, Bönte W, Tamvada JP (2013) Religion, social class, and entrepreneurial choice. J Bus Venturing 28(6):774–789. https://doi.org/10.1016/j.jbusvent.2013.06.002
Audretsch DB, Seitz N, Rouch KM (2018) Tolerance and innovation: the role of institutional and social trust. Eurasian Bus Rev 8(1):71–92. https://doi.org/10.1007/s40821-017-0086-4
Audretsch DB, Lehmann EE, Seitz N (2021) Amenities, subcultures, and entrepreneurship. Small Bus Econ 56(2):571–591. https://doi.org/10.1007/s11187-019-00190-5
Audretsch D B, Lehmann E E, Otto J M, Weiße L, & Wirsching K (2023) The strategic management of places: Applying a framework to analyze local economies. In D. B. Audretsch, A. Civera, E. E. Lehmann, K. P. Leidinger, J. M. Otto, L. Weiße, & K. Wirsching (Eds.), The strategic management of place at work: Why, what, how and where (pp. 1–36). Springer, Switzerland. https://doi.org/10.1007/978-3-031-29463-1_1
Avnimelech G, Zelekha Y (2023) Religion and the gender gap in entrepreneurship. Int Entrep Manag J 19(2):629–665. https://doi.org/10.1007/s11365-023-00855-4
Aygün ZK, Arslan M, Güney S (2008) Work values of Turkish and American university students. J Bus Ethics 80(2):205–223
Ayob AH, Mohd Nor S (2022) Individual religiosity and career choice: does cultural religiosity moderate the relationship? Cross-Cult Res 56(4):323–344. https://doi.org/10.1177/10693971221080622
Ayob AH, Saiyed AA (2020) Islam, institutions and entrepreneurship: evidence from Muslim populations across nations. Int J Islam Middle East Finance Manag 13(4):635–653. https://doi.org/10.1108/IMEFM-11-2019-0472
Azim MT, Islam MM (2022) Role of religiosity, social factors, and perceived subjective norms on entrepreneurial intention: a study on tertiary level students. J Glob Entrepreneurship Res 12(1):341–356. https://doi.org/10.1007/s40497-022-00333-1
Bae TJ, Qian S, Miao C, Fiet JO (2014) The relationship between entrepreneurship education and entrepreneurial intentions: a meta–analytic review. Entrep Theory Pract 38(2):217–254. https://doi.org/10.1111/etap.12095
Bagis AA (2022) Building students' entrepreneurial orientation through entrepreneurial intention and workplace spirituality. Heliyon. https://doi.org/10.1016/j.heliyon.2022.e11310
Balog AM, Baker LT, Walker AG (2014) Religiosity and spirituality in entrepreneurship: a review and research agenda. J Manag, Spiritual Religion 11(2):159–186. https://doi.org/10.1080/14766086.2013.836127
Baranik LE, Gorman B, Wales WJ (2018) What makes Muslim women entrepreneurs successful? A field study examining religiosity and social capital in Tunisia. Sex Roles 78(3):208–219. https://doi.org/10.1007/s11199-017-0790-7
Barro R, & McCleary R M (2003) International determinants of religiosity (National Bureau of Economic Research Working Paper Series No. 10147) https://doi.org/10.3386/w10147
Bluedorn AC (2002) The human organization of time: Temporal realities and experience. Stanford University Press
Becker SO, Rubin J, Woessmann L (2024) Religion and growth. J Econ Lit 62(3):1094–1142

Benk S, Budak T, Yüzbaşı B, Mohdali R (2016) The impact of religiosity on tax compliance among Turkish self-employed taxpayers. Religions 7(4):37. https://doi.org/10.3390/rel7040037
Becker SO, Woessmann L (2013) Not the opium of the people: income and secularization in a panel of prussian counties. American Econ Rev 103(3):539–544. https://doi.org/10.1257/aer.103.3.539
Borenstein M, Cooper H, Hedges L, Valentine J (2009) Effect sizes for continuous data. The handbook of research synthesis and meta-analysis 2:221–235
Borenstein M, Hedges LV, Higgins JP, Rothstein HR (2021) Introduction to meta-analysis. John wiley & sons
Bentzen JS, Gokmen G (2023) The power of religion. J Econ Growth 28(1):45–78. https://doi.org/10.1007/s10887-022-09214-4
Block J, Fisch C, Rehan F (2020) Religion and entrepreneurship: a map of the field and a bibliometric analysis. Manag Rev Q 70(4):591–627. https://doi.org/10.1007/s11301-019-00177-2
Carswell P, Rolland D (2004) The role of religion in entrepreneurship participation and perception. Int J Entrepreneurship Small Bus 1(3–4):280–286. https://doi.org/10.1504/ijesb.2004.005659
Caliendo M, Fossen FM, Kritikos AS (2009) Risk attitudes of nascent entrepreneurs–new evidence from an experimentally validated survey. Small Business Econ 32(2):153–167
Chen Y, Lin P, Tsao H-T, Jin S (2022) How does Confucian culture affect technological innovation? Evidence from family enterprises in China. PLoS ONE 17(6):e0269220. https://doi.org/10.1371/journal.pone.0269220
Chowdhury F, Audretsch DB, Belitski M (2018) Institutions and entrepreneurship quality. Entrep Theory Pract 43(1):51–81. https://doi.org/10.1177/1042258718780431
Dana L-P, Dana TE (2008) Collective entrepreneurship in a Mennonite community in Paraguay. Lat Am Bus Rev 8(4):82–96. https://doi.org/10.1080/10978520802114730
David J, Lawal MC (2018) Religiosity and entrepreneurial intentions in Nigeria. J Bus Manag 8(2):211–222
De Noble A, Galbraith CS, Singh G, Stiles CH (2007) Market justice, religious orientation, and entrepreneurial attitudes. J Enterp Commun 1(2):121–134. https://doi.org/10.1108/17506200710752548
Dejardin M, Hoogendoorn B, Janssen F, Rietveld CA, van Burg E (2024) Coupling engagement with analytical rigor: advancing research on religion and entrepreneurship using a mechanism-based approach. Small Bus Econ 62(4):1273–1284. https://doi.org/10.1007/s11187-023-00837-4
Deller SC, Conroy T, Markeson B (2018) Social capital, religion and small business activity. J Econ Behav Organ 155:365–381. https://doi.org/10.1016/j.jebo.2018.09.006
Di Pietro F, Masciarelli F (2022) The effect of local religiosity on financing cross-regional entrepreneurial projects via crowdfunding (local religiosity and crowdfinancing). J Bus Ethics 178(2):429–443. https://doi.org/10.1007/s10551-021-04805-4
Dodd SD, Gotsis G (2009) "Enterprise values" in the New Testament and antecedent works. Int J Entrepreneur Innov 10(2):101–110. https://doi.org/10.5367/000000009788161316
Dodd SD, Seaman PT (1998) Religion and enterprise: an introductory exploration. Entrep Theory Pract 23(1):71–86. https://doi.org/10.1177/104225879802300104
Dougherty KD, Neubert MJ, Park JZ (2019) Prosperity beliefs and value orientations: fueling or suppressing entrepreneurial activity. J Sci Study Relig 58(2):475–493
Du X (2017) Religious belief, corporate philanthropy, and political involvement of entrepreneurs in Chinese family firms. J Bus Ethics 142(2):385–406. https://doi.org/10.1007/s10551-015-2705-2
Du X, Zeng Q, Chang Y, Du Y (2022) Value of faith: religious entrepreneurs and corporate longevity. J Manage Organ 28(4):849–887. https://doi.org/10.1017/jmo.2019.12
Dubard Barbosa S, Smith BR (2024) Specifying the role of religion in entrepreneurial action: a cognitive perspective. Small Bus Econ 62(4):1315–1336. https://doi.org/10.1007/s11187-023-00839-2
Duong CD (2023) Karmic beliefs and social entrepreneurial intentions: a moderated mediation model of environmental complexity and empathy. J Open Innov Technol Mark Complex 9(1):100022
Durak İ, Öncü M A, & Kartal O (2020) Measuring Islamic financial literacy and discovering its relations with entrepreneurship among university students in Turkey [Üniversite öğrencilerinin islami finansal okuryazarliğinin ölçülmesi ve girişimcilik ile ilişkisi]. Bilimname, 2020(42), 215–242. https://doi.org/10.28949/bilimname.819736
Dvouletý O (2023) Religion attitudes and youth entrepreneurship performance. J Small Bus Entrepreneursh. https://doi.org/10.1080/08276331.2023.2182599
Falck O, Woessmann L (2013) School competition and students' entrepreneurial intentions: international evidence using historical Catholic roots of private schooling. Small Bus Econ 40(2):459–478. https://doi.org/10.1007/s11187-011-9390-z

Ferguson TW, Dougherty KD, Neubert MJ (2014) Religious orthodoxy and entrepreneurial risk-taking. Sociol Focus 47(1):32–44. https://doi.org/10.1080/00380237.2014.854136
Gala K, Mueller BA (2024) Religion and entrepreneurial exits: divine attributions and eternal timeframes. J Manag Spiritual Religion 21(2):156–183. https://doi.org/10.51327/ZDIN5682
Ganiel G (2017) Secularisation and de-institutionalised religion: Future directions. In: Foundations and futures in the sociology of religion (pp. 68–82). Routledge.
Ghosh S (2023) Religion, caste and access to credit by SMEs: is there a link? Cogent Econ Finance 11(1):2160126. https://doi.org/10.1080/23322039.2022.2160126
Griebel JM, Park JZ, Neubert MJ (2014) Faith and work: an exploratory study of religious entrepreneurs. Religions 5(3):780–800. https://doi.org/10.3390/rel5030780
Giacomin O, Janssen F, Shinnar RS, Gundolf K, Shiri N (2023) Individual religious affiliation, religiosity and entrepreneurial intentions among students in four countries. Int Small Bus J 41(3):318–346. https://doi.org/10.1177/02662426221097910
Gielnik MM, Barabas S, Frese M, Namatovu-Dawa R, Scholz FA, Metzger JR, Walter T (2014) A temporal analysis of how entrepreneurial goal intentions, positive fantasies, and action planning affect starting a new venture and when the effects wear off. J Bus Venturing 29(6):755–772. https://doi.org/10.1016/j.jbusvent.2013.09.002
Goltz S, Buche MW, Pathak S (2015) Political empowerment rule o flaw and women's entry into entrepreneurship. J Small Business Manag 53(3):605–626. https://doi.org/10.1111/jsbm.12177
Graafland J, Mazereeuw C, Yahia A (2006) Islam and socially responsible business conduct: an empirical study of Dutch entrepreneurs. Bus Ethics Eur Rev 15(4):390–406. https://doi.org/10.1111/j.1467-8608.2006.00458.x
Gümüsay AA (2015) Entrepreneurship from an Islamic perspective. J Bus Ethics 130(1):199–208. https://doi.org/10.1007/s10551-014-2223-7
Gursoy D, Altinay L, Kenebayeva A (2017) Religiosity and entrepreneurship behaviours. Int J Hosp Manag 67:87–94. https://doi.org/10.1016/j.ijhm.2017.08.005
Henley A (2017) Does religion influence entrepreneurial behaviour? Int Small Bus J 35(5):597–617. https://doi.org/10.1177/0266242616656748
Henley A (2014) Is religion associated with entrepreneurial activity? (IZA Discussion Paper No. 811110). https://doi.org/10.2139/ssrn.2426865
Henley A (2019) Handbook of labor, human resources and population economics. Springer International Publishing.
Hofstede G (1980) Culture and organizations. Int Stud Manag Organ 10(4):15–41. https://doi.org/10.1080/00208825.1980.11656300
Hofstede G (2011) Dimensionalizing cultures: the Hofstede model in context. Online Read Psychol Cult 2(1):8
Hoogendoorn B, Rietveld CA, van Stel A (2016) Belonging, believing, bonding, and behaving: The relationship between religion and business ownership at the country level. J Evol Econ 26(3):519–550. https://doi.org/10.1007/s00191-016-0447-7
House RJ, Hanges PJ, Javidan M, Dorfman PW, Gupta V (Eds.) (2004) Culture, leadership, and organizations: The GLOBE study of 62 societies. Sage publications
Hox J, Moerbeek M, Van de Schoot R (2017) Multilevel analysis: Techniques and applications. Routledge. https://doi.org/10.4324/9781315650982
Hungerman DM (2014) The effect of education on religion: evidence from compulsory schooling laws. J Econ Behav Organ. https://doi.org/10.1016/j.jebo.2013.09.004
Iannaccone LR (1998) Introduction to the economics of religion. J Econ Literature 36(3):1465–1495
Ibrahim NA, Angelidis JP (2005) The long-term performance of small businesses: are there differences between "Christian-based" companies and their secular counterparts? J Bus Ethics 58(1):187–193. https://doi.org/10.1007/s10551-005-1413-8
Jaffar MA, Musa R (2016) Determinants of attitude and intention towards Islamic financing adoption among non-users. Procedia Econ Finance 37:227–233. https://doi.org/10.1016/S2212-5671(16)30118-6
Joy S, Kolb DA (2009) Are there cultural differences in learning style? Inter J Intercul Relat 33(1):69–85
Jiang F, Jiang Z, Kim KA, Zhang M (2015) Family-firm risk-taking: does religion matter? J Corp Finan 33:260–278. https://doi.org/10.1016/j.jcorpfin.2015.01.007
Jones J, Hymer C, Roccapriore A, Smith B (2024) Does religion matter to angels? Exploring the influence of religion in entrepreneurial investor decision-making. Small Bus Econ 62(4):1337–1360. https://doi.org/10.1007/s11187-023-00840-9

Junaidi J, Anwar SM, Sahrir S (2023) The role of religion and social capital on entrepreneurship self-efficacy and motivation among students in Indonesia. Cogent Bus Manage 10(3):2265091. https://doi.org/10.1080/23311975.2023.2265091

Kauanui SK, Thomas KD, Rubens A, Sherman CL (2010) Entrepreneurship and spirituality: a comparative analysis of entrepreneurs' motivation. J Small Bus Entrepreneursh 23(4):621–635. https://doi.org/10.1080/08276331.2010.10593505

Khan RU, Salamzadeh Y, Shah SZA, Hussain M (2021) Factors affecting women entrepreneurs' success: a study of small- and medium-sized enterprises in emerging market of Pakistan. J Innov Entrep 10(1):11. https://doi.org/10.1186/s13731-021-00145-9

Kidwell J (2015) Theology and economics: A Christian vision of the common good. Springer

Kirzner I M (2015) Competition and entrepreneurship. University of Chicago press.

Klein P-O, Bertrand J, Osei-Tutu F (2023) Dimensions of religiousness and entrepreneurship: evidence from Muslim countries. SSRN Electron J. https://doi.org/10.2139/ssrn.4472301

Knight F H (1921) Risk, uncertainty and profit. Hart, Schaffner and Marx.

Kolade O, Egbetokun A A, & Adegbite E (2023) Guts, grit and God? Spiritual capital and entrepreneurial resilience in a turbulent environment.

Konstantopoulos S (2011) Fixed effects and variance components estimation in three-level meta-analysis. Res Synth Methods 2(1):61–76

Koyama M, & Rubin J (2022) How the world became rich: The historical origins of economic growth. John Wiley & Sons.

Kraus S, Breier M, Dasí-Rodríguez S (2020) The art of crafting a systematic literature review in entrepreneurship research. Int Entrep Manage J 16(3):1023–1042. https://doi.org/10.1007/s11365-020-00635-4

Lévesque M, Stephan U (2020) It's time we talk about time in entrepreneurship. Entrep Theory Prac 44(2):163–184

Li C, Xu Y, Gill A, Haider ZA, Wang Y (2019) Religious beliefs, socially responsible investment, and cost of debt: evidence from entrepreneurial firms in India. Emerg Mark Rev 38:102–114. https://doi.org/10.1016/j.ememar.2018.12.001

Lily Z, Fanzhu K, Xiurang Y (2022) Study on the relationship between Confucian filial piety culture and Chinese youth's entrepreneurial intention. Front Psychol. https://doi.org/10.3389/fpsyg.2021.783399

Lipsey M W, & Wilson D B (2001) Practical meta-analysis. Sage Publications.

Liu Z, Xu Z, Zhou Z, Li Y (2019) Buddhist entrepreneurs and new venture performance: the mediating role of entrepreneurial risk-taking. Small Bus Econ 52(3):713–727. https://doi.org/10.1007/s11187-017-9981-4

Locke EA, Noorderhaven NG, Cannon JP, Doney PM, Mullen MR (1999) Some reservations about social capital. Acad Manage Rev 24(1):8–11.

Lorenzen S, Gerken M, Steinmetz H, Block J, Hülsbeck M, Lux FS (2024) Environmental sustainability of family firms: a meta-analysis of handprint and footprint. Entrep Theory Pract 48(5):1266–1284

Maniyalath N, Narendran R (2016) The human development index predicts female entrepreneurship rates. Int J Entrep Behav Res 22(5):745–766. https://doi.org/10.1108/IJEBR-11-2015-0258

Miao Q, Liu Z, Shi Y (2022) Social entrepreneurship as a catalyst for sustainability transitions: the China case. Elementa: Sci Anthrop 10(1):00132. https://doi.org/10.1525/elementa.2022.00132

Margaça C, Hernández-Sánchez BR, Cardella GM, Sánchez-García JC (2021) Impact of the optimistic perspective on the intention to create social enterprises: a comparative study between Portugal and Spain. Front Psychol. https://doi.org/10.3389/fpsyg.2021.680751

Margaça C, Sánchez-García JC, Cardella GM, Hernández-Sánchez BR (2022) The role of spiritual mindset and gender in small business entrepreneurial success. Front Psychol. https://doi.org/10.3389/fpsyg.2022.1082578

McCullough ME, Willoughby BL (2009) Religion, self-regulation, and self-control: associations, explanations, and implications. Psychol Bull 135(1):69

McIntyre N, Silva Quaye E, Anning-Dorson T, Lanivich S, Adomako S (2023) Investigating the impact of religiosity on entrepreneurial intentions. J Bus Res 156:113528. https://doi.org/10.1016/j.jbusres.2022.113528

McMullen JS, Bagby DR, Palich LE (2008) Economic freedom and the motivation to engage in entrepreneurial action. Entrep Theory Pract 32(5):875–895. https://doi.org/10.1111/j.1540-6520.2008.00260.x

Minns C, Rizov M (2005) The spirit of capitalism? Ethnicity, religion, and self-employment in early 20th century Canada. Explor Econ Hist 42(2):259–281. https://doi.org/10.1016/j.eeh.2004.07.002

Mitchell J R, & Shepherd D A (2016) To thine own self be true: Images of self, images of opportunity, and entrepreneurial action. In Decision Making in Entrepreneurship (pp. 47–63). Edward Elgar Publishing. https://doi.org/10.4337/9781784716042.00009

Neubert MJ, Bradley SW, Ardianti R, Simiyu EM (2017) The role of spiritual capital in innovation and performance: evidence from developing economies. Entrep Theory Pract 41(4):621–640. https://doi.org/10.1111/etp.12172

Newman KL, Nollen SD (1996) Culture and congruence: the fit between management practices and national culture. J Int Bus Stud 27(4):753–779. https://doi.org/10.1057/palgrave.jibs.8490152

Novak M (1982) The spirit of democratic capitalism. Rowman & Littlefield

Nunziata L, & Rocco L (2011) The implications of cultural background on labour market choices: The case of religion and entrepreneurship (IZA Discussion Papers No. 6114).

Nunziata L, Rocco L (2018) The Protestant ethic and entrepreneurship: evidence from religious minorities in the former Holy Roman Empire. Eur J Polit Econ 51:27–43. https://doi.org/10.1016/j.ejpoleco.2017.04.001

Nunziata L, Rocco L (2024) The protestant ethic and entrepreneurship: inside the black box. Small Bus Econ 62(4):1285–1313

Parboteeah KP, Walter SG, Block JH (2015) When does Christian religion matter for entrepreneurial activity? The contingent effect of a country's investments into knowledge. J Bus Ethics 130(2):447–465. https://doi.org/10.1007/s10551-014-2239-z

Rehan M, Block J, Fisch C (2019) Entrepreneurship in Islamic communities: How do Islamic values and Islamic practices influence entrepreneurship intentions? J Enterp Commun People Places Global Econ. https://doi.org/10.2139/ssrn.3405196

Rao ZUR, John DR, Mahmood K (2022) Religiosity and entrepreneurial intentions in Pakistan

Rietveld CA, Hoogendoorn B (2022) The mediating role of values in the relationship between religion and entrepreneurship. Small Bus Econ 58(3):1309–1335. https://doi.org/10.1007/s11187-021-00454-z

Rietveld CA, van Burg E (2014) Religious beliefs and entrepreneurship among Dutch protestants. Int J Entrep Small Bus 23(3):279–295. https://doi.org/10.1504/ijesb.2014.065515

Rodrigues M, Silva R, Franco M (2023) What it is important to know about the effect of religious beliefs on entrepreneurial intention: The case of university students. High Educ Q 77(2):246–269. https://doi.org/10.1111/hequ.12394

Roomi MA (2013) Entrepreneurial capital, social values and Islamic traditions: exploring the growth of women-owned enterprises in Pakistan. Int Small Bus J 31(2):175–191. https://doi.org/10.1177/0266242610397403

Rosenthal R (1979) The file drawer problem and tolerance for null results. Psychol Bull 86(3):638–641. https://doi.org/10.1037/0033-2909.86.3.638

Saha S, Saint S, Christakis DA (2003) Impact factor: a valid measure of journal quality? J Med Libr Assoc 91(1):42–46

Scheepers MJDV, Boshoff C, Oostenbrink M (2017) Entrepreneurial women's cognitive ambidexterity: career and cultural influences. South African J Bus Manag 48(4):21–33. https://doi.org/10.10520/EJC-c243ee45e

Schumpeter J A (1934) The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle. Transaction Books. https://books.google.com/books?id=-OZwWcOGeOwC

Scott W (2013) Institutions and organizations: Ideas, interests, and identities. Sage publications.

Shane S (1996) Explaining variation in rates of entrepreneurship in the United States: 1899–1988. J Manage 22(5):747–781. https://doi.org/10.1016/S0149-2063(96)90021-5

Singh AK, Kumar S, Kumar A, Shivani S, Hesham S, Dharmendra M, Raihan S Syed T, Spicer D (2022) International perspectives on value creation and sustainability through social entrepreneurship does green entrepreneurship have an association with sustainable development and its components? Evidence From a Country-Wise Panel Data Investigation IGI Global p. 132–172

Smith B, Conger MJ, McMullen JS, Neubert MJ (2019) Why believe? The promise of research on the role of religion in entrepreneurial action. J Bus Ventur Insights 11:e00119

Smith B, McMullen JS, Cardon MS (2021) Toward a theological turn in entrepreneurship: how religion could enable transformative research in our field. J Bus Venturing 36(5):106139

Smith B, Gümüsay AA, Townsend DM (2023) Bridging worlds: The intersection of religion and entrepreneurship as meaningful heterodoxy. J Bus Ventur Insights 20:e00406. https://doi.org/10.1016/j.jbvi.2023.e00406

Smith C (2017) Princeton University Press. https://doi.org/10.1515/9781400887989
Stam W, Arzlanian S, Elfring T (2014) Social capital of entrepreneurs and small firm performance: a meta-analysis of contextual and methodological moderators. J Bus Venturing 29(1):152–173. https://doi.org/10.1016/j.jbusvent.2013.01.002
Stamm I, Bernhard F, Ahrens J-P, Istipliler B (2024) Marriage: an institution you cannot disparage? Evidence on the marriage norms of entrepreneurs. Small Bus Econ 63(1):501–521. https://doi.org/10.1007/s11187-023-00832-9
Stoeckl K (2016) The Russian Orthodox Church as moral norm entrepreneur. Religion, State Soc 44(2):132–151. https://doi.org/10.1080/09637494.2016.1194010
Sulung LAK, Putri NIS, Robbani MM, Ririh KR (2020) Religion, attitude, and entrepreneurship intention in Indonesia. South East Asian J Manage 14(1):3
Szaban J (2018) Self-employment and entrepreneurship: a theoretical approach. Cent Eur Manag J 26(2):89–120
Tranfield D, Denyer D, Smart P (2003) Towards a methodology for developing evidence-informed management knowledge by means of systematic review. Br J Manage 14(3):207–222. https://doi.org/10.1111/1467-8551.00375
Weber M (1904) Die protestantische Ethik und der Geist des Kapitalismus (Vol. 1614). C.H. Beck.
Weiner B (1979) A theory of motivation for some classroom experiences. J Educ Psychol 71(1):3–25. https://doi.org/10.1037/0022-0663.71.1.3
Wibowo B (2017) Religiosity and entrepreneurial intention. Etikonomi 16(2):187–206
Wibowo A, Widjaja SUM, Utomo SH, Kusumojanto DD, Wardoyo C, Wardana LW, Narmaditya BS (2022) Does Islamic values matter for Indonesian students' entrepreneurial intention? The mediating role of entrepreneurial inspiration and attitude. J Islam Account Bus Res 13(2):242–263. https://doi.org/10.1108/JIABR-03-2021-0090
Wijaya IF (2019) The impact of religiosity on self-employment. J Enterp Commun: People Places Global Econ 13(3):218–241. https://doi.org/10.1108/JEC-09-2018-0066
Wilson B (1988) The world's religions. Routledge
Wiseman T, Young A (2014) Religion: productive or unproductive? J Inst Econ 10(1):21–45. https://doi.org/10.1017/S174413741300026X
Wiklund J, Shepherd D (2003) Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. Strategic management journal 24(13):1307–1314
Woodrum E (1985) Religion and economics among Japanese Americans: a Weberian study. Soc Forces 64(1):191–204
Wyrwich M (2018) The effect of being Protestant on entrepreneurial choice.
Xu Z, Liu Z, Wu J (2022) Buddhist entrepreneurs, charitable behaviors, and social entrepreneurship: evidence from China. Small Bus Econ 59(3):1197–1217. https://doi.org/10.1007/s11187-021-00570-w
Xu Z, Tang Y, Liu Z (2023) Buddhist entrepreneurs, managerial attention allocation, and new ventures' access to external resources. J Manage Stud 60(2):454–494. https://doi.org/10.1111/joms.12850
Yao S, Zhang W (2020) Is private entrepreneurs' religiosity conducive to environmental investment? Evidence from China. Sustainability 12(4):1467
Zafar S, Ammara S (2023) Religion and entrepreneurship: a gendered multi-country analysis. Qual Quant 57(6):5213–5240. https://doi.org/10.1007/s11135-022-01608-1
Zafar D, Khan S, Khan MI (2022) The factors influencing entrepreneurship capabilities in Pakistan. Int J Soc Sci Entrep 2(2):47–71
Zelekha Y, Dana L-P (2019) Social capital versus cultural capital determinants of entrepreneurship: an empirical study of the African continent. J Entrep 28(2):250–269. https://doi.org/10.1177/0971355719851900
Zelekha Y, Avnimelech G, Sharabi E (2014) Religious institutions and entrepreneurship. Small Bus Econ 42(4):747–767. https://doi.org/10.1007/s11187-013-9496-6
Zimbardo PG, Boyd JN (1999) Zimbardo time perspective inventory (ZTPI)
Zhang Y, Liu C (2021) Religion and unproductive entrepreneurship: the role of risk aversion. Eur J Polit Econ 70:102038. https://doi.org/10.1016/j.ejpoleco.2021.102038
Zhao EY, Lounsbury M (2016) An institutional logics approach to social entrepreneurship: market logic, religious diversity, and resource acquisition by microfinance organizations. J Bus Venturing 31(6):643–662. https://doi.org/10.1016/j.jbusvent.2016.09.001
Zhou M, Mu W, Li F, Zhou Y, Huang D, Wang K, Zhang J (2021) Entrepreneur-region fit and entrepreneurial success in China: The effect of "Confucian" personality. Front Psychol. https://doi.org/10.3389/fpsyg.2021.724939

Zhu C, Shen JH, Lee C-C, Liu S (2022) Does religion belief matter to self-employment of rural elderly? Evidence from China. J Asian Econ 83:101548. https://doi.org/10.1016/j.asieco.2022.101548