

Entrepreneurship, Age, and Social Value Creation: A Constraint-based Individual Perspective

Brigitte Hoogendoorn

Associate Professor of Entrepreneurship
Erasmus School of Economics, Erasmus University Rotterdam
Burg Oudlaan 50, 3062 PA Rotterdam (The Netherlands)
Department of Applied Economics
E-mail: bhoogendoorn@ese.eur.nl
Tel.: +31 010 4089525

Lorraine Uhlaner

(corresponding author)

Professor of Management
EDHEC Business School
Roubaix-Lille Campus - 24 Avenue Gustave Delory, 59057 Roubaix (France)
E-mail: lorraine.uhlaner@edhec.edu
Tel.: +31 651799655

Peter van der Zwan

Associate Professor of Entrepreneurship
Leiden Law School, Leiden University
Steenschuur 25, 2311 ES Leiden (The Netherlands)
Department of Business Studies
E-mail: p.w.van.der.zwan@law.leidenuniv.nl
Tel.: +31 71 527 8560

Ute Stephan

Professor of Entrepreneurship
Kings College London
Bush House, 30 Aldwych, London, WC2B 4BG (United Kingdom)
E-mail: ute.stephan@kcl.ac.uk
Tel.: +44 207 848 0907

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We advance research on social entrepreneurship by offering a constraint-based individual perspective of “who” (gender, education) chooses to create social value “when” in their life course (proxied by age). Integrating predictions from situational strength theory in psychology and the life course perspective in sociology, we theorize that resource constraints determine at what age entrepreneurs are likely to prioritize social relative to economic value creation goals when starting their enterprise. We examine the intersection of entrepreneur age with gender and education to account for distinct patterns of resource constraints over the life course. Multilevel analyses of nationally representative samples of 5,251 new entrepreneurs from 44 countries reveal a robust curvilinear (U-shaped) relationship between age and social value creation and a steeper U-curve for more highly educated women. Our study offers a springboard for future entrepreneurship research considering individuals’ constraints on prosocial value expression by applying intersectional analyses.

Keywords: social entrepreneurship; social value creation; life course perspective

Introduction

Entrepreneurs start and lead organizations to work for their own accounts and risks (Reynolds et al., 2005; Stephan et al., 2015). All entrepreneurs need to mobilize resources to engage in market-based activities but vary in the priority they ascribe to social relative to economic value creation goals (Battilana & Lee, 2014; Doherty et al., 2014; Mair & Marti, 2006; Pidduck & Clark, 2021). While entrepreneurship, in general, is often deemed an “engine for social change” (Pidduck & Clark, 2021, p. 1092), social entrepreneurs represent a type of entrepreneur that intentionally addresses social needs and pursues solutions to social problems, thereby prioritizing the creation of social value over profit or economic value (Mair & Marti, 2006; Santos, 2012; Zahra et al., 2009). To respond to the mounting societal challenges, including environmental degradation, ill-health, social exclusion, inequality, and the swelling number of refugees, we need the ingenuity of entrepreneurs and hence need to understand what drives certain entrepreneurs to prioritize social needs (Kruse et al., 2021).

The extent to which an entrepreneur prioritizes creating social value relative to personal income (economic value) is a deliberate choice (Santos, 2012). While there is much research on how organizations navigate social-economic priorities (Battilana & Lee, 2014), our understanding of how individuals make such choices is still underdeveloped. Existing research emphasizes individual prosocial values and motivations as a basis for choosing to start a social value-creating enterprise (André & Pache, 2016; Kruse et al., 2019; Miller et al., 2012; Stephan & Drencheva, 2017). However, not all starting entrepreneurs with prosocial values are equally able or willing to choose social value creation, for instance, due to personal constraints that require them to prioritize economic value creation. Thus, extant research on individual motivations for social entrepreneurship is perhaps oversimplified in that it fails to recognize that personal circumstances at different stages in life (that is, the *life course*) can constrain the expression of underlying prosocial values.

Chronological age has often been used as a proxy for the life course in past social and commercial entrepreneurship research (Azoulay et al., 2020; Brieger et al., 2021; Kautonen et al., 2014; Lévesque & Minniti, 2006; Parker, 2009; Xiao & Wu, 2021; Zhang & Acs, 2018). Nevertheless, researchers have overlooked how age *jointly* predicts social or other types of entrepreneurship with other individual variables, such as gender (Brieger et al., 2019; Hechavarría et al., 2017) and education (Estrin et al., 2016). Underscoring the need to consider joint effects, the sociological concept of *intersectionality* provides useful insight that individual characteristics do not operate in mutually exclusive ways. Rather they may reciprocally constrain individuals' choices and, thus, in combination, can accentuate distinct disadvantages (Collins, 2015). Ignoring the interplay of these factors can lead to misleading conclusions about who is likely to pursue a social value-creating start-up and at what point in their life course. Thus, our study enhances the individual perspective in social entrepreneurship research. Practically, this intersectional perspective can inform policy measures to remove constraints in a targeted manner for those inclined to start social value-creating enterprises.

In this study, we draw on and integrate insights from the life course perspective in sociology (Elder, 1998) and situational strength theory in psychology (Mischel, 1968; Meyer et al., 2010) to propose a constraint-based individual perspective on social value-creating entrepreneurship. The life course perspective highlights that constraints shift with age over the life course (Crosnoe & Brenner, 2016; Elder, 1998; Moen, 2001). Past research has applied the life course perspective to understand entrepreneurship as a career choice, albeit not social entrepreneurship (Jayawarna et al., 2013; Xiao & Wu, 2021). The life course perspective identifies *when* constraints typically occur over the lifespan (Elder, 1998; Elder et al., 2003) and for *whom* shifts in constraints may occur. In particular, gender profoundly influences the timing and nature of constraints over the lifespan for women (see gendered life courses; Moen

2001, 2016), whereas lack of education “locks in” and creates additional constraints over the life course (Crosnoe & Brenner, 2016; Xiao & Wu, 2021).

Constraints are forces that limit individuals’ freedom to act in a way that expresses their individual differences and preferences (Mischel, 1968; Meyer et al., 2010). While the life course perspective helps identify specific personal constraints across the life course, situational strength theory more generally outlines how constraints interact with individual differences such as values to influence individuals’ choices and behavior (see also Fischer & Boer, 2015; Klein et al., 2011). We combine assumptions from the life course perspective and situational strength theory with the validated premise that values, including prosocial values, remain relatively stable during an adult’s working life (Bardi et al., 2009; Milfont et al., 2016; Sagiv & Schwartz, 2022; Schuster et al., 2019; Zacher & Kooij, 2017), to propose a *constraint-based individual perspective*. This perspective posits that despite the stability of prosocial values, personal circumstances (due to shifting financial and time-related resources) at time stages in life can constrain the *expression* of one’s prosocial values (as proxied by higher prioritization of social over economic value creation goals).

We investigate the relationship between age and new entrepreneurs’ priorities for social relative to economic value creation goals using multilevel analyses of nationally representative samples of 5,251 respondents from 44 countries taken from the 2009 Global Entrepreneurship Monitor (GEM) dataset. In contrast to Brieger et al. (2021), whose work we complement, we focus primarily on *new* entrepreneurs, namely those who recently launched their enterprises, excluding *nascent* entrepreneurs (those taking steps to start an enterprise) and *established* entrepreneurs (those who have surpassed the start-up phase) to test our hypotheses.¹ This sampling choice helps us align the age of respondents with the actual launch of their new

¹ While somewhat overlapping with Brieger et al. (2021) in finding a U-shaped relationship between age and social entrepreneurship, our study extends their research by considering the interplay of individual characteristics of age, gender, and education. By contrast, drawing on institutional theory, Brieger et al. (2021) focus on country-level institutions as a boundary condition of the age-social entrepreneurship relationship.

enterprises, thus the likely point at which resource constraints will have their strongest effect. Our findings support a robust curvilinear (U-shaped) relationship between age and the social value creation goals of new entrepreneurs that dips in midlife² – at approximately 40 years – when financial and time-related resource constraints peak compared to early and mature adulthood. The midlife dip is accentuated for women and more highly educated entrepreneurs and most accentuated for highly educated women compared to all other groups. We thus also advance gender and education as boundary conditions in line with research on intersectionality and specifically gendered and educational life course pathways.

Our research makes three main contributions. First, our study offers a constraint-based individual perspective to account for age effects in intersection with constraints arising from gender and education. Thus, our study complements and extends research on the predictors of social entrepreneurship by considering the joint effects of age, gender, and education. As such, we provide “proof-of-concept” that intersectionality matters in understanding the type of entrepreneurship choices. By considering this framework for other types of entrepreneurship choices, our study can enrich age and entrepreneurship research more generally (for example, Lévesque & Minniti, 2006) that has yet to consider intersectionality fully. While education is one indicator of social class (Kraus et al., 2010), future research could include other aspects of social class (e.g., parental occupation and income) and constraints (e.g., related to ethnicity) (Kish-Gephart et al., 2022; Pidduck & Clark, 2021) together with age using the intersectionality lens. We hope our study provides a stepping stone to other research examining how the constraints generated by different individual characteristics jointly influence types of entrepreneurship.

² While our independent variable is age, we refer to three specific age ranges in line with life course research to introduce our rationale and explain and discuss our findings. We refer to early adulthood as 18–35 years of age, midlife as 35–50 years of age, and mature adulthood starting at 50 years of age, drawing from the twelve stages proposed by Armstrong (2007). We focus on the working population with an age range of 18–64, thus only examining mature adulthood to 64 years of age, whereas Armstrong covers also older adults up to 80 years of age in the mature adulthood classification.

Second, by integrating situational strength theory (from psychology) and the life course perspective (from sociology) to investigate how age relates to social entrepreneurship, we offer a more coherent and parsimonious explanation of the shift in social value creation across different age groups than previously offered. Our proposed theory is also consistent with other social psychology-based research regarding the stability of values. In so doing, we offer one overarching and coherent theoretical account of how age shapes entrepreneurship type across the life course rather than different theoretical explanations for different life stages (for example, early adulthood, midlife, and mature adulthood) as in the case of prior age and entrepreneurship studies (Brieger et al., 2021; Lévesque & Minniti, 2006; Kautonen et al., 2017). While not directly testing the stability of values or specific constraints, our findings and integrated theoretical account provide a springboard for future studies to compare other types of entrepreneurship (for example, high- vs. low-growth, novice vs. non-novice entrepreneurship).

Third, our constraint-based perspective underscores the value of considering the entrepreneurial process when studying age effects (Mensmann & Zacher, 2020). Our robustness checks suggest a somewhat better fit with our predictions for new vs. nascent entrepreneurs. Our findings align with the notion that situational constraints are more salient for operating new entrepreneurs than nascent entrepreneurs, who are less likely to have already committed resources and thus do not yet feel a tangible impact of resource constraints. These results reinforce other findings (e.g., Bergmann & Stephan, 2013, Kleinhempel et al., 2022; Mickiewicz et al., 2017; Van der Zwan et al., 2010) that nascent and new entrepreneurs should be investigated separately.

Background

The constraint-based individual perspective aims to explain shifts in the incidence of social relative to economic value creation across an entrepreneur's lifespan (see Figure 1). Our model

and related hypotheses draw upon three main assumptions supported by social entrepreneurship, psychology, and sociology research. Before presenting our detailed rationale and research model, we describe these assumptions in this section, including that: a) those prioritizing social over economic value (i.e., social entrepreneurs) face greater challenges than those primarily aiming to create economic value; b) prosocial values (in contrast to their expression) are relatively stable across the lifespan of working age adults; and c) shifts in resource constraints explain the prevalence of social value relative to economic value creation by entrepreneurs across their lifespan. We next present our support for these three assumptions.

(Insert Figure 1 about here)

The challenges and constraints of prioritizing social over economic value creation

Regarding our first assumption, the literature suggests that social entrepreneurs face distinct challenges related to personal income, complexity, and uncertainty. First, they are less likely to generate substantial personal income since they typically locate their enterprises in areas where markets function poorly and where customers are often unable to pay for the products and services provided (Mair & Marti, 2009; Santos, 2012). They may thus forsake healthier margins to reach more beneficiaries (Bacq & Eddleston, 2018). Second, due to their greater complexity, social enterprises often require more time and are more difficult to launch (Renko, 2013). Complexity arises from combining potentially conflicting approaches related to social and economic value creation activities (Battilana & Lee, 2014) and managing a broad set of stakeholders, often across different sectors (Stephan et al., 2016). Third, social entrepreneurs also face heightened uncertainty regarding the best way to create value for society (Mair et al., 2016; Stephan et al., 2016). Collectively, these factors make start-up efforts prioritizing social value relative to economic value creation less profitable, more demanding, precarious, and time-intensive than purely commercial endeavors.

Values, prosocial values, and social value creation

A second assumption, backed up by extensive research in psychology, is that values are relatively stable across the lifespan of working-age adults. Values are broad life goals that are important to people and guide their perceptions, judgments, and behaviors (Schwartz, 1992, 2010; Sagiv & Schwartz, 2022; Parks-Leduc et al., 2015), influencing their decisions and actions (Arieli et al., 2020).³ Values have physiological correlates (Brosch et al., 2011) but are also shaped by socialization (Knafo & Spinath, 2011). However, evidence suggests that values tend to stabilize for most people starting in adolescence (Vecchione et al., 2019), remaining stable for the duration of an adult's typical working life (18–64) (Bardi et al., 2009; Milfont et al., 2016; Sagiv & Schwartz, 2022; Schuster et al., 2019; Zacher & Kooij, 2017). In their extensive literature review, Schuster et al. (2019) conclude that there is moderate- to high-rank order stability across the Schwartz values, even over several years. Moreover, while shocks, such as the 9/11 terrorist attack, can lead to temporary adjustments, research finds that over the longer term, values return to pre-shock levels (Verkasalo et al., 2006).

Prosocial values, reflecting caring about other people and nature (Schwartz, 1992), are conceptually (Miller et al., 2012; André & Pache, 2016) and empirically (Kruse et al., 2019; Saebi et al., 2019; Stephan & Drencheva, 2017) regarded as a key source of motivation leading individuals to create enterprises with social value relative to economic value creation goals. We thus assume that an entrepreneur's prosocial values, which tend to be stable during an adult's typical working life, find expression in their enterprise's social value creation goals.

Situational strength theory, life course perspective, and expression of prosocial values

Despite the stability of personal values, scholars have long recognized that external constraints can prevent individuals from expressing and acting in line with their values (Bardi & Schwartz, 1996; Fischer & Boer, 2015). Thus, a third key assumption underlying our theoretical

³ By contrast, personality traits are typically defined in terms of relatively stable patterns of behavior, thoughts, and emotions (Parks-Leduc et al., 2015). However, research suggests that personality traits, such as the Big Five, may well shift over time (Specht et al., 2011, 2014).

framework is that shifts in resource constraints influence whether an entrepreneur expresses his/her prosocial values in pursuing social value-creating goals.

This assumption is informed by situational strength theory, positing that the expression of individual differences, such as values in choices and behavior, depends on situational constraints (Mischel, 1968; Meyer et al., 2010). In a weak situation (with few constraints), the same values will have a greater effect than in a strong situation (with many constraints). Therefore, strong situations are likely to “mute” or suppress the effect of values on behavioral choices and actions (Cooper & Withey, 2009; Mischel, 1968; Meyer et al., 2010).

While situational strength theory helps us understand the relationship between values and situational strength, it does not identify specific constraints or which constraints are likely to occur when or for whom throughout an individual’s lifespan. Hence, we draw on the life course perspective, a sociological framework that offers insights into how work, family, and personal roles shape individuals’ choices by creating distinct life course pathways (Elder, 1998; Elder et al., 2003). We theorize that the strength of situations (constraints) varies across the typical life course (Elder, 1998) based on so-called social life course pathways or trajectories of work, family, and other life activities shaped by social institutions and historical forces (Elder, 1998; Elder et al., 2003). These pathways, or sequences of roles and experiences, include role changes, such as leaving the parental home, becoming a parent, or retiring, typically occurring at certain ages (Elder, 1998; Elder et al., 2003). The life course perspective further suggests that individuals’ life course is shaped by constraints (Elder et al., 2003), while sociological work on intersectionality (Collins, 2015) highlights that gender and education likely interact with age to produce distinct patterns of constraints and therefore-specific life course pathways (Crosnoe & Brenner, 2016; Moen, 2001).

Hypotheses and rationale

Figure 2 gives an overview of our research framework, which considers an individual's age at the intersection of gender and education, building on our assumptions in the previous section. Thus, we predict *when* (age) in their life course entrepreneurs choose to create social value and *who* (gender and education level) at a particular life stage chooses to do so.

(Insert Figure 2 about here)

Age and social value creation

The first hypothesis examines the relationship between age and social value creation for individuals starting a new enterprise. Both the literature on the life course perspective (Elder et al., 2003; Jayawarna et al., 2014) and other research on age and social entrepreneurship (for example, Brieger et al., 2021) argue that resource constraints, especially the financial and time-related demands of personal obligations, typically peak in midlife vs. either early or mature adulthood. Compared to those in midlife, individuals in early adulthood are likely to have fewer financial obligations, namely, not yet paying a mortgage, building a pension, or maintaining a family (Brieger et al., 2021; Jayawarna et al., 2014). Furthermore, many young adults may still rely on parental financial support even after starting work (Brieger et al., 2021; Jayawarna et al., 2013). Individuals in mature adulthood are also likely to face fewer time-related and financial constraints (Mensmann & Zacher, 2020). They will likely have fewer family commitments, in most cases no longer raising families. Individuals in mature adulthood will also typically have accumulated personal savings, retirement income, homeownership, and possibly an inheritance (Parker, 2008), reducing personal financial constraints for starting a new enterprise (Zhao et al., 2021).

Applying situational strength theory together with the life course perspective, we presume that individuals in the age range referred to as midlife are likely to face a “strong situation,” namely more resource constraints in terms of time and money, and are thus more likely to suppress the expression of prosocial values through social value-creating

entrepreneurship. By contrast, individuals in the age ranges corresponding to early and mature adulthood likely face weaker situations with fewer constraints. Thus, we argue it is more likely that compared to those in midlife, new entrepreneurs in early and mature adulthood express their prosocial values through starting an enterprise according to their prosocial values. Thus, we posit:

H1: Entrepreneurs starting their enterprise in midlife are less likely to pursue social value creation than entrepreneurs starting in early or mature adulthood, resulting in a U-shaped relationship between age and social value creation.

The moderating effect of gender in the age-social value creation relationship

Prior studies show that women entrepreneurs are more likely than men entrepreneurs to prioritize social value creation goals (Brieger et al., 2019; Hechavarría et al., 2017). However, such studies do not consider the possible interaction of gender with age suggested by gendered life course research (Moen, 2001). Since men and women face different financial and time-related constraints over their lifespans (Carter, 2011; Jayawarna et al., 2013; Moen, 2001; Steiber & Haas, 2012), we presume the age-social value creation relationship differs for men compared to women.

The added constraints faced by women entrepreneurs arise largely from juggling entrepreneurship with their roles as mothers and wives, which peak in midlife (Pidduck & Clark, 2021). While financial demands may be similar for men and women in midlife, time-related demands due to family commitments tend to fall more heavily on women. In both developing (Arráiz, 2018) and developed countries (Altintas & Sullivan, 2016), women systematically spend more hours on unpaid work, such as household duties and caring for children and the elderly. These time demands can interfere with social value-creating entrepreneurship, which has its own time-consuming demands, such as managing a wide set of stakeholders and working closely with beneficiaries. As family-related time and financial

commitments peak in midlife, women entrepreneurs who nevertheless start their own enterprises are therefore more likely to launch an enterprise as a “fallback employment strategy” (Arráiz, 2018, p. 59) to balance work and family commitments more easily rather than to fulfill prosocial values (Arráiz, 2018; Budig, 2006; Feldmann et al., 2020; Marlow & McAdam, 2013; Tonoyan et al., 2010).

Based on situational strength theory, we argue that the combined impact of higher time demands on women than men, especially during child-bearing and child-rearing years, together with lower income generating potential, greater complexity, and uncertainty of social value creation, pose stronger situational constraints. These constraints, therefore, make pursuing social value creation through starting an enterprise a less attractive option for women entrepreneurs in midlife. By contrast, in early adulthood, before family commitments peak, and in mature adulthood, when time-related constraints (together with financial constraints) are also fewer than in midlife, women may be more willing and able to express their prosocial values through starting a social value-creating enterprise. We thus propose:

H2: Gender moderates the U-shaped relationship between age and starting an enterprise for social value creation, such that the midlife dip in social value creation will be steeper for women entrepreneurs than men entrepreneurs. In other words, women entrepreneurs in early or mature adulthood are more likely to pursue social value creation relative to women in midlife, whereas we would expect a flatter curve for men entrepreneurs across their lifespans.

The moderating effect of education on the age-social value creation relationship

As with gender, the life course perspective highlights that education alters different life course pathways (Crosnoe & Brenner, 2016; Xiao & Wu, 2021). For our third hypothesis, we therefore explore how education might interact with age over the lifespan to determine social value creation goals. Again, applying situational strength theory and the life course perspective, we

argue, similarly to our rationale in H2, that differing financial and time-related constraints over the lifespan will diversely influence the expression of prosocial values among more highly educated and less educated entrepreneurs.

Formal education is an important driver of entrepreneurial performance, including earnings (Unger et al., 2011; Van der Sluis et al., 2008). The more years of schooling or the more advanced the type of schooling, the higher the income generated through entrepreneurship. Therefore, entrepreneurs with low levels of education face a strong situation where financial constraints are more obvious compared to entrepreneurs with higher levels of education, as the former are likely to generate less income from their entrepreneurial activities. Due to these constraints, we expect that for low-educated entrepreneurs, the expression of prosocial values through starting a social value-creating enterprise will be dampened throughout an individual's entire adult lifespan, including early and mature adulthood. These entrepreneurs are less likely to afford to engage in social value-creating entrepreneurship, which is less financially lucrative (Barki et al., 2020). By contrast, entrepreneurs with higher levels of education, and thus higher income generating potential resulting from entrepreneurship, are more likely to have fewer financial constraints throughout their lifespan. However, time-related constraints may be similar for entrepreneurs with different levels of education (typically peaking in midlife vs. early or mature adulthood, as explained in the rationale for H1), making social value-creating entrepreneurship generally less attractive for entrepreneurs in midlife. However, the dip will not be as pronounced for entrepreneurs with low-level education, as social value creation is not an attractive or viable option in the first place. This logic leads us to expect a flatter curve between age and social value creation for less educated entrepreneurs over the lifespan compared to their more educated peers. Hence:

H3: Education moderates the U-shaped relationship between age and starting an enterprise for social value creation, such that the midlife dip in social value creation will be steeper for

more highly educated entrepreneurs than less highly educated entrepreneurs. In other words, highly-educated entrepreneurs in early or mature adulthood are more likely to pursue social value creation relative to those in midlife, whereas we would expect a flatter curve for less educated entrepreneurs across their lifespan.

Triple interaction effects of age, education, and gender

While we have presented arguments for the moderator effects of gender and education separately, the notion of intersectionality (Collins, 2015; Moen et al., 2020) suggests they likely work together with age to create a triple interaction effect, accentuating the midlife dip even further, especially for more highly educated women compared to other subgroups of entrepreneurs (less educated women, and men regardless of education level). While not directly framed as research on intersectionality, entrepreneurship research suggests that intersectionality matters. For instance, Budig (2006) and Tonoyan et al. (2010) observe that women starting an enterprise are not a homogeneous group and have different motives for entering entrepreneurship depending on their level of education.

We thus examine the following four subgroups: less educated women, less educated men, more highly educated men, and more highly educated women. We expect that entrepreneurs (both men and women) with low levels of education are likely to generate less income from their entrepreneurial activities, resulting in greater financial constraints (strong situation) over their entire lifespan. Therefore, the strong situation would suppress the expression of prosocial values regardless of gender, resulting in a flatter curve for both groups compared with more highly educated women entrepreneurs. While less educated women and men are expected to differ in underlying prosocial values (those of men being lower), given that both groups face a strong situation throughout their lifespan, we would not expect the shape of the curves to differ significantly. A relatively flat curve is also expected for more highly educated men: As with highly educated women, the expression of prosocial values is suppressed in midlife due to time

and financial constraints (a strong situation). However, since the underlying prosocial values are lower for men than women over the entire lifespan (Schwartz & Rubel-Lifschitz, 2009), we generally expect a lower expression of prosocial values for more highly educated men compared to more highly educated women. Highly educated women, having higher underlying prosocial values over the lifespan, are expected to pursue greater social value creation due to fewer constraints in early and mature adulthood. Nevertheless, their expression of prosocial values would also be suppressed by heightened constraints in midlife, resulting in an expected steeper, more accentuated dip in social value creation for this group in midlife. Once again, these explanations do not require a shift in the underlying prosocial values over the lifespan but rather the situational strength in midlife suppressing the expression of underlying prosocial values. Thus, our last hypothesis:

H4: Education and gender together moderate the U-shaped relationship between age and starting an enterprise for social value creation, such that the midlife dip in social value creation will be steeper for more highly educated women entrepreneurs than less highly educated women entrepreneurs or men entrepreneurs, regardless of their education level.

Data and methods

Data sources

Our individual-level data derive from the 2009 GEM dataset, which includes questions about prioritizing social relative to economic value creation (Lepoutre et al., 2013; Terjesen et al., 2012). This unique dataset constitutes the world's only harmonized survey of social value creation of the full population of new entrepreneurs covering over 50 countries at different stages of development⁴. Data were collected according to the agreed-upon protocols for sampling and interview design. The use of the GEM dataset is widespread in studies on social entrepreneurship and social value-creating goals (Brieger et al., 2019, 2021; Estrin et al., 2016;

⁴ While the 2015 GEM study includes social entrepreneurship as a topic, it does not provide the necessary data to measure social value creation for new entrepreneurs.

Marín et al., 2019). A total of 54 countries participated in 2009⁵. For this study, our sample comprises adult respondents aged 18 to 64. We examine individual differences in age as a proxy of different phases in the life course, including early, middle, and mature adulthood, consistent with recent research on age and entrepreneurship (Brieger et al., 2021; Zhao et al., 2021). To measure the country-level control variables, we complemented the GEM dataset with data from the World Bank, the Index of Economic Freedom published by the Heritage Foundation, the World Values Survey, and the Polity IV project. We use data from 2008 for our country-level variables to minimize issues of reverse causality in our regressions. Missing values for one or more country-level variables led to the exclusion of data from 10 countries (Bosnia, Iceland, Hong Kong, Jamaica, Panama, Syria, Tonga, United Arab Emirates, West Bank, and Gaza Strip, Yemen), leaving a total of 5,251 usable responses related to new entrepreneurs and 5,197 to nascent entrepreneurs (for robustness checks) from 44 countries.⁶

Sample construction

The 2009 GEM dataset offers three indicators to capture entrepreneurs: *nascent entrepreneurs* who have taken the first steps to set up an enterprise, *new entrepreneurs* whose enterprises are operational (between 3 and 42 months old) but still in the start-up phase (Reynolds et al., 2005), and *established entrepreneurs* whose enterprises are more than 42 months old. We focus on new entrepreneurs to test our hypotheses. We exclude established entrepreneurs to ensure that an individual's current age proxies their age at the time of start-up. In earlier research, Blanchflower et al. (2001) showed that while the probability of being a business owner increases with age, starting a new venture decreases (Zacher et al., 2019). We also exclude

⁵ Table S.1., available in the online supplement on the journal's website, presents the 44 countries included in the estimation sample and the number of observations per country.

⁶ We check for sample selection bias by incorporating an additional selection equation, that is, we define a variable *S* taking a value of 1 if the individual is a new entrepreneur, and a value of 0 if the individual is not involved in new entrepreneurship. To identify the sample selection model, we need to include a variable that is related to *S* but not to social value creation. Based on earlier research (Estrin et al., 2016), we select the variable indicating whether an individual personally knows someone who started a business in the past 2 years. We find non-significant correlations between the selection and outcome equations, and hence, no evidence of sample selection bias.

nascent entrepreneurs, as we presume that resource constraints are more likely to affect individuals showing actual rather than intended behavior (Bergmann & Stephan, 2013). We report tests on

nascent entrepreneurs⁷ in additional analyses. To qualify as a new entrepreneur, respondents had to answer one of the following two questions in the affirmative: 1) Are you, alone or with others, currently the owner of a company you help manage, self-employed, or sell any goods or services to others? 2) Are you, alone or with others, currently the owner and manager of an activity, organization, or initiative that has a particularly social, environmental, or community objective? In addition, respondents had to indicate that their company or initiative is at least three months old but no more than 42 months old and that they are the owner (partly or fully) of the business.

Variables

Dependent variable. To measure the *social value creation* of nascent or new entrepreneurs, GEM researchers asked respondents to allocate 100 points to three organizational goals: creating societal value, creating environmental value, or creating economic value. The exact phrasing is: *Organizations may have goals according to the ability to generate economic value, societal value, and environmental value. Please allocate a total of 100 points across these three categories as pertaining to your goals.* Following previous protocols and definitions of social value creation (Brieger et al., 2021; Mair & Marti, 2006; Santos, 2012), we combined the total points assigned for societal *and* environmental value to measure our dependent variable.

⁷ We constructed a nascent entrepreneur subsample according to the GEM definitions. We first considered respondents who answered one of the following two questions in the affirmative: 1) *Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?* 2) *Are you, alone or with others, currently trying to start any kind of activity, organization, or initiative that has a particularly social, environmental, or community objective?* In addition, respondents had to satisfy the following criteria: having taken concrete steps to start the business in the past 12 months, being the owner (partly or fully) of the business, and making any financial payments to the enterprise for less than three months

By using the number of points, our dependent variable, social value creation, reflects a continuum of scores from purely social (100 points assigned to societal and/or environmental value) to purely economic (100 points assigned to economic value).

Individual-level independent and moderator variables. To measure *age*, GEM researchers asked respondents to report their current age. We subtracted the respondents' minimum age (18 years) from the actual age in the analyses to enhance interpretation.⁸ We constrained our sample to the population aged 18 to 64, which corresponds to the sampling frame in most countries (30 out of 44). Hence, there were not enough cases to permit meaningful analyses for individuals older than 64. *Gender* is coded 1 for women and 0 for men. *Education* refers to the highest level of education completed by an individual. GEM harmonizes national educational classification schemes across countries. We use a binary indicator to facilitate interpretation (0 = none or some secondary education; 1 = completion of secondary education or higher). We conducted robustness checks with a more fine-grained measure of education and replicated our results (see the robustness checks section).

Individual control variables. We included two individual control variables: household size and business angel. Since larger households may have greater financial needs and caring responsibilities, we controlled for household size (centered around its grand mean). To measure *household size*, GEM researchers asked respondents: *How many members make up your permanent household, including you?* This variable ranges from 1 to 5 (where 5 also reflects household sizes larger than 5). Second, we included the *business angel* variable as a proxy of financial resources, as widely used in past GEM-based studies (Estrin et al., 2016). Respondents were asked: *Have you, in the past three years, personally provided funds for a*

⁸ This means that the coefficients of the linear age terms now indicate the slope of the U-shape at age 18, which is relevant in the context of one of the Haans et al. (2016) tests that we conducted. The alternative mean-centered data (centered on the mean age in the sample) confirms that the results lead to identical conclusions about the U-shape and hypotheses. This is to be expected, as "...results obtained with centered data and raw data are mathematically equivalent and mean-centering does not increase the power to detect quadratic or interaction effects" (Haans et al., 2016, p. 1184).

new business started by someone else, excluding any purchases of stocks or mutual funds and income? They were assigned the value 1 if they answered in the affirmative and 0 otherwise.⁹

The propensity to engage in a particular type of entrepreneurship may differ depending on the monetary resources available to the entrepreneur.

Country-level control variables. We included four country-level control variables. Derived from World Bank data, *GDP per capita* refers to a country's GDP per capita in current U.S. dollars.¹⁰ *Government size*, based on data from the Index of Economic Freedom published by the Heritage Foundation (Holmes et al., 2008), is a combination of the “fiscal freedom” and “government size” indices, which are reverse-scored so that higher values represent “more active governments” (more expansive welfare and progressive tax systems) (Stephan et al., 2015). Government size controls for the fact that countries may differ in their demand and need for social entrepreneurship, which might bias the age-social value creation relationship. Multiple studies have found that social entrepreneurship thrives in nations with high cultural postmaterialist values (Hoogendoorn, 2016; Stephan et al., 2015). Following these studies, for all but two countries, we measured *postmaterialism* using the average of the 1999–2002 and 2005–2009 values of the 4-item version of the postmaterialism index from the World Values Survey. Instead, for Ecuador and Lebanon, we used the 2010–2014 values in place of the earlier scores, as these were unavailable for previous years. Finally, we controlled for the *rule of law* based on Estrin et al.'s (2013) executive constraints measure from the Polity IV database (Marshall et al., 2011), which was related to social and commercial entrepreneurship in their study.

Statistical procedure

⁹ We excluded household income as a control variable from the main analysis, due to the high, and nonrandom pattern of missing values. Nevertheless, household income was included in one of the robustness checks, reported below.

¹⁰ Using GDP per capita in purchasing power parity does not lead to qualitatively different conclusions.

To account for the nested data structure of individuals within countries, we used multilevel linear regressions with random intercepts where individuals (level 1) are nested within countries (level 2).¹¹ We report the deviance, a measure of model fit, and a Pseudo- R^2 measure (R^2 for short) to indicate the proportion of variance explained (Hox et al., 2017). We checked for the intraclass correlation value to justify a multilevel analysis (Hox et al., 2017). To establish the U-shaped relationships hypothesized, we used the three tests recommended by Haans et al. (2016): 1) the coefficient of the quadratic age term is significant and positive; 2) the slopes at both ends of the U-shape are sufficiently steep (we determined the significance of the marginal effects at ages 18 and 64); and 3) the turning point is located in the data range (we calculated the confidence interval of the turning point of the U-shape).

To establish the presence of steeper U-shaped curves (as hypothesized in H2 and H3), we included interaction terms between the squared age term and the moderating variables, testing for the significance of the coefficient of this interaction term. A steepening occurs when this coefficient is significant and positive (Haans et al., 2016). For H4, we included interaction terms between age squared, gender, and education and performed the three tests above for each of the four subgroups of individuals defined by education level and gender. In the post-hoc analyses, we repeated all the H1–H4 tests for nascent entrepreneurs and again conducted the Haans et al. (2016) tests. We used Stata 16.1 for all our analyses.

Descriptive statistics and correlations

The bivariate Pearson correlations for the individual-level variables and their mean and standard deviations are shown in Table 1. The variance inflation factors (VIF) are also shown, and their low values (1.06 or less) indicate no multicollinearity concerns. Table 1 shows that, on average, new entrepreneurs allocate just over one-third of 100 points to social value

¹¹ To verify the normal distribution of the residuals in a model including all individual-level and country-level (control) variables, we calculated the standardized residuals at the individual level and plotted these against their normal scores; the resulting graph indicates normality. Second, we plotted the residuals against the predicted values of the outcome variable using the fixed part of the model for the prediction. We do not find an indication of violation of homoscedasticity in this scatter plot.

creation.¹² While theoretically, respondents could choose the value 0 or 100, 71.8% selected a number between these two, suggesting some form of hybrid organizational goals. Table 2 shows the correlations among the country-level variables and their VIF values (2.55 or less).¹³ Again, there are no multicollinearity concerns. We standardized all country-level variables.

(Insert Tables 1 and 2 about here)

Results

We first considered the appropriateness of using a multilevel approach and started with an intercept-only model. Model 1 in Table 3 shows that the variance of the individual-level residuals (σ_{ε}^2) is equal to 698.98, whereas the variance of the country-level residuals (σ_{u0}^2) is equal to 216.22. Dividing σ_{u0}^2 by the sum of σ_{ε}^2 and σ_{u0}^2 leads to an ICC (intraclass correlation) value of 0.24. Hence, 24% of the variation in social value creation is at the country level, justifying a multilevel specification (Hox et al., 2017). In addition, the likelihood ratio tests for testing whether σ_{u0}^2 equals zero result in $p < .001$ for all our model specifications.

Age and social value creation (H1)

To test H1, we added the linear and quadratic age terms, gender, level of education, and the individual-level control variables in Model 2 (Table 3). We found significant coefficients for age and age squared. Given the negative sign of age and the positive sign of age squared, the evidence indicates a U-shaped relationship between age and social value creation, as predicted in H1. This U-shape is replicated in Model 3 in Table 3, where the country-level control variables have been added ($B = 0.01$, $p < 0.001$ for the squared age term). We also used two other tests that Haans et al. (2016) recommend to confirm a U-shaped relationship, including the slope tests and confidence interval for the turning point described earlier. As expected, for

¹² Figure S.1., available on the journal's website as part of the online supplement, shows the empirical distribution of the dependent variable categorized into ten intervals because multiples of five (0, 5, 10, ...) occurred more frequently than the remaining values.

¹³ Naturally, the VIF values for age squared and for the interaction terms (not included in Table 2) are higher. Note that we performed additional analyses using mean centered data, and although this substantially reduces the VIF values, our conclusions about the U-shapes and hypotheses remain identical.

a U-shaped curve, the slope for age 18 is -0.43 ($p < 0.001$), while the slope of the U-shape for age 64 is 0.53 ($p < 0.001$). The third test refers to the confidence interval of the turning point, which needs to fall within the age range. The turning point in our case is 38.6 years with a 95% confidence interval (CI) of [35.3, 41.8], thus falling within the age range and fulfilling the third Haans et al. (2016) criterion. Given that these three criteria were met, H1 is supported. We show the predicted values of the dependent variable as a function of age based on Model 3 in Table 3 and illustrated in Figure 3.

(Insert Table 3 and Figure 3 about here)

Moderating effects of gender and education (H2, H3, and H4)

Model 1 in Table 4 adds two interaction terms: linear age and gender and squared age and gender (H2). The interaction term coefficient between squared age and gender ($p = 0.051$) indicates a different U-shape for women and men (Haans et al., 2016). We conducted the Haans et al. (2016) tests and validated the U-shape separately for men and women. For women, we test the implied coefficient for the squared age term (sum of the coefficients for age squared and its interaction with gender) using the Wald test, which is significant and in the expected direction ($B = 0.017$, $p < 0.001$). Additional calculations reveal a significant negative slope at age 18 (slope = -0.70 , $p < 0.001$), a significant positive slope at age 64 (slope = 0.82 , $p < 0.001$), and the turning point at 39.2 years, 95% CI [36.1; 42.2]. For men, we found less convincing evidence of a U-shape: the coefficient of the squared age term is $B = 0.006$ ($p = 0.08$), and the slope at age 18 is -0.23 but not significant ($p = 0.14$), while at age 64 the slope is 0.33 ($p = 0.06$), and the turning point is at 37.2 years, 95% CI [29.6; 44.8]). While the turning point of the U-shape is higher for women than for men, the difference is not significant (Wald $\chi^2 = 0.23$, $p = 0.63$). Thus, there is evidence of a U-shaped relationship between age and social value

creation for women, while the second Haans et al. (2016) test is not validated for men. Figure 4 illustrates this finding of a more pronounced U-shape for women than men, supporting H2.¹⁴

Model 2 in Table 4 includes the interaction terms between age and level of education (H3). We observe a significant interaction between squared age and secondary education ($B = 0.014$, $p = 0.01$), indicating a more pronounced U-shape for those who completed their secondary education than those who did not. Each Haans et al. (2016) test is validated for secondary education (sum of coefficients for age squared and its interaction with secondary education is 0.016 with $p < 0.001$; slope at age 18 is -0.66 ($p < 0.001$), and at age 64 it is 0.76 ($p < 0.001$), the turning point is at 39.4 years, 95% CI [36.7; 42.1]), but none of the tests are validated for those who did not complete secondary education, thus supporting H3. Figure 5 illustrates these findings, including the U-shape for those with at least secondary education.

While not hypothesized in our study, we note that the main effects of gender and education (as shown in Table 3) align with prior research: gender and secondary education have a positive relationship with social value creation in all estimations. These results explain the levels of the vertical axis in Figures 4 and 5. While the curve for women with more education is more steeply U-shaped, even at its midpoint representing the midlife stage, it is higher than that of the other three subgroups (reflecting a positive significant main effect).

We included a triple interaction term between age, education, and gender to test H4. The results are shown in Model 3 in Table 4. The coefficient of the triple interaction term is significant ($p = 0.049$). We validate all three Haans et al. (2016) tests for women with at least secondary education. The implied squared age term is significant ($B = 0.03$, $p < 0.001$), the slope at age 18 is -1.24 ($p < 0.001$), at age 64 it is 1.42 ($p < 0.001$), and the turning point is at 39.4 years, 95% CI [37.2; 41.6]. Importantly, the three tests cannot be validated for the other

¹⁴ The difference in social value creation between individuals can be substantial. For example, the difference in points allocated to social value creation between a 45-year-old and a 55-year-old new female entrepreneur, based on Figure 4, is 3.2 points (41.9-38.7), which amounts to an increase in social value creation of about 8%. The difference between a 55-year-old and a 64-year-old female entrepreneur is as high as 6.6 points (48.5-41.9), a 16% increase.

three groups. H4 is thus supported. Figure 6 shows the predicted values of social value creation as a function of age for each combination of education level and gender.

(Insert Table 4 and Figures 4, 5, and 6 about here)

Additional analyses and robustness checks

Checking the endpoints of the age curve. In line with prior research (Bardi et al., 2009; Milfont et al., 2016; Schuster et al., 2019), given that we hypothesize that prosocial values are a stable personality variable, we expect the starting and endpoint of the U-shape in early and mature adulthood to be the same. Regarding H1, while the endpoint of the U-shape (at 44.0 points) lies above its starting point (at 41.6 points) in Figure 3, the difference is not significant (Wald $\chi^2 = 2.13, p = 0.14$).¹⁵ This finding is consistent with our assumption of value stability.

Linear and cubic rather than quadratic relationships. To validate the presence of a U-shaped relationship between age and social value creation, we tested for alternative specifications of the age effect in H1. First, we added a cubic term to the regression in Model 3 of Table 3. When the cubic term is included, the coefficients of the linear, quadratic, and cubic terms are non-significant (linear $B = -0.47, p = 0.11$; quadratic $B = 0.013, p = 0.39$; cubic $B = -0.00004, p = 0.87$). Second, when we exclude the squared age term from Model 3 of Table 3, the linear age term is non-significant ($B = 0.03, p = 0.43$). Furthermore, the likelihood ratio test favors a quadratic over a linear specification (L.R. $\chi^2 = 15.08, p < 0.001$). Thus, the preferred specification includes both the linear and quadratic age terms.

Tobit specification. To address the fact that our dependent variable is bounded between 0 and 100, we employed a multilevel Tobit specification – to respect the lower (0) and upper bound (100) of the dependent variable – as a robustness check (Kanagaretnam et al., 2018). The results are qualitatively similar. That is, we found significant linear age ($B = -0.58, p < 0.001$) and quadratic age terms ($B = 0.014, p < 0.001$), significant slopes at age 18 ($-0.58, p <$

¹⁵ The predicted value is based on the estimated coefficients of the fixed part of the model (random effects set equal to their expected mean value zero).

0.001) and age 64 (0.72, $p < 0.001$), and an age threshold at 38.6 years (95% CI [35.3; 41.9]). We also found significant coefficients of the interaction terms between age squared and gender ($B = 0.016$, $p = 0.03$), between age squared and secondary education ($B = 0.019$, $p = 0.01$), and a positive trend for the triple interaction term ($B = 0.025$, $p = 0.10$).

Three levels of education. We carried out supplemental analyses in which we distinguished three levels of education attainment: 1) none/some secondary education; 2) secondary education; 3) completed post-secondary education. Note that our main analysis combines categories 2 and 3 into one category. The U-shape we find in our main analysis for secondary education (categories 2 and 3) is obtained for both secondary education (category 2) and post-secondary education (category 3). That is, we find significant interactions between age squared and secondary education ($B = 0.016$, $p = 0.01$), and between age squared and post-secondary education ($B = 0.012$, $p = 0.06$). (See Table S.2. and Figure S.2.)¹⁶

Nascent vs. new entrepreneurship. To test the assumption that perceived constraints will have a weaker effect on nascent than new entrepreneurs, we test H1–H4 for the sample of nascent entrepreneurs, those who have taken the initial steps but have not yet launched their enterprise. Given this logic, we expect the predicted U-shapes to be less prominent in the sample of nascent than new entrepreneurs. The results for the sample of nascent entrepreneurs are shown in Table S.3..¹⁷ Model 1 in Table S.3.. reveals a significant quadratic age term ($B = 0.0065$, $p = 0.01$). Additional calculations reveal slopes of -0.21 ($p = 0.054$) and 0.39 ($p = 0.003$) at ages 18 and 64 respectively, the turning point is 34.4 (95% CI is [28.4; 40.3]). The interaction between age squared and gender is non-significant for nascent entrepreneurs in Model 2 in Table S.3. ($B = 0.00082$, $p = 0.87$). If we specifically focus on the U-shape for women, then the sum of the coefficients for age squared and its interaction with gender is

¹⁶ Table S.2. and Figure S.2., are available in our online supplement on the journal's website, and present full results for the three levels of education.

¹⁷ Table S.3. and Figure S.3. are available in our online supplement on the journal's website.

0.0071 ($p = 0.08$), with a non-significant negative slope at age 18 (slope = -0.12 , $p = 0.50$). Furthermore, the 95% CI for the turning point ([10.9; 42.2]) falls outside the age range. Hence, the second and third Haans et al. (2016) tests are not validated. We find a significant interaction between age squared and secondary education in Model 3 in Table S.3.. ($B = 0.011$, $p = 0.05$). In addition, each Haans et al. (2016) test is validated for secondary education (squared age term: $B = 0.010$, $p = 0.001$; slope at age 18 is -0.36 ($p = 0.01$), and at age 64 is 0.54 ($p < 0.001$), the turning point is at 36.4 years, 95% CI [32.4; 40.5]). Finally, Model 4 in Table S.3.. reveals that the triple interaction is not significant ($B = 0.006$, $p = 0.96$). Regarding the Haans et al. (2016) test for women with secondary education, we find a significant squared age term ($B = 0.011$; $p = 0.03$), but importantly, a non-significant slope at age 18 (slope = -0.31 , $p = 0.18$), while at age 64 it is 0.73 ($p = 0.01$), the turning point is at 31.5 years, 95% CI [23.0; 40.1].

In sum, unlike our main findings for new entrepreneurs, for nascent entrepreneurs, the U-shape cannot be verified for women (H2) and women with secondary education (H4). Hence, for the sample of nascent entrepreneurs, we find support for only H1 and H3. Figure S.3. visualizes these findings based on Table S.3.. Importantly, we also checked whether the coefficients of the quadratic term (H1) or the interaction terms (H2, H3, H4) are significantly larger for new entrepreneurs than for nascent entrepreneurs. We performed this check in a simultaneous equations framework and did not find compelling statistical evidence, that is, p -values $>.10$. All in all, we find some evidence in line with our expectation that resource constraints impact new vs. nascent entrepreneurs more, given that we find better results for new vs. nascent entrepreneurs, but only for Hypotheses 2 and 4.

Other robustness checks. Despite a large number of missing values (18.9% of the sample), we controlled for household income in an alternate specification model after applying multiple imputations (Rubin, 1987) for missing values (Table S.4.).¹⁸ We also tested a model

¹⁸ Table S.4., controlling for household income, including imputed values, is available in the online supplement on the journal's website.

that removed the random intercept and added country dummy variables. Once again, the results were similar to those presented previously (Table S.5.)¹⁹ Finally, we replaced GDP with either $\ln(\text{GDP per capita})$ or a linear and quadratic term of GDP (Tables S.6. and S.7.).²⁰ Results in each case were qualitatively similar to findings reported earlier.

Discussion

Summary of findings

Integrating predictions from situational strength theory with the life course perspective, we theorize in which life phases new entrepreneurs likely prioritize social relative to economic value creation and, informed by intersectionality, the moderating effects of gender and education. In line with our predictions, we find a U-shaped relationship between age and social value creation with the lowest point, i.e., the lowest likelihood of social value creation, in midlife at 38.6 years of age. In line with our theorizing, our results suggest that the expression of prosocial values in social value-creation enterprise goals is most visible in early and mature adulthood, which are phases characterized by relatively few constraints. In contrast, the expression of prosocial values is suppressed in midlife when financial and time-related resource constraints peak. The curvilinear effects are especially pronounced for women with more education. Consistent with our predictions in our additional tests, we found somewhat weaker results for nascent entrepreneurship (especially comparing moderation effects of gender, and triple effects of age, gender, and education, for new versus) nascent entrepreneurs (H2 and H4).

Theoretical implications

Our study contributes to entrepreneurship research in several ways. First, our constraint-based individual perspective demonstrates the value of an intersectionality approach (Collins, 2015)

¹⁹ Table S.5., replacing the random effects model with a country fixed effects model, is available in the online supplement on the journal's website.

²⁰ Tables S.6. and S.7., which substitute GDP with $\ln(\text{GDP})$ and the linear and quadratic terms for GDP, respectively, are available in the online supplement on the journal's website.

to study individual differences by considering their joint effects on social value creation over the life course. Research has established that gender and education are associated with higher prosocial values (Schwartz & Rubel-Lifschitz, 2009; Abramson & Inglehart, 1994) and social entrepreneurship (Estrin et al., 2016; Hechavarría et al., 2017; Marín et al., 2019). We add to this research by examining how gender moderates the effects of age for individual entrepreneurs. We find that educated women (rather than women more generally) explain much of the greater gender inclusivity of social entrepreneurship found in past research. The dip we find in midlife, especially for educated women, is consistent with our theoretical argument that they also face time-based and financial constraints that keep them from engaging in social value creation.

Furthermore, the flat age curve for women with low education resembles the age trajectory of reluctant entrepreneurs (Kautonen et al., 2014). This explanation is again consistent with a life course perspective and the notion of intersectionality, where those with a low level of education, especially lower-educated women, have more constraints in life (Crosnoe & Brenner, 2016; Jayawarna et al., 2013; Moen, 2016). Relatedly, we view our study as a proof-of-concept investigation of the importance of intersectionality to understand choices regarding entrepreneurship type more generally. Thus, future research could also investigate the intersection of age with other characteristics conferring disadvantages to individuals (Collins, 2015), including, for instance, ethnicity and further indicators of social class (Kish-Gephart et al., 2022; Pidduck & Clark, 2021).

Second, our constraints-based individual perspective, which draws upon situational strength theory and the life course perspective, offers a novel and parsimonious approach to predict *who* (which entrepreneurs) are likely to pursue social value creation *when* in their life course. This perspective emphasizes the role of age-related, time-varying resource constraints for prosocial value expression to predict the preference for social value creation over an

individual's lifespan. In this way, our account differs markedly from Brieger et al. (2021), which explains the U-shaped relationship between age and social value creation by assuming changes in the underlying prosocial values themselves over time.²¹ In addition to having a more consistent explanation across time (fluctuations across the life course in previously identified situational constraints), our study is more solidly based on evidence from psychology research, which shows value stability for working-age adults (18-64 years of age). Furthermore, our research offers a complementary sociological perspective that allows us to theorize constraints over the entire lifespan, including time-based changes in the work and family sphere that may restrict the expression of an individual's values and entrepreneurial preferences. Aside from the study of Brieger et al. (2021), research on age and entrepreneurship has typically focused on middle to older age (and commercial entrepreneurship; Lévesque & Minniti, 2006; Parker, 2009). For instance, age-related entrepreneurship research has considered the factors motivating (a return to) entrepreneurship at a mature age, including a shift in norms and age discrimination due to age-related stereotypes (Hatak et al., 2015; Kautonen et al., 2017; Kibler et al., 2015). Other research focuses on declining cognitive abilities and how entrepreneurs' performance can be maintained when their opportunity focus diminishes with age (Gielnik et al., 2012, 2017).

Finally, our perspective accentuates the need to separate nascent from new entrepreneurship in comparative entrepreneurship research. The early stages of opportunity discovery and evaluation (nascent entrepreneurship) primarily reflect the intentions and mental activities internal to the individual entrepreneur. In contrast, the more advanced stages of opportunity exploitation (new entrepreneurship), which involve the actual launch of a new business, require physical resource mobilization, including more money and time (e.g., André

²¹ Brieger et al., (2021) suggest that cohort differences in postmaterialism (Inglehart, 1977), explain the higher priority of social value creation in early adulthood while drawing on gerontology research of prosocial value shifts in *extreme* old age (Baltes et al., 2007) to explain the rise again in mature adulthood.

& Pache, 2016; Bergmann & Stephan, 2013). Several studies provide evidence in line with this rationale for commercial entrepreneurs and, thus, call for the differentiation of different phases of entrepreneurship in empirical research (Bergmann & Stephan, 2013; Kleinhempel et al., 2022; Mickiewicz et al., 2017; Van de Zwan et al., 2010). Our findings align with this research and the notion that nascent compared to new entrepreneurs face fewer situational constraints while exploring opportunities and not yet having had to commit resources to build an operating enterprise. Thus, nascent compared to new entrepreneurs are 'freer' (less constrained) in their choices. The dampening effect of situational constraints on the expression of prosocial social values may not fully 'kick in' before the actual launch of the enterprise.

Limitations

While we leveraged an extensive dataset, our study is not without limitations. First, we use cross-sectional data, which does not allow disentangling age from cohort effects, for example, whether a particular generation shares certain common values regardless of age. It also means that we cannot track individual respondents over their entire life course to see whether they have chosen alternative occupational paths at different times. Only longitudinal cohort data would enable testing age and cohort effects separately. However, longitudinal data on an international scale for the items we measured is not yet available and would be prohibitively expensive, especially for a single research team to gather. Covering the full range of adult ages would also take a long time (Zhao et al., 2021). The advantage of our study is that we could examine a large number of respondents across diverse countries, thereby providing a springboard for future studies.

Future research could also develop a more refined measure of identifying social value creation (both societal and environmental). It could be that other definitions of social value creation and social entrepreneurship lead to different results. For example, future research

could test whether age has the same effect on particular social issues (for example, assisting marginalized populations, improving health, or reducing environmental degradation).

Future research might also offer more refined tests of our theoretical framework. We relied on proxies, including age, gender and education, and past research using the life course perspective to infer personal resource constraints. That said, we hope that the consistency of the expected and actual results inferred by our theoretical framework provides enough support to inspire future research to test our assumptions more directly. For instance, testing prosocial values explicitly and across the life span would be helpful to test our second core assumption about the stability of prosocial values during adulthood. Future studies might use more direct financial and time constraint measures, such as hours worked and family responsibilities, or more complete data for household income. Such variables would allow us to test more directly our first assumption regarding the greater challenges faced by social versus commercial entrepreneurs and our third assumption regarding shifts in resource constraints they face over the life span to explain social value creation. Such data is available in health and retirement-related surveys, such as the Survey of Health, Aging, and Retirement in Europe (SHARE) or the Health and Retirement Study (HRS)²². Moreover, there is scope to explore how our findings fit with other lifespan models developed in psychology. In particular, our findings could also fit predictions from socio-emotional selectivity theory, which argues for increased prosocial motivation late in life due to perceptions of scarcity in the remaining lifetime (Carstensen & Mikels, 2005). However, this does not explain the equally high levels of social entrepreneurship found for young vs. mature adults that our framework predicted and our results supported.

Finally, future research might explore other boundary conditions to further test the notion of constraints, including variables such as ethnicity, or other operationalizations of social class,

²² SHARE: <http://www.share-project.org/home0.html> and HRS: <https://hrs.isr.umich.edu/about>

besides education, such as parental occupation or household income, that have emphasized access to certain resources such as social and cultural capital (Kish-Gephart et al., 2022). Measuring social class could be interesting due to its influence on constraints in the life course pathway and potential opportunities it could present (Pidduck & Tucker, 2022; Pidduck & Clark, 2021). For instance, Pidduck and Clark (2021) note that *empathic accuracy*, the ability to read others' needs accurately, may be higher for working-class people (Kraus et al., 2010; Pidduck & Clark, 2021). Nevertheless, whether this leads to greater social value creation is unclear. Since different facets of social class may have distinct effects, it may be that the opportunities social class could present are offset by lower income and, thus, greater financial constraints (Ariely & Mann, 2013; Barki et al., 2020).

Practical implications

A range of policy and government initiatives, as well as support organizations, have been launched to attract individuals to social entrepreneurship, such as highlighting role models and best practices in social innovation competitions, developing the social investment market, and tailoring support initiatives. For initiatives such as the European Social Innovation Competition²³, social impact investors, and support organizations, including Ashoka²⁴, our study provides important guidance regarding the target groups most likely to consider social value creation based on age, gender, and education. The constraints perspective is compelling, given the evidence that prosocial values are highly important for large segments of the population across the globe (Schwartz & Bardi, 2001), suggesting we might see an increase in social entrepreneurship if such constraints were removed. Drawing on our findings, we thus encourage researchers and practitioners to ask more often what prevents individuals from expressing their prosocial values through social entrepreneurship rather than attempting to change people's values. In so doing, we also offer a complementary account to current

²³ https://ec.europa.eu/growth/industry/strategy/innovation/social/competition_en

²⁴ <https://www.ashoka.org/en-aaw>

individual-level research on social entrepreneurship centered on the role of prosocial values and motivation (Miller et al., 2012; Stephan & Drencheva, 2017; see Saebi et al. (2019) and Vedula et al. (2022) for recent reviews). More specifically, our findings identify more highly educated women in midlife as a potentially promising group for targeted support. Our findings also suggest that supporting (especially more educated) women with time and financial constraints during midlife (for example, childcare and elderly care) may increase the overall rate of social value-creating entrepreneurship.

Considering that older entrepreneurs often face negative age stereotypes (Kibler et al., 2015), our findings offer a more hopeful view of entrepreneurship in mature adulthood as positively contributing to society by pursuing social value creation goals. Our findings may thus be welcome in countries with aging populations, where an increasing number of healthy and skilled older workers could be a source of future growth in social entrepreneurship. Our findings may also hold good news for the increasing number of countries with youthful populations (Lévesque & Minniti, 2011).

Our study thus calls for policy initiatives to acknowledge the heterogeneity of the motives in entrepreneurship, especially at different points in the life course. For instance, senior entrepreneurship initiatives, such as those instigated by the European Commission (European Commission/OECD, 2012), could fruitfully advocate social value-creating entrepreneurship alongside economic entrepreneurship. All too often, these and other initiatives geared toward increasing women's entrepreneurship (OECD, 2017; European Commission/OECD, 2017) focus solely on economic value-creating entrepreneurship, thereby missing opportunities to make individuals aware of forms of entrepreneurship that may be more meaningful to them.

Conclusion

Individuals' decisions to start new enterprises focused on social over economic value creation are still not fully understood. Studies examining "who" is likely to become a social rather than

a commercial entrepreneur typically emphasize stable individual differences. Proposing a constraint-based individual perspective that draws on situational strength theory and the life course perspective, we offer a complimentary age- and time-sensitive perspective on social value creation to determine “which” entrepreneurs choose to prioritize social value over economic value creation (according to gender and education categories), and “when” they do so. We highlight that age can impact time-based and financial constraints and, consequently, the choice to start an enterprise that pursues social value creation. Furthermore, by taking an intersectionality viewpoint, the constraint-based individual perspective establishes gender and education as important boundary conditions, intersecting with age to create unique resource constraints over an adult’s lifespan.

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Table 1
Descriptive Statistics of Individual-Level Variables

	Mean	SD	VIF	1.	2.	3.	4.	5.
1. Social value creation (0–100)	37.62	30.33						
2. Age (18–64)	38.34	11.40	1.02	0.10**				
3. Female (0 = male; 1 = female)	0.42	0.50	1.00	0.05**	-0.00			
4. Secondary education (0/1)	0.68	0.47	1.04	0.19**	0.04**	-0.05**		
5. Household size (1–5)	3.48	1.27	1.06	-0.12**	-0.15**	0.01	-0.18**	
6. Business angel (0/1)	0.09	0.28	1.00	0.01	-0.01	-0.05**	-0.00	0.01

Notes: ** p -value < 0.01 (two-tailed); based on 5,251 observations (new business owners); Pearson correlations have been calculated; VIF = variation inflation factor; S.D. = standard deviation; the original age variable has been used in this table; in the remaining analyses, the minimum value (18) is subtracted from age for interpretation purposes. Household size has been added before subtracting the grand mean.

Table 2
Correlation Table of Country-Level Variables

	VIF	1.	2.	3.	4.
1. Social value creation ^a	-				
2. GDP per capita	2.55	0.47**			
3. Government size	2.29	0.52**	0.73**		
4. Postmaterialism	1.54	0.47**	0.53**	0.38*	
5. Rule of law	1.51	0.50**	0.47**	0.50**	0.47**

Notes: * p -value < 0.05; ** p -value < 0.01 (two-tailed); based on 44 observations (countries); variables have been standardized (except for social value creation); VIF = variation inflation factor; Pearson correlations have been calculated; ^a aggregated to the country level by calculating average social value creation in each country.

Table 3

Results of Multilevel Linear Regressions on Social Value Creation of new Entrepreneurs (H1)

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Intercept	38.51**	2.27	37.84**	2.62	38.09**	2.24
<i>Fixed part: Individual level</i>						
Age			-0.42**	0.12	-0.43**	0.12
Age squared			0.010**	0.0027	0.010**	0.0027
Female			3.22**	0.75	3.20**	0.75
Secondary education			2.90**	0.94	2.73**	0.94
<i>Individual controls:</i>						
Household size			-0.012	0.31	0.040	0.31
Business angel			2.00	1.31	2.01	1.31
<i>Fixed part: Country-level controls</i>						
GDP per capita					-0.38	2.86
Government size					4.80#	2.70
Postmaterialism					3.79#	2.20
Rule of law					3.26	2.19
Random part						
σ_{ε}^2	698.98		693.62		693.62	
σ_{u0}^2	216.22		204.19		122.71	
Diagnostics						
Deviance	49,437		49,395		49,374	
R^2 individual level (vs. M1)			0.0077		0.0077	
R^2 country level (vs. M1)			0.056		0.43	

Notes: #p-value < 0.10; *p-value < 0.05; **p-value < 0.01 (two-tailed); based on 5,251 observations in 44 countries; SE= standard error.

Table 4

Results of Multilevel Linear Regressions on Social Value Creation of New Entrepreneurs, including Interactions to test H2, H3, and H4

	Model 1		Model 2		Model 3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Intercept	36.47**	2.44	34.98**	2.64	35.84**	3.13
<i>Fixed part: individual level</i>						
Age	-0.23	0.16	-0.044	0.20	0.0035	0.27
Age squared	0.0061 [#]	0.0035	0.0019	0.0044	0.0019	0.0060
Female	7.01**	2.39	3.24**	0.75	1.13	3.67
Secondary education	2.77**	0.94	7.87**	2.51	3.55	3.27
<i>Individual controls:</i>						
Household size	0.070	0.31	0.055	0.31	0.069	0.31
Business angel	2.01	1.31	2.06	1.31	2.05	1.30
Fixed part: Interaction testing Hypotheses H2, H3, and H4						
Age × Female	-0.47 [#]	0.24			-0.083	0.39
Age squared × Female	0.010 [#]	0.0053			-0.00042	0.0087
Age × Secondary education			-0.62*	0.25	-0.32	0.33
Age squared × Secondary			0.014*	0.0055	0.0057	0.0073
Age × Female × Secondary					-0.83 [#]	0.50
Age squared × Female × Sec.					0.022*	0.011
Fixed part: Country-level controls						
GDP per capita	-0.34	2.86	-0.35	2.85	-0.23	2.85
Government size	4.79 [#]	2.71	4.81 [#]	2.70	4.67 [#]	2.70
Postmaterialism	3.77 [#]	2.20	3.77 [#]	2.20	3.77 [#]	2.19
Rule of law	3.24	2.19	3.27	2.18	3.26	2.18
Random part						
σ_{ε}^2		693.11		692.82		689.54
σ_{u0}^2		122.92		122.19		121.83
Diagnostics						
Deviance		49,370		49,638		49,343
R^2 individual level (vs. M1 Table 3)		0.0084		0.0088		0.014
R^2 country level (vs. M1 Table 3)		0.43		0.43		0.43

Notes: [#] p -value < 0.10; * p -value < 0.05; ** p -value < 0.01 (two-tailed); based on 5,251 observations in 44 countries; the interaction term Male × Secondary education has also been included in Model 3.

Figure 1

Age and Social Value Creation: A constraints-based individual perspective

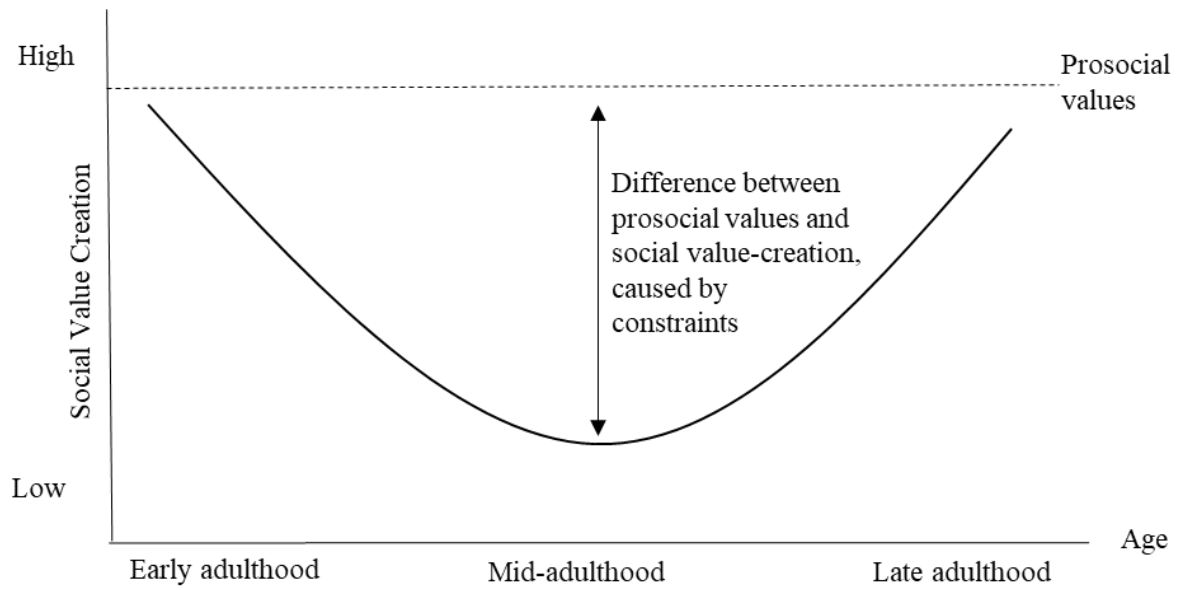


Figure 2

A Conceptual Model for the Constraints-Based Individual Perspective

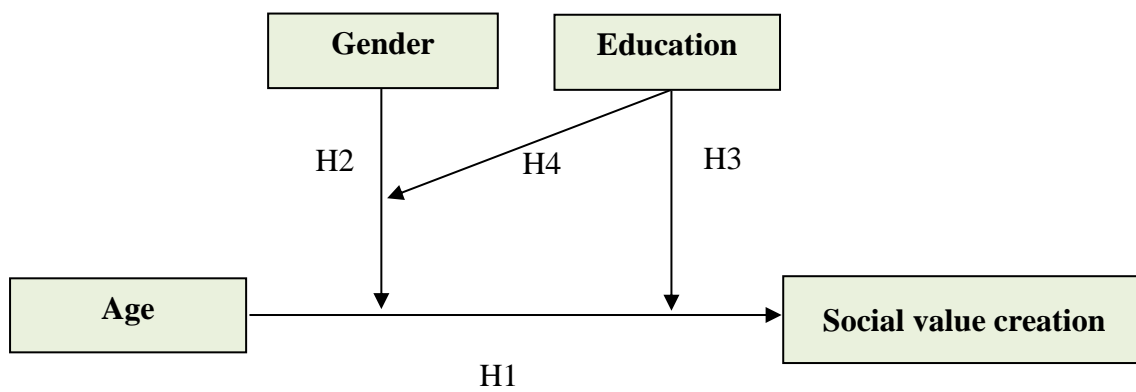


Figure 3
 Relationship between Age and Social Value Creation for New Entrepreneurs (H1)

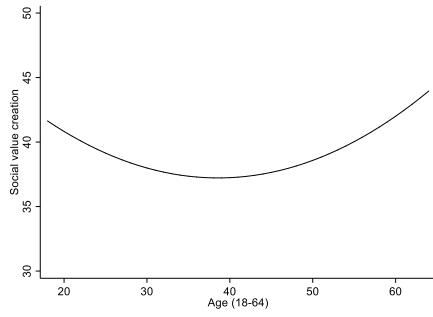


Figure 4
 Relationship between Age and Social Value Creation for New Entrepreneurs (Women vs. Men) (H2)

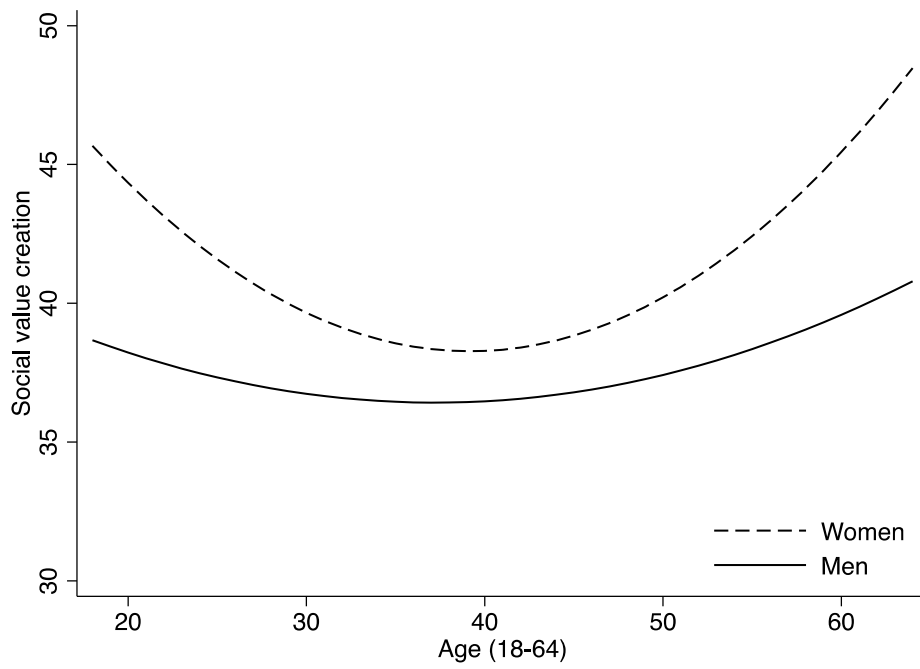


Figure 5
 Relationship between Age and Social Value Creation for Different Levels of Education for New Entrepreneurs (H3)

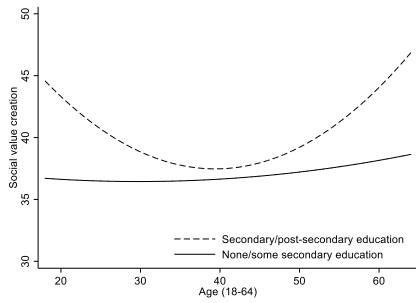


Figure 6
 Relationship between Age and Social Value Creation for Different Levels of Education for New Entrepreneurs (men vs. Women) (H4)

