

Founders' gender, human capital, and new venture performance

Sara Sherbondy
Sacred Heart University
sherbondys@sacredheart.edu

Steven Smith
Florida Atlantic University
ssmit318@fau.edu

Christopher J. Boudreaux¹
Florida Atlantic University
cboudreaux@fau.edu

Rene Bordas
Florida Atlantic University
rbordas2017@fau.edu

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Abstract. Human capital is a critical resource for new ventures, but the differential effects of general and specific human capital, as well as the moderating role of founder gender, warrant further investigation. Drawing on human capital theory and the resource-based view of the firm, we examine how general human capital (GHC) and specific human capital (SHC) influence new venture performance and whether these effects differ for male and female founders. Using longitudinal data from the Growing America Through Entrepreneurship (GATE) study, we find that GHC has a stronger positive association with venture continuation and growth than SHC. Moreover, the benefits of GHC are greater for ventures founded by men than by women. These findings underscore the importance of considering both the nature of human capital and the gender context in understanding entrepreneurial performance. They suggest that a broad skill set is a valuable resource for navigating the challenges of new venturing but that women face additional barriers to leveraging their human capital. The study contributes to human capital theory, the resource-based view, and gendered perspectives on entrepreneurship. It offers implications for entrepreneurial training and support programs and highlights the need for initiatives that address gender-specific obstacles in entrepreneurship.

Keywords: General Human Capital; Specific Human Capital; Gender; Entrepreneurship; New Venture Performance

¹ Corresponding author.

INTRODUCTION

Human capital, described as the knowledge, skills, and abilities acquired through education and experience (Becker, 1964), has long been recognized as a critical driver of entrepreneurial success and new venture performance (Marvel et al., 2016; Unger et al., 2011). A substantial body of research has established that founders with greater human capital are more likely to identify and exploit opportunities, mobilize resources, and achieve growth and profitability (Bates, 1990; Colombo & Grilli, 2005; Davidsson & Honig, 2003). It is also well-established that human capital matters for entrepreneurship and the performance of new ventures (Boudreaux & Nikolaev, 2019; Estrin et al., 2016; Marvel et al., 2016; Rauch & Rijsdijk, 2013) and helps founders improve the performance of their new ventures (Dolinsky et al., 1993; Unger et al., 2011). However, while the overall positive association between human capital and entrepreneurial outcomes is well-documented, less is known about the nuances of this association, such as the differential effects of general versus specific forms of human capital, or the potential moderating role of founder characteristics like gender (Marvel et al., 2016).

A closer examination of the literature reveals some mixed findings and limitations. The results in the literature have been mixed due to differences in the ways studies are conducted, the measurement of outcomes, and even the measurement of human capital. Some studies have found strong positive effects of human capital on new venture performance (Nielsen, 2015; Van Der Sluis et al., 2008), while others have found limited or no effects (Oosterbeek et al., 2010; Rideout & Gray, 2013). Still others suggest that the effects may depend on the type of human capital or the specific outcome measured (Elert et al., 2015; Rauch & Rijsdijk, 2013). These discrepancies point to the need for a more nuanced investigation that distinguishes between different forms of human capital and considers potential moderators. In particular, Lazear's (2004) "Jack-of-all-trades"

theory suggests that general human capital—broad knowledge and skills that are transferable across domains (Becker, 1964)—may be especially beneficial for entrepreneurs, who often need to perform a wide variety of roles and tasks. In contrast, specific human capital—narrow, domain-specific expertise—may be more critical for entrepreneurial performance (Becker, 1964; Davidsson & Honig, 2003).

Another important factor that may shape the human capital-performance association is a founder's gender (Bates, 1995; Honig, 1998; Jiao et al., 2021). Although a growing body of research has examined gender differences in entrepreneurial human capital and outcomes (Brush et al., 2017; Kalnins & Williams, 2014), few studies have directly tested gender's moderating role (Jiao et al., 2021; Yang et al., 2021). This is a notable gap, as liberal and social feminist theories suggest reasons why the effects of human capital may differ for male and female entrepreneurs. Liberal feminist theory (Fischer & Arnold, 1994; Fischer et al., 1993) posits that women face systemic barriers and discrimination in acquiring and leveraging human capital (Eddleston et al., 2006), which may attenuate its benefits for venture performance (Strawser et al., 2021). Social feminism emphasizes gender socialization and gendered norms that shape entrepreneurial motivations and behaviors (Balachandra et al., 2019; Jennings & Brush, 2013). For example, female entrepreneurs may prioritize goals beyond financial growth, such as flexibility and social impact (Hechavarría et al., 2017; Sullivan & Meek, 2012), such that human capital's effects on traditional performance metrics may differ from those observed for men.

The purpose of our study is to address these gaps by examining the differential effects of general and specific human capital on new venture performance and the moderating role of founder gender in the human capital-new venture performance association. We test our hypotheses using data from the GATE (Growing America Through Entrepreneurship) study, a large, longitudinal

dataset of nascent and active entrepreneurs in the United States (Bellotti et al., 2006). Project GATE was designed to serve individuals interested in starting or expanding a business, regardless of their employment status. The program was open to anyone 18 years or older who aimed to establish or grow a legal business and was legally permitted to work in the United States (Bellotti et al., 2006). No applicant was excluded based on their business idea or qualifications, provided they satisfied these basic eligibility requirements. The program also included self-employed individuals seeking to further develop their existing businesses. The GATE data provide rich measures of founders' human capital, gender, and other characteristics, as well as multiple indicators of new venture performance over time.

In this study, we focus on the lead founder of each venture, identified as the individual with the highest equity stake or decision-making authority (Shepherd et al., 2021). Our analysis centers on the human capital characteristics of these lead founders, examining how these factors influence the performance of their respective ventures. Our results suggest that general human capital has stronger positive effects on venture outcomes compared to specific human capital and that the benefits of human capital are more pronounced for male founders than for female founders. These findings make several contributions to human capital theory and research in entrepreneurship. They highlight the importance of distinguishing between different types of human capital and considering the role of contextual factors like gender, which can be an important aspect of the social and cultural context that shapes the acquisition, deployment, and outcomes of human capital in entrepreneurship. For policymakers and practitioners, the results suggest that a broad, "Jack-of-all-trades" approach to entrepreneurial training may be more effective than narrow specialization and that addressing gender-specific barriers is critical to realizing the full potential of women's entrepreneurial human capital.

We organize the remainder of the paper as follows. First, we provide a theoretical overview of human capital in entrepreneurship and develop our hypotheses. We then describe our methodology, including the GATE dataset and measures. Next, we present the results of our analyses testing the effects of general and specific human capital on venture performance and the moderating role of gender. Finally, we discuss the implications and limitations of our findings and offer directions for future research.

THEORY AND HYPOTHESES

Conceptual Background

Human capital has long been recognized as a critical resource for entrepreneurial success (Dolinsky et al., 1993; Marvel et al., 2016; Unger et al., 2011). According to human capital theory, investments in learning and skill development enhance individuals' cognitive abilities and productivity, enabling them to identify and exploit entrepreneurial opportunities more effectively (Becker, 1964; Mincer, 1974). Becker (1964) differentiates two categories of human capital: general human capital (GHC) and specific human capital (SHC). GHC refers to broad knowledge and skills that are applicable across various domains and contexts, such as education, general work experience, and managerial abilities (Marvel et al., 2016). In contrast, SHC encompasses narrow, domain-specific expertise and experience, such as industry knowledge, entrepreneurial experience, and technical skills (Rauch & Rijsdijk, 2013).

The resource-based view of the firm (RBV) provides a theoretical bridge connecting individual-level human capital to firm-level outcomes (Barney, 1991; Penrose, 1959; Wright et al., 2001). Under the RBV, firms are conceptualized as bundles of resources, and the nature and deployment of these resources determine a firm's competitive advantage and performance (Barney, 1991). Human capital, embodied in the knowledge, skills, and abilities of a venture's founders and

employees, represents a key strategic resource that can be leveraged to create value (Colombo & Grilli, 2005; Kor, 2003). As entrepreneurs are often the primary decision-makers and resource allocators in new ventures (Clough et al., 2019), their individual human capital can have a significant impact on firm-level strategies, capabilities, and outcomes. Thus, the RBV allows us to link founders' human capital investments and endowments to the performance of their ventures, providing a theoretical foundation for examining the entrepreneurial human capital-performance association.

Hypotheses Development

General Human Capital and New Venture Performance

Empirical studies have supported the positive association between GHC and entrepreneurial outcomes. For instance, Davidsson and Honig (2003) found that education and work experience were positively associated with new venture creation and progress. Similarly, a meta-analysis by Unger et al. (2011) found that measures of GHC, such as education and general work experience, encouraged greater entrepreneurial success. Nielsen (2015) found that general human capital factors were significantly and positively related with the continuation and growth of new ventures.

We contend that GHC is beneficial for entrepreneurs, as the process of launching a new venture requires a diverse set of skills and the ability to navigate complex, uncertain environments (Lazear, 2004; Van Der Sluis et al., 2008). Entrepreneurs with higher levels of education are more likely to possess enhanced cognitive abilities, critical thinking skills, and adaptability, which can aid in opportunity recognition, resource acquisition, and strategic decision-making (Davidsson & Honig, 2003; Nielsen, 2015; Unger et al., 2011).

However, formal education by itself is thought to be insufficient for superior new venture outcomes (Elert et al., 2015). This is because entrepreneurship is characterized by scarce resources, judgment, and uncertainty. Formal education cannot adequately prepare individuals for this reality (Garavan & O'Cinneide, 1994). As a result, successful entrepreneurship is often tied to former entrepreneurial experience and managerial experience (Dencker et al., 2009; Folta et al., 2010; Martin et al., 2013; Toft-Kehler et al., 2014). Therefore, general human capital that is comprised of both formal education and experience will help to encourage better new venture outcomes better than either aspect alone. Based on these arguments and evidence, we propose:

Hypothesis 1: GHC is positively related to new venture performance in terms of (a) new venture continuation and (b) new venture growth.

Specific Human Capital and New Venture Performance

Empirical research on the association between SHC and new venture performance has yielded mixed results. While some studies have found positive effects of industry experience and prior entrepreneurial experience on new venture outcomes (Delmar & Shane, 2006), others have reported non-significant or contingent associations (Dencker & Gruber, 2015; Rauch & Rijsdijk, 2013).

SHC, in the form of industry experience, entrepreneurial experience, and specific knowledge, can contribute to new venture performance by enabling entrepreneurs to identify and exploit opportunities within their domain of expertise (Dencker & Gruber, 2015). SHC is both industry- and entrepreneurial-specific (Colombo & Grilli, 2005; Furlan, 2019). Deep, specialized knowledge can provide insights into customer needs, competitive dynamics, and industry trends, facilitating the development of products and services for new ventures (Delmar & Shane, 2006). SHC helps founders successfully run their new venture because industry-specific experience

consists of knowledge about profitable niches and ways to increase productivity that can help an entrepreneur organize a business successfully (Furlan, 2019). Thus, we expect that SHC will be beneficial for new venture continuation.

However, although we expect SHC to benefit new venture continuation, we do not expect it to benefit new venture growth. Narrow specialization can potentially hinder entrepreneurs' ability to adapt to changing market conditions and technologies (Dencker & Gruber, 2015). SHC is also not easily transferable to other contexts (Shepherd & Wiklund, 2006), and the value of SHC can depend on the stability and attractiveness of the industry environment. Since opportunity costs are low for SHC, it is not associated with firm growth (Rauch & Rijsdijk, 2013). Considering these arguments and evidence, we propose:

Hypothesis 2: SHC is positively related to new venture performance in terms of (a) new venture continuation but (b) not to new venture growth.

The Direct Effect of Founder Gender

Despite the overall positive effects of human capital on entrepreneurial performance, these effects differ for male and female entrepreneurs. Liberal feminist theory posits that women face systemic barriers and discrimination in acquiring and leveraging human capital resources (Fischer et al., 1993). Women entrepreneurs may have unequal access to education, networks, and funding, limiting their ability to develop and utilize their human capital (Marlow & Patton, 2005). Moreover, gendered stereotypes and biases can lead to the undervaluation and under recognition of women's skills and expertise (Eddleston et al., 2016).

Social feminist theory further suggests that gender socialization and gendered norms shape entrepreneurial motivations and behaviors (Jennings & Brush, 2013). Female entrepreneurs may prioritize non-economic goals, such as flexibility and work-life balance, over financial growth

(Eddleston & Powell, 2008). They may also exhibit lower entrepreneurial self-efficacy and risk tolerance compared to male entrepreneurs, influencing their strategic choices and resource allocations (Brush et al., 2017). Studies have found that female entrepreneurs had lower levels of managerial experience and were less likely to have business education compared to male entrepreneurs (Junquera, 2011). Others have found that women-owned ventures had lower levels of human capital and derived fewer benefits from human capital investments (Brush et al., 2017). Based on these theoretical arguments and empirical evidence, we propose:

Hypothesis 3: Women have lower rates of new venture performance in terms of (a) continuation and (b) growth.

The Moderating Role of Gender

Prior studies have also explored the moderating role of gender in the association between human capital and new venture performance (Dai et al., 2019; Jiao et al., 2021; Manolova et al., 2007; Yang et al., 2021). While some studies have found evidence of gender differences in the effects of human capital on venture outcomes (Dai et al., 2019), others have reported non-significant or inconsistent results (Jiao et al., 2021). These mixed findings suggest a need for further investigation into how the associations between GHC, SHC, and new venture performance may be contingent on founder gender.

In this section, we discuss the moderating role of gender for the associations between GHC, SHC, and new venture performance. Drawing on liberal and social feminist theories, we contend that gendered barriers and constraints may limit the ability of female entrepreneurs to fully leverage their human capital for venture success. Moreover, women-owned ventures derive fewer benefits from such human capital investments (Brush et al., 2017). As a result, we expect the positive associations between GHC, SHC, and new venture performance to be *weaker* for female

founders compared to male founders. Specifically, we hypothesize that female-led ventures will be more likely to discontinue operations within a five-year period and experience lower growth rates than male-led ventures, even at similar levels of founder human capital. We propose:

Hypothesis 4: The positive associations between (a) GHC and new venture continuation, (b) GHC and new venture growth, (c) SHC and new venture continuation, and (d) SHC and new venture growth are weaker for female founders than for male founders.

In summary, our study contributes to human capital theory, the resource-based view, and feminist perspectives on entrepreneurship by examining the differential effects of GHC and SHC on new venture performance and the moderating role of founder gender. We contend that while both GHC and SHC are valuable resources for new ventures, their benefits may be diminished for female entrepreneurs due to gendered barriers and constraints. By integrating insights from these theoretical lenses, we advance the understanding of the complex associations among human capital, gender, and entrepreneurial outcomes. Figure 1 reports the conceptual model that summarizes these proposed associations.

 Insert Figure 1 about here.

METHODS AND DATA

Sample and Data

To test our hypotheses, we used data from Project GATE (Growing America Through Entrepreneurship). GATE is a random-assignment demonstration project sponsored and administered by the U.S. Department of Labor. In that project, a survey was designed to evaluate the impact of offering tuition-free entrepreneurship training services on various outcomes. The survey was administered in three states (Maine, Minnesota, and Pennsylvania) and participants

were randomly assigned to training or control groups from September 2003 through July 2005. Those assigned to the training group were provided with specialized classroom training and one-on-one technical assistance services by business counselors. The classroom training covered basic business principles necessary to grow a small business, such as writing a business plan (Bellotti et al., 2006). The personalized technical training focused on specific needs and issues related to the participant's business. Those assigned to the control group did not receive training or technical assistance services. Project GATE collected longitudinal data for 4,197 entrepreneurs over a 5-year period. From the initial survey in September 2003, follow up surveys took place at 6, 18, and 60 months. However, due to missing data, our analysis is for 4,193 participants.

The GATE project was sponsored by the U.S. Department of Labor and conducted through IMPAQ International. The GATE dataset was used because of the longitudinal design of the experiment and the random assignment of all participants. Using a double data entry system, two staff members entered the participants' data independently into a central database. Data validation checks were implemented in the database user interface and embedded in the database to maximize data validity. The response rates were 82 percent for wave 1, 72 percent for wave 2, and 58 percent for wave 3.²

Dependent Variables

New venture continuation

New venture continuation is measured in this study as a business that operated throughout the first five years (60 months) since its inception. It is a dichotomous variable coded as 1 if the business was still operating at 60 months, and 0 if the business had ceased to exist (Coad et al., 2016). New venture continuation represents the survival of business, based on whether the

² Project Gate Public Use Dataset, Application Form and Survey Waves 1, 2, and 3 December 2009, <https://www.dol.gov/agencies/eta/reports/project-gate-dataset>.

participant responded to wave 3. The individual business owners can be linked through the 60 months survey period using an anonymous unique participant identifier (gateid).

Sales growth

Growth has been measured in various ways such as growth in sales, employment, and profits (Liao, 2004; Rauch & Rijsdijk, 2013). A recent meta-analysis found sales-related growth measures were used in 54 percent of 316 independent studies of new venture growth (Pugliese et al., 2022). We also use sales growth as our growth measure operating as the second new venture outcome variable. It measures how revenues of a new venture change over time. This indicates whether customers are increasingly or decreasingly accepting a firm's products or services (Gilbert et al., 2006; Sarma & Marszalek, 2020). Sales growth is one of the most common performance measures in studies that examine financial performance (Jin et al., 2017), and for firms that sell products or services, sales growth has been accepted as the most relevant measure of new firm performance (Nason et al., 2019). Entrepreneurship scholars have encouraged the use of sales growth as the most effective performance measure for new ventures because it can be applied across industries and countries and because entrepreneurs also prefer the measure (Sarma & Marszalek, 2020).

Following prior longitudinal studies (Castrogiovanni & Macy, 1990; Macy & Peterson, 1983), we compute sales growth by regressing sales at 60 months on sales at 6 months. That is, sales at 60 months is the dependent variable and sales at 6 months is an independent variable in the empirical model for testing the growth hypothesis. In this approach, regression analysis takes the 60-month measure of sales and adjusts for the effects of the prior 6-month measure for sales, offering a precise estimate of the effects of the independent variables on sales growth within the 6–60-month time frame; in other words, the variance left in 60-month sales, after controlling for

6-month sales, is due to growth in sales between those two points in time, which could be positive or negative.

Independent Variables

General human capital

Education, work experience, and managerial experience are proxies of general human capital (Rauch & Rijsdijk, 2013; Unger et al., 2011). These measures are consistent with the definition of general human capital as factors not related to a specific job (G. S. Becker, 1964). Education is measured on a six-point, ordinal scale based on the highest level of education achieved: (1) no high school diploma, (2) high school diploma, (3) some college, (4) associate degree, (5) bachelor's degree, and (6) post-graduate degree. Work experience is a continuous variable measured in years. Managerial experience is a binary variable that equals 1 if the respondent has managerial experience, and 0 if not. We compute an additive index for general human capital using the methodology employed by Rauch and Rijsdijk (2013). The index is computed by adding the z-scores of the variables and dividing the values by the number of variables. For general human capital, the three variables included in the index are education, work experience and managerial experience.

Specific human capital

Indicators for specific human capital used in this study are self-employment experience, having self-employed relatives(s) or friends(s), having worked for a business owned by relatives or friends, having operated a similar business in the past, whether the new business builds on knowledge from a previous job, and if the new business builds on a hobby. These factors are specific to a particular job, profession, domain, or industry. All specific human capital measures are binary variables. We compute an index for specific human capital by adding the z-standardized

scores and dividing the values by the number of items. The indexes for general human capital and specific human capital are independent, meaning that a change in one does not imply a change in another (Becker & Huselid, 1998; Rauch & Rijsdijk, 2013).

Gender

Gender is a binary variable coded as zero for men and one for women³. For firms with multiple owners, the primary owner is determined by the largest equity share in the business.

Control Variables

We also control for several variables that have been shown to influence new venture outcomes. We include the founder's age because entrepreneurs tend to be more successful as their careers grow (Azoulay et al., 2020; Lévesque & Minniti, 2006, 2011). Because studies have shown that Black and Hispanic entrepreneurs have different performance compared to White entrepreneurs (Fairlie et al., 2022; Fairlie, 1999; Fairlie & Robb, 2007), we control for a founder's race. In addition, studies have linked immigration to entrepreneurship (Kerr & Kerr, 2020; Levie, 2007; Mickiewicz et al., 2019). As a result, we control for the founder's citizenship, nationality, and primary language. We control for women's marital status and the number of children because they have been shown to be important antecedents of both labor market decisions (Heckman, 1974; Semykina, 2018) and self-employment choices (Boden, 1996, 1999; Connelly, 1992; Edwards & Field-Hendrey, 2002; Wellington, 2006). We control for a founder's disability, which is correlated with self-employment outcomes (Bailey, 2017). We also include an indicator for whether participants in the Project GATE study were part of the training group (Fairlie et al., 2015). Participants were not required to start a business before, during, or after the training, but they had to have a legal business idea. We include a variable for firm size, measured as total sales revenue

³ We acknowledge that some identify as non-binary as their gender. However, the GATE survey did not allow for respondents to select this option.

at the 6-month data collection phase. Early sales show start-up traction in the market, which influences the likelihood of the business continuing in the long run (Blank, 2020; Ries, 2011). We also include an indicator for the firm's industry. Prior studies have controlled for industry because it can lead to systematic differences in the performance of male-owned versus female-owned ventures (Dai et al., 2019; Jin et al., 2017; Robb & Watson, 2012; Yang et al., 2021). Women entrepreneurs tend to start businesses in service industries, where growth rates, employment rates, return on investment, and revenue are lower than in capital-intensive, high-growth male-dominated industries such as manufacturing, construction, and high technology (Anna et al., 2000; Robb & Watson, 2012). Additional factors, such as industry uncertainty and business risk in high-tech, high-growth industries versus low-tech, low-growth industries, have led to systematic differences in new venture performance (Unger et al., 2011). Therefore, it is essential to control for industry to account for industry-specific heterogeneity in gender-based performance comparisons at the firm level (Patel et al., 2020; Robb & Watson, 2012). Table 1 summarizes the variables and provides their descriptions.

 Insert Table 1 here.

We report the descriptive statistics and Pearson correlation matrix in Tables 2 and 3, respectively. We observe that 58.4 percent of firms continued until the fifth year of the study. The average Sales at 60 months for all firms in the study, including those that did not continue operations, is \$1,774.26. The GHC and SHC measures have a mean of approximately zero because the measures have been z-standardized. In our sample, 46.5 percent of respondents are female, 58.9 percent are White, 32.5 percent are Black, 5.6 percent are Hispanic, 4.6 percent are Asian, 2.8 percent are Native American, 0.2 percent are Hawaiian/Pacific islander, and 5.2 percent

identify as another race/ethnicity. Over 89.9 percent of respondents are citizens born in the U.S., 94 percent speak English at home, 43 percent are married, 46 percent have children, and 8.4 percent have a disability. Half of the sample received entrepreneurial training (49.9%). Lastly, most firms operate in the services industry (95.2%) and the rest (4.8%) operate by selling goods.

The correlation matrix in Table 3 reports a positive correlation between human capital and new venture continuation. However, the correlation is greater for GHC compared to SHC. We also observe a positive correlation between both types of human capital and sales growth at 60 months but not at 6 months.

Insert Tables 2 and 3 here.

Econometric Model

To test our hypotheses about the association between human capital and new venture continuation, we estimate logistic regression models. Consider the following latent variable model:

$$C_i^* = \alpha + \beta_1 HC_i + \beta_2 G_i + \beta_3 (HC_i \times G_i) + X' \delta + \varepsilon_i \quad (1)$$

where i indexes individual observations. HC , G , and X are the vectors of human capital (general and specific), gender, and controls, respectively. C_i^* is the latent propensity of the decision of whether the entrepreneur continues the firm or not, but C_i^* is unobserved. Rather, we observe C_i , which is a binary indicator of whether the firm continues or not. It equals one if $C_i^* > 0$ and zero if $C_i^* \leq 0$. Assuming $\varepsilon \sim N(0,1)$, the logit model is given by:

$$Prob(C_i = 1) = \ln\left(\frac{p}{1-p}\right) = \Phi(\alpha + \beta_1 HC_i + \beta_2 G_i + \beta_3 (HC_i \times G_i) + X' \delta + \varepsilon_i) \quad (2)$$

where Φ is the cumulative distribution function of the standard normal distribution.

In contrast to continuation, new venture sales growth is a continuous outcome. Thus, we

estimate a linear regression model using OLS. This model takes the following form:

$$NVG_i^* = \alpha + \beta_1 HC_i + \beta_2 G_i + \beta_3 (HC_i \times G_i) + X' \delta + \varepsilon_i \quad (3)$$

where i indexes individual observations. HC , G , and X are the vectors of human capital (general and specific), gender, and controls, respectively. NVG is the outcome for new venture growth. All other variables are the same as above.

Our econometric strategy is to use these regression models to estimate the association between human capital, gender, and new venture outcomes. Because human capital is correlated with other variables, we include a robust set of variables to control for these correlations. Therefore, our model relies on the assumption of conditional mean independence (Wooldridge, 2015) (i.e., conditional on controlling for other relevant variables in the model, we expect gender and human capital to be uncorrelated with the model's disturbance term). As a final note, we caution that our model's results should be interpreted as correlations and not causation.

RESULTS

New Venture Continuation

Table 4 reports the results of the logistic regression analysis for new venture continuation. Model 1 is the baseline model that only includes the control variables. Our results suggest founders who are older ($\beta = .03$, $p \leq .001$), speak English ($\beta = .51$, $p \leq .01$), married ($\beta = .16$, $p \leq .05$), and in the training group ($\beta = .24$, $p \leq .001$) all are more likely to continue the firm at 60 months. In contrast, founders who are Black ($\beta = -.52$, $p \leq .001$) or other races ($\beta = -.41$, $p \leq .01$) are less likely to continue the firm at 60 months. Model 2 augments the baseline model to include our focal independent variables GHC and SHC. GHC ($\beta = .25$, $p \leq .001$) and SHC ($\beta = .12$, $p \leq .05$) are associated with a greater likelihood the firm will be continued at 60 months. These provide evidence to support hypotheses 1a and 1b. However, we also find that women are *more* likely—

not less likely as we hypothesized—to have the firm continued at 60 months ($\beta = .21, p \leq .01$). This does not support hypothesis 3a.

To test the moderating role of gender, model 3 augments the prior model to include the two-way interactions between general human capital, specific human capital, and female. GHC ($\beta = .28, p \leq .001$) is associated with a greater likelihood of continuation at 60 months. SHC ($\beta = .09, p > .352$) has no significant effect on the likelihood of firm continuation. The likelihood of firm continuation is greater for woman ($\beta = .21, p \leq .01$) and for those in the training group. Age ($\beta = .27, p \leq .01$), U.S. Born ($\beta = .30, p \leq .05$), being married ($\beta = .17, p \leq .05$) and speaking English ($\beta = .20, p \leq .05$) are positively associated with firm continuation. On the contrary, founders who are Black ($\beta = -.49, p \leq .001$) and other races ($\beta = -.39, p \leq .01$) are less likely to continue at 60 months. The findings for the two-way interactions between GHC and female ($\beta = -.08, p > .430$) and SHC and female ($\beta = .08, p > .576$) are not significant, suggesting that gender does not moderate the association between GHC and continuation or SHC and continuation. These results do not support H4a and H4c.

Insert Table 4 here.

New Venture Growth

Table 5 presents the results of the linear regression for new venture sales growth. Model 1 is the baseline model that only includes control variables. We observe that marriage ($\beta = 941.51, p \leq .05$) and firm size at 6-Months are associated with greater sales growth ($\beta = .20, p \leq .001$). However, Black founders ($\beta = -1483.72, p \leq .001$) and the service industry ($\beta = -1973.38, p \leq .001$) are associated with lower sales growth. Model 2 augments the baseline model to presents the results of the focal independent variables. GHC ($\beta = 1014.66, p \leq .001$) and SHC ($\beta = 430.52, p >$

.10) are associated with greater sales growth but only general human capital is statistically significant. These findings support H1b and H2b. Women have lower sales growth than men ($\beta = -668.79, p \leq .05$). This finding supports H3b.

To test the moderating hypotheses, model 3 augments the prior model to include the two-way interactions. The interaction between GHC and female is negative and statistically significant ($\beta = -1191.70, p \leq .01$). Therefore, the positive association of GHC ($\beta = 1534.73, p \leq .001$) and negative interaction ($\beta = -1191.7, p \leq .001$) implies that GHC is associated with greater sales growth for men than women. This supports H4b. More specifically, a one-unit increase in GHC is associated with \$1,535 in sales for men but only \$343 ($1,535 - 1,192$) for women. We find a positive association of SHC ($\beta = 780.18, p > .10$) and a negative though statistically insignificant interaction ($\beta = -724.66, p > .10$). This fails to support H4d. Taken together, this implies a one-unit increase in SHC is associated with \$780 in sales for men but only \$55 ($\$780 - 725$) in sales for women.

Insert Table 5 here.

To gain a better understanding of these interaction effects, we plot the marginal effects from the regression models in Figures 2-5. Figure 2 reports the moderating effect of gender for the association between GHC and new venture continuation. Although there is a positive association between GHC and new venture continuation for everyone, the association is stronger for men than women. Stated differently, women have higher rates of new venture continuation than men, but this difference becomes smaller as GHC increases. However, we observe the opposite in Figure 3, which reports the moderating effect of gender for the association between SHC and new venture

continuation. Although women have higher rates of new venture continuation than men, the difference becomes larger as SHC increases.

Figures 4 and 5 report the same moderating effects, but they report the findings for new venture sales growth rather than continuation. The results in Figure 4 indicate that men and women do not have different rates of sales growth—at least at low levels of GHC. In contrast, men tend to have higher rates of new venture sales growth than women as GHC increases. As such, although we observe a positive association between GHC and new venture sales growth, the association is stronger for men than women. Figure 5 reports the moderating effect of gender for the association between SHC and new venture sales growth. Although we observe a positive association between SHC and new venture sales growth, the results indicate this association does not depend on the owner's gender.

 Insert Figures 2-5 about here.

DISCUSSION

Our study's objective was to examine the role of general and specific human capital on new venture performance. In addition, we explored the moderating effect of a founder's gender for this association. Our analysis of a sample of 4,193 entrepreneurs over 5 years revealed that human capital is beneficial to new venture continuation and growth. To summarize our findings: general human capital was associated with a greater likelihood of business continuation and enhanced new venture growth. However, although we found specific human capital helped new venture continuation, it did not help new venture growth. The findings for gender were mixed. We found that female founders are more likely to have their venture continued at 60 months, but they had less venture growth relative to male founders. Lastly, we found that a founder's gender

moderates the association between general human capital and new venture performance but not for specific human capital and new venture performance. Specifically, although general human capital encourages new venture continuation and growth, these results are stronger for men than women.

Contributions to and implications for the human capital and entrepreneurship literature

Our study contributes to the literature in several ways. First, our results suggest that the type of human capital matters for new venture performance. In contrast to the meta-analysis by Crook et al. (2011), we find that an entrepreneur's general human capital has a stronger association with new venture performance than specific human capital. One explanation for this difference is that their findings are based on employees' human capital rather than entrepreneurs'. Using the RBV and because factor markets for labor are more efficient for general human capital rather than specific human capital (Barney, 1986), the returns to general human capital become diminished as employee wages and salaries are bid until the costs equal the marginal returns to labor (Kor & Mahoney, 2004). As such, employees' general human capital is less beneficial for firm performance. This logic, however, does not apply for entrepreneurs' human capital. Therefore, our finding that entrepreneurs' general human capital is more beneficial for firm performance extends the literature on the RBV of the firm and types of employees' human capital to types of entrepreneurs' human capital.

Second, building on several studies (Cooper et al., 1994; Shepherd & Wiklund, 2006; Wiklund et al., 2009), we find support for the hypothesis that general human capital is more beneficial than specific human capital for new venture performance. Our results thus shed light on the nuance in human capital. That is, while we found general human capital to be important for new venture continuation and growth, our results indicate specific human capital was less

important. This suggests that specific knowledge and experience may only be important for specific tasks and activities, which is consistent with studies finding specific human capital is less important than predicted (Shepherd & Wiklund, 2006). As a result, studies have proposed that specific human capital may help entrepreneurs identify opportunities in specific industries or domains but may not help in managing a new business in its startup phase (Rauch & Rijsdijk, 2013).

Third, our finding that general human capital is more important than specific human capital contributes to the literature on whether entrepreneurs are generalists or specialists. Lazear (2004) has shown that entrepreneurs benefit from being “Jacks-of-all-trades” suggesting entrepreneurs are generalists and employees are specialists. Similarly, our study suggests a general approach to human capital can be beneficial for new venture performance. As a result, policymakers should refrain from disregarding a general educational curriculum in favor of a more tailored curriculum to entrepreneurship.

Fourth, future studies might consider examining the questions of *how* and *when* general and specific human capital encourages new venture performance. For the how question, studies could examine the mechanisms behind the human capital and new venture performance association. One potential mechanism is the role of socio-cognitive traits—opportunity recognition, fear of failure, and entrepreneurial self-efficacy (Boudreaux et al., 2019, 2023). Specifically, socio-cognitive traits *mediate* the association between human capital and new venture performance such that human capital helps align socio-cognitive traits toward an entrepreneurial focus. In turn, this will encourage greater entrepreneurship and new venture performance. In addition to this possibility, we encourage future research to consider other potential mechanisms.

Lastly, for the when question, studies should consider various boundary conditions that might help explain when general and specific human capital benefit new venture performance. Studies such as Estrin et al. (2013) and Boudreaux and Nikolaev (2019) have explored the role of institutions as boundary conditions. Thus, future research might consider whether general and specific human capital's effects on entrepreneurship depend on the underlying institutional environment. One possibility is that general human capital matters more in environments that require dispersed knowledge, and specific human capital matters more in more focused environments. These associations might also differ by sector.

Contributions to and implications for the gender and entrepreneurship literature

Our study also contributes to the growing literature on gender and entrepreneurship in a few ways. First, we predicted that women would have lower rates of new venture continuation and new venture growth. However, we found that women were *more* likely to continue their venture at 60 months, suggesting they have an increased likelihood that their new venture will remain in business. This suggests women focus more on continuation. On the other hand, we found women had lower new venture growth compared to men. This suggests that men focus more on growth. These results suggest a complex association between gender and different measures of new venture performance. However, these mixed findings are consistent with recent studies in the literature. Kanze et al. (2018) for example found that when questions were posed in different ways to male and female entrepreneurs, this led men to position their new ventures to “play to win” and women to “play not to lose”. Our findings are consistent with these results—playing not to lose implies that women focus on continuation, whereas playing to win implies men focus more on growth. Our results are also consistent with studies finding that women take fewer risks out of concern for how failure could hurt their family (Robb & Watson, 2012;

Watson & Robinson, 2003). Women also tend to be more risk averse, competition averse, and afraid of failure (Croson & Gneezy, 2009; Minniti, 2009). Men, in contrast, do not share the same concerns. As a result, women will often play it safer and focus on continuation rather than new venture growth. Future research could consider exploring these heterogeneous effects in more detail.

Second, by examining how human capital has different effects on new venture performance for men and women, our study contributes to a more nuanced perspective of human capital, gender, and new venture performance. We find that a founder's human capital—especially general human capital—helps new venture performance. However, the association is weaker for women. This finding complements studies on the related area of gender and financial capital that have found women face different obstacles to finance than men (Carter et al., 2007; Eddleston et al., 2016; Marlow & Patton, 2005; Verheul & Thurik, 2001). Future research might consider exploring why human capital is less beneficial for women. One possibility is that human capital does not explain why women have less new venture growth. Rather, if women prioritize new venture continuation rather than growth, then human capital improvements will be unlikely to alter the gender gap. Studies have found that the gender gap in new venture performance disappears after adjusting for risk differences (Robb & Watson, 2012). This suggests that different risk preferences explain gender differences in new venture growth.

Policy implications

In addition, our study also has important policy implications. Consistent with the “Jack-of-all-trades” theory (Lazear, 2004), our finding that general human capital helps more than specific human capital for new venture performance suggests that entrepreneurs should aspire to be generalists rather than specialists. Policymakers might consider enhancing a specific

entrepreneurship training curriculum with a broad general education curriculum. That is, it is important to develop a solid understanding of entrepreneurship skills, but policymakers should not neglect general education more broadly. Furthermore, our finding that human capital is more beneficial for men echoes recent studies on entrepreneurial training programs (Brixiová et al., 2020). From a policy perspective, this indicates it is insufficient to encourage prospective entrepreneurs to increase their human capital. This policy will be less likely to help women-founded ventures. Policymakers should consider exploring other potential barriers such as financing, networking, and gendered biases that continue to operate as obstacles, despite the human capital increases.

We found mixed results for the effect of entrepreneurship training programs and outcomes. Consistent with Fairlie et al. (2015) who analyzed the GATE experiment, we found no effects of entrepreneurship training on sales growth. However, our findings do suggest that firms that received training were more likely to continue operations at 60 months. Of course, there are many explanations for new venture continuation and not all are good. Thus, future research should consider how this entrepreneurship training program affected (or did not affect) new venture outcomes.

Limitations and suggested directions

Like any study, ours has limitations that require attention in future research. One limitation is that the sample for this study comes from Project GATE (Fairlie et al., 2015). Despite its appeal—it is a randomized experiment and longitudinal dataset with 4,197 respondents sponsored by the U.S. Department of Labor—the participants of the study were only from the states of Maine, Minnesota, and Pennsylvania. This is not necessarily a representative sample. As such, future studies should expand the geographical area to make findings more generalizable. Relatedly, our

findings are not generalizable to all entrepreneurs but only to the people under similar training programs.

Another limitation is that GATE relied on information provided by the key founder of the firm. If firms in the study had multiple founders and owners, we cannot tell the difference in human capital accumulation between them. Future research might consider examining whether such differences in human capital—i.e., human capital diversity—influences new venture performance. On the one hand, we might expect greater performance when all founders and owners have large amounts of human capital. On the other hand, this “homophily” might encourage rigid, uncreative, and unquestioned thinking among the group. In addition, greater diversity in the types of general and specific human capital might also be beneficial for founder and owner composition.

Lastly, we note that our findings do not imply causality between founders’ human capital and new venture performance. Although the GATE study did use randomization to help mitigate selection biases (i.e., founders were randomly selected into training), we cannot rule out all sources of endogeneity. Therefore, future studies might consider identification strategies like difference-in-differences, regression discontinuity, and natural experiments to better isolate causal associations between founders’ human capital, gender, and new venture performance.

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Table 1: Variables and Measures

Variable	Measure
<i>Dependent Variables</i>	
New Venture Continuation	1 if business is operating by wave 3 and 0 if business has ceased operations.
Sales Growth	Computed as the variance between Size at 60-months (the dependent variable) and Size at 6-months (a control variable) in the regression analysis testing the Growth hypothesis.
<i>Independent Variables</i>	
General Human Capital (GHC) Index	Computed by adding the z standardized items and dividing the values by three (3), based on the following human capital variables: education, work experience, and managerial experience.
Specific Human Capital (SHC) Index	Computed by adding the z standardized items and dividing the values by six (6), based on the following variables: self-employment, operated similar business in the past, current business builds on previous knowledge, previous jobs, current hobby, and self-employed relatives or friends.
<i>Moderator Variable</i>	
Gender - Female	1 if female, 0 otherwise
<i>Control Variables</i>	
Age	Age of the founder in years. It is measured as of the date of random assignment, derived from the date of birth.
Race	Measured with dummy variables indicating whether the person was: Black, Asian, American Indian / Alaskan Native, Native Hawaiian / Pacific Islander, Other Race,
Nationality - Foreign-Born	1 if born in a country other than the United States, 0 otherwise
Primary Language	1 if English, 0 otherwise
Marital Status	1 if married, 0 otherwise
Children	1 if yes, 0 otherwise
Disability Status	1 if yes, 0 otherwise
Training	1 if yes, 0 otherwise
Size	Measured as total sales at 6 months
Industry	NAICS codes are used to create Goods-Producing Industries and Service-Providing Industries dummy variables.

Table 2: Descriptive Statistics

Variable	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
New Venture Continue	.583	.493	0	1	1
Sales growth	1774	11504	0	0	0
GHC	-3.67e-09	.729	-.520	.003	.540
SHC	-3.86e-09	.500	-.380	-.015	.342
Female	.4646176	.499	0	0	1
Age	42.43	10.21	35	43	50
White	.589	.492	0	1	1
Black	.325	.469	0	0	1
Hispanic	.056	.231	0	0	1
Asian	.046	.209	0	0	1
Native American	.028	.165	0	0	1
Hawaiian/Pacific Is.	.002	.049	0	0	1
Other Race	.052	.223	0	0	1
U.S. Born	.899	.301	0	1	1
English	.941	.236	0	1	1
Married	.431	.500	0	0	1
Children	.463	.499	0	0	1
Disability	.084	.278	0	0	0
Treatment Group	.499	.500	0	0	1
Size 6-Months	1616	18589	0	0	0
Goods Industry	.048	.214	0	0	1
Services Industry	.952	.214	1	1	1

Notes: N=4,197.

Table 3: Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) Continue	1																						
(2) GHC	0.151*	1																					
(3) SHC	0.051*	0.207*	1																				
(4) Female	0.028	-0.045*	-0.076*	1																			
(5) Age	0.186*	0.276*	0.036*	-0.023	1																		
(6) White	0.186*	0.177*	0.062*	-0.092*	0.198*	1																	
(7) Black	-0.132*	-0.134*	-0.064*	0.113*	-0.145*	-0.815*	1																
(8) Hispanic	0.010	-0.016	0.009	0.006	-0.051*	0.036*	0.020	1															
(9) Asian	-0.093*	-0.097*	-0.031*	-0.012	-0.129*	-0.230*	-0.147*	-0.044*	1														
(10) Hawaiian/Pacific	0.021	0.009	-0.008	0.013	0.008	-0.049*	-0.023	-0.012	0.059*	1													
(11) Native American	-0.018	0.008	0.054*	0.042*	0.000	-0.047*	0.021	0.034*	-0.023	-0.008	1												
(12) Other Race	-0.046*	-0.033*	0.047*	-0.022	-0.043*	-0.212*	-0.106*	-0.007	0.025	-0.011	0.025	1											
(13) US Born	0.099*	0.022	0.006	0.052*	0.066*	0.224*	0.023	-0.031*	-0.544*	-0.049*	0.057*	-0.085*	1										
(14) English	0.106*	0.076*	0.022	0.041*	0.093*	0.189*	0.103*	-0.053*	-0.617*	0.012	0.036*	-0.082*	0.651*	1									
(15) Married	0.062*	0.110*	0.012	-0.164*	0.125*	0.165*	-0.216*	-0.029	0.104*	-0.003	-0.036*	-0.012	-0.121*	-0.109*	1								
(16) Children	-0.070*	-0.096*	-0.002	0.038*	-0.202*	-0.155*	0.129*	0.011	0.087*	-0.006	-0.021	-0.002	-0.100*	-0.098*	0.250*	1							
(17) Disability	0.006	-0.049*	0.018	0.022	0.075*	0.028	-0.022	0.030	-0.009	0.003	0.094*	0.025	0.047*	0.040*	-0.063*	-0.058*	1						
(18) Treatment	0.050*	-0.032*	-0.013	0.015	-0.034*	0.005	0.004	0.024	0.003	0.000	0.005	-0.008	0.003	0.010	-0.010	0.007	0.008	1					
(19) Goods Industry	-0.007	0.029	-0.177*	0.114*	-0.045*	-0.070*	0.071*	0.016	0.028	-0.012	-0.002	-0.002	-0.027	-0.033*	0.009	0.035*	-0.028	-0.009	1				
(20) Size (6 months)	0.013	0.007	0.022	-0.044*	0.015	0.018	-0.014	0.014	-0.011	-0.004	-0.010	-0.002	0.017	0.010	0.046*	0.014	-0.019	-0.026	-0.019	1			
(21) Size (60 months)	0.130*	0.082*	0.050*	-0.061*	0.029	0.079*	-0.073*	0.013	-0.017	-0.006	-0.013	-0.005	0.027	0.029	0.066*	0.000	-0.036*	-0.012	-0.047*	0.332*	1		
(22) GHC x Female	0.092*	0.657*	0.161*	-0.036*	0.159*	0.135*	-0.107*	-0.018	-0.075*	0.027	0.024	-0.020	0.026	0.066*	0.020	-0.124*	-0.026	-0.029	-0.029	0.010	0.027	1	
(23) SHC x Female	0.039*	0.157*	0.677*	-0.060*	0.005	0.071*	-0.068*	0.017	-0.029	0.002	0.055*	0.046*	-0.002	0.015	-0.004	0.001	0.000	-0.016	-0.073*	0.012	0.017	0.237*	1

Notes: *** p<0.01, ** p<0.05, * p<0.1

Table 4: Logistic Regression for New Venture Continuation

	Model 1		Model 2		Model 3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Control Variables</i>						
Age	0.0315***	0.0034	0.0272***	0.0035	0.0271***	0.0034
Black	-0.5221***	0.0731	-0.4948***	0.074	-0.4946***	0.0741
Hispanic	0.2204	0.143	0.2154	0.1433	0.2136	0.1433
Asian	-0.3648	0.2076	-0.3052	0.2086	-0.3038	0.2086
Hawaiian/Pacific Islander	1.035	0.8032	1.0082	0.8055	1.018	0.8058
Native American/Alaskan	-0.2446	0.1944	-0.3108	0.1954	-0.3038	0.2086
Other Race	-0.4062**	0.1453	-0.3862**	0.1463	-0.3880**	0.1463
US Born	0.2596	0.146	0.2975*	0.147	0.2989*	0.147
English	0.5147**	0.1993	0.4533*	0.2001	0.4544*	0.2001
Married	0.1633*	0.0719	0.1718*	0.0734	0.1707*	0.0735
Children	-0.1042	0.0701	-0.1062	0.0709	-0.1105	0.0711
Disability	-0.0773	0.118	-0.0325	0.119	-0.0315	0.119
Training	0.2364***	0.065	0.2453***	0.0654	0.2449***	0.0654
Service Industries	0.1318	0.1516	0.0814	0.1564	0.0683	0.1574
Sales at 6 Months	0	0	0	0	0	0
Constant	-1.7580***	0.2882	-1.6195***	0.2932	-1.6035***	0.2938
<i>Independent Variables</i>						
General Human Capital			0.2542***	0.049	0.2843***	0.0639
Specific Human Capital			0.1184*	0.068	0.0851	0.0914
<i>Moderator & Independent Variable</i>						
Female			0.2144**	0.0676	0.2128**	0.0677
<i>Two-Way Interactions</i>						
General human capital x Female					-0.0753	0.0953
Specific human capital x Female					0.0753	0.1346
Number of Observations	4,193		4,193		4,193	
LR chi2(24)	293.71		327.9		328.69	
Prob > chi2	***		***		***	
Pseudo-R2	0.0498		0.0576		0.0577	
Log-Likelihood	-2705.63		-2683.54		-2683.15	

Notes: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (two-tailed test). The logit regression is estimated with continuation as the dependent variable. Reference groups are White, English not primary language, not married, no children, service industries, and non-treatment group.

Table 5: Regression Results for Sales Growth

	Model 1		Model 2		Model 3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>Control Variables</i>						
Age	8.35	17.36	-8.08	17.79	-10.65	17.8
Black	-1484***	384	-1249***	386	-1299***	386
Hispanic	741.84	730.56	739.05	728.63	724.59	728.14
Asian	-23.993	1072.6	400.14	1072.99	350.94	1072.4
Hawaiian/Pacific Islander	-1538.73	3443.71	-1481.95	3435.05	-1205.28	3433.51
Native American/Alaskan	-443.64	1021.57	-533.24	1021.01	-446.32	1020.69
Other Race	-294.66	762.06	-249.58	761.32	-249.94	760.75
US Born	259.53	763.79	522.26	763.54	496.67	763.04
English	1527.72	1035.54	1333.88	1033.54	1356.7	1033.12
Married	941.51*	369.06	717.3	373.57	660.41	373.75
Children	-67.13	362.95	53.7	363.6	-0.4515	364.16
Disability	-1297.94	608.33	-1112.68	608.32	-1120.67	607.89
Training	-75.63	334.48	-29.21	333.7	-43.28	333.46
Service Industries	-1973.38*	783.64	-1798.11*	800.57	-1852.61*	803.57
Sales at 6 Months	0.2026***	0.009	0.2018***	0.1	0.2020***	0.009
Constant	1547.18	1480.35	2242.33	1498.07	2450.66	1500.01
<i>Independent Variables</i>						
General Human Capital			1014.66***	247.98	1534.73***	321.55
Specific Human Capital			430.52	348.4	780.18	468.83
<i>Moderator & Independent Variable</i>						
Female			-668.79*	344.23	-681.88*	344.01
<i>Two-Way Interactions</i>						
General human capital x Female					-1191.70**	476.67
Specific human capital x Female					-724.66	688.68
Number of Observations	4,193		4,193		4,193	
R2	0.1204		0.1258		0.1277	
Adjusted R2	0.1172		0.122		0.1235	

Notes: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$ (two-tailed test). The linear regression is estimated with Sales at 60 Months as the dependent variable. Reference groups are White, English not primary language, not married, no children, non-service industries, and non-treatment group.

Figure 1. Human Capital and Gender Effects on New Venture Performance

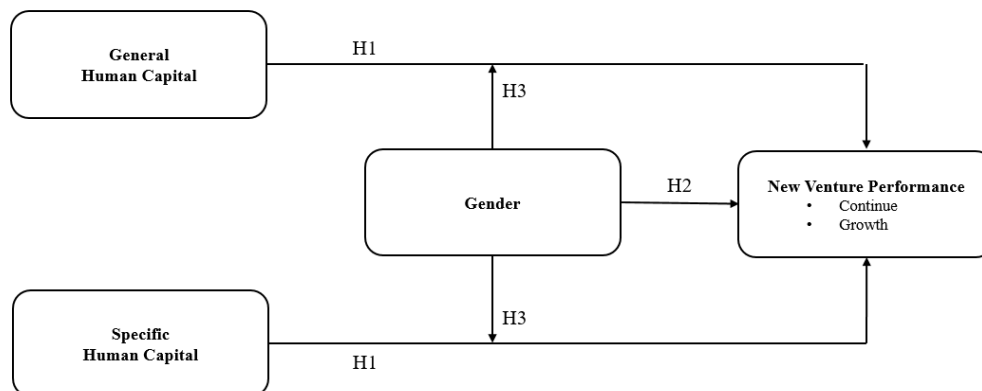


Figure 2. The Moderating Effect of Gender on the Association between General Human Capital and Continuation

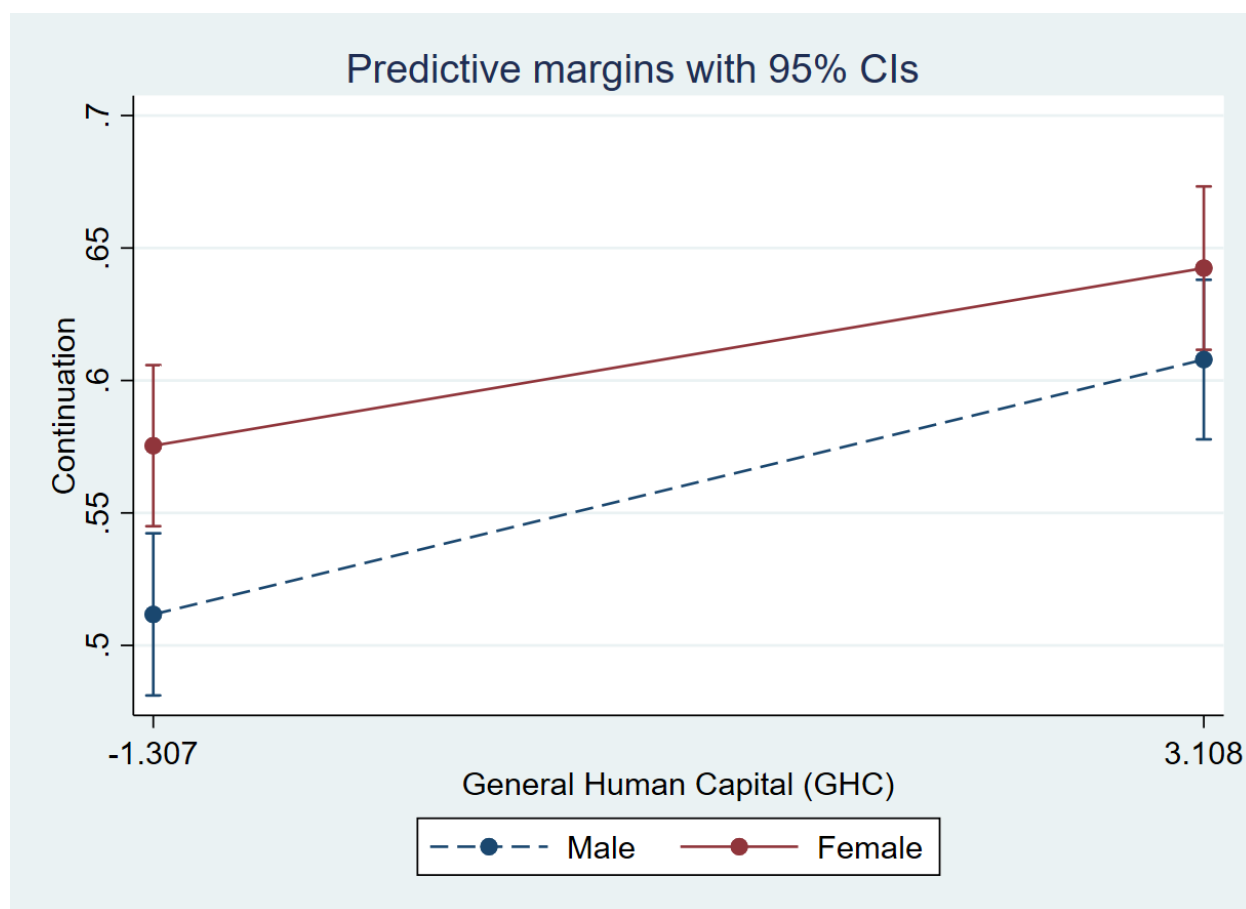


Figure 3. The Moderating Effect of Gender on the Association between Specific Human Capital and Continuation

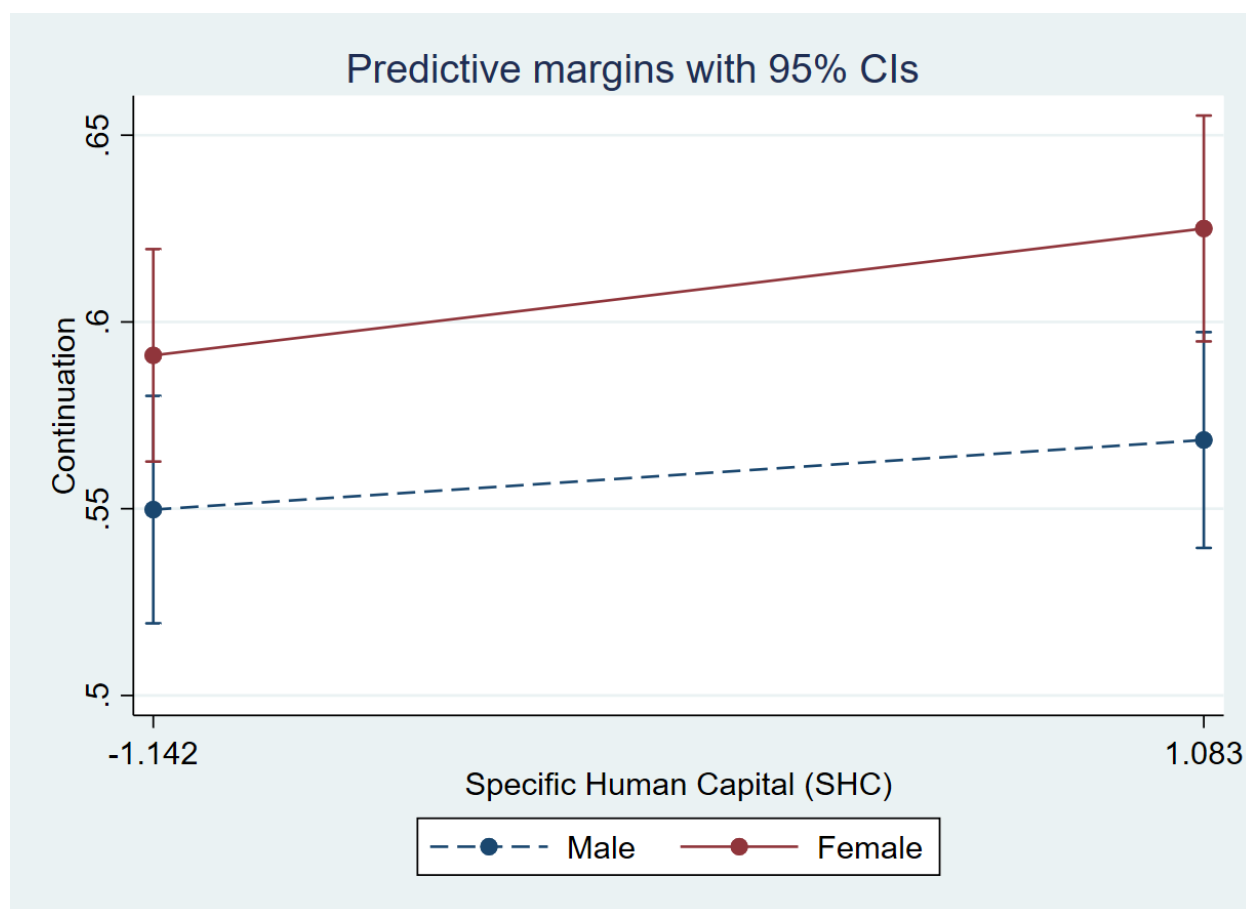


Figure 4. The Moderating Effect of Gender on the Association between General Human Capital and Growth

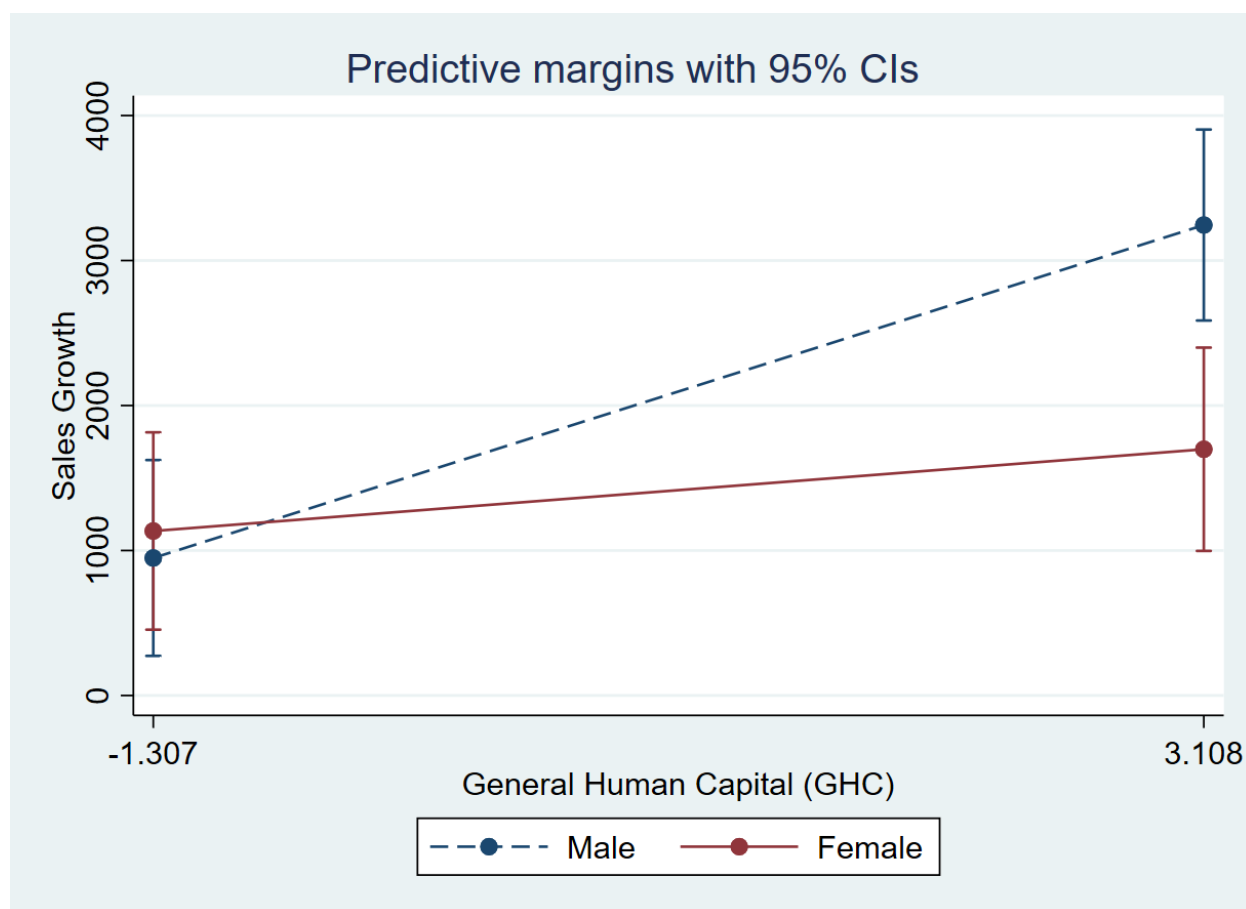


Figure 5. The Moderating Effect of Gender on the Association between Specific Human Capital and Growth

