VENTURE CAPITAL RESEARCH: REVIEW AND MIXED METHODS

ABSTRACT

This paper reviews venture capital (VC) literature. After briefly presenting the mixed methods research, which uses quantitative and qualitative data, and exploratory and confirmatory analysis in one study, we suggest potential mixed methods-related directions for future VC research. These include gaps in the relational, learning, and related aspects under research streams, but also a cross-disciplinary mixed methods-related approach to VC research. Finally, we provide a short critical discussion on both methods and practices. In doing so, we hope to stimulate entrepreneurship scholars’ interest in these underutilized methods.

Keywords: venture capital; review; entrepreneurship; mixed methods; finance.
INTRODUCTION

Venture capital (VC) is ‘an important source of capital for entrepreneurship [...]’ (Cumming, 2010, p. 1) and the literature on this topic is significant, including many reviews (e.g., Da Rin, Hellmann, and Puri, 2013; Drover et al., 2017; Gompers and Lerner, 2001; Gompers, 2007; Jääskeläinen, 2012; Large and Muegge, 2008; Manigart and Wright, 2013; Rosenbusch, Brinckmann, and Müller, 2013; Sahlman, 1990; Wright, Pruthi, and Lockett, 2005). Regrettably, relatively few research articles have focused on the relational (e.g., Huang and Knight, 2017), learning, and other aspects of the venture capitalist–entrepreneur relationship. In this article, we not only argue that these aspects should not be neglected, but we also demonstrate that using mixed methods may be useful here. Indeed, mixed methods research, which uses quantitative and qualitative data and exploratory and confirmatory analysis in the same study, allows researchers to (1) create and test theory in the same research project, (2) make stronger inferences by capitalizing on each methodology’s strengths, and (3) shed light on conflicting results/findings. This, in turn, can ultimately lead to new theoretical evaluations (Teddlie and Tashakkori, 2009, pp. 33–36). In VC research, entrepreneurship scholars could specifically unlock major new insights into the relational-, knowledge-, learning-, and resource-related aspects of the relationship between an entrepreneur and one or more venture capitalists, and their resulting effects on investment performance, because, during the qualitative interviews, they would gain (processual) understanding into the reasons behind this performance. Further, building upon Drover et al.’s (2017, p. 1844–1846) recent paper, we contend that using mixed methods in follow-up (especially unstructured) interviews (e.g., Starbuck, 2016) would help entrepreneurship scholars to achieve a better understanding of important outliers. This would lead them to have a modified (i.e., less “averaged”) and fuller perception of the VC investment process – that is, a process including VC investments that result in extreme profits and losses. Moreover, in
addition to addressing the partial understanding of the VC investment process, these methods could be used in follow-up interviews with key informants of other investor groups (business angels, corporate VCs, crowdfunding teams etc.) to explore the (processual) interrelationships (e.g., Hellmann and Thiele, 2015) among them and, in turn, of the financing landscape. Thus, mixed methods would also expand the current partial understanding (because of their focus on one mechanism) of the financing landscape.

However, only a few entrepreneurship studies have used the mixed methods approach and, overall, quantitative methods have dominated the field (i.e., 76 percent or 178 out of 235 empirical articles, according to Cameron and Molina-Azorín, 2011, p. 266; see also Crook et al., 2010; Molina-Azorín et al., 2012). Indeed, Cameron and Molina-Azorín (2011, p. 266) reported that, between 2003 and 2007, only 8 percent (20/235) of the empirical articles published in the Journal of Business Venturing and Entrepreneurship Theory and Practice used mixed methods. By comparison, scholars in adjacent research fields, such as strategic management, have used this research design more extensively, as 14.6 percent of the articles published in the Strategic Management Journal between 1997 and 2006 used mixed methods (see Molina-Azorín, 2011, p. 12). Therefore, in this review, we specifically build the case for mixed methods for entrepreneurship research. We argue that this approach would be beneficial as it would provide entrepreneurship scholars with the potential to (1) address broader research questions and achieve a deeper understanding of the ‘multi-faceted’ (Busenitz et al., 2003, p. 298) entrepreneurial phenomenon, (2) offer more complete knowledge (Johnson and Onwuegbuzie, 2004; Ketchen, Boyd, and Bergh, 2008; Short et al., 2010a), (3) conduct more process- and context-oriented entrepreneurship research (Molina-Azorín, 2011; Molina-Azorín et al., 2012), (4) obtain practically significant results (Aguinis

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1 The stronger the underlying methodological practices, the more solid the conclusions are (see Ketchen et al., 2008; Short et al., 2010a).
et al., 2010), and (5) have their articles cited more often (see Molina-Azorín, 2012). In addition, we show why mixed methods would be useful for VC research. The VC context is an appropriate setting for entrepreneurship scholars interested in these methods, because mixed methods allow them to conduct more context- (Molina-Azorín, 2011) and process-oriented (Molina-Azorín et al., 2012) research, VC research being contextualized (Dimov and Shepherd, 2005) and process-oriented (Jääskeläinen, 2012).

This review article makes three main contributions. First, we review the past accomplishments in the VC literature, organized around research streams (including relational, learning, and related aspects). Second, after briefly presenting mixed methods research (e.g., on mixed methods, see Creswell and Plano Clark, 2007; Creswell et al., 2003; Molina-Azorín and Fetters, 2016; Molina-Azorín, 2007, 2012; Molina-Azorín et al., 2012; Teddlie and Tashakkori, 2009; Tunarosa and Glynn, 2017; Turner, Cardinal, and Burton, 2017; Williams and Shepherd, 2017), we propose ideas for future VC studies, including identified knowledge gaps that might best be approached through mixed methods, and a cross-disciplinary mixed methods approach to VC research. Third, we offer a short critical discussion on methods and practices. Our article is novel because, beyond our review of VC literature, we develop a series of arguments on the potential power of mixed methods for entrepreneurship scholars interested in VC research. Indeed, we further contend that VC insights will be enhanced by mixed methods research in other non-management and management-related subfields. We thus hope that the proposed directions, including the cross-disciplinary mixed methods approach, will become research trajectories for entrepreneurship scholars.

Indeed, as Molina-Azorín (2012, p. 40) wrote, ‘[…] the variable for mixed methods was positively and significantly correlated to article length, number of other articles, and citation count of other articles.’
The remainder of this article is structured as follows. The second section includes a presentation of our review method. Then, a third section reviews the past accomplishments of the VC literature. Next, we briefly present mixed methods. A fifth section provides possible mixed methods-related directions for future research. The following section briefly and critically discusses methods and practices. Finally, we conclude our article in the last section.

**METHOD**

Here, we provide an overview of our review method. Echoing Cacciotti and Hayton (2015), we followed a specific review process (see Figure 1). Because we focused on classic or professional venture capitalists (VCs), we did not consider works on other major sources of equity finance, such as business angels or corporate VCs (see De Clercq et al., 2006). In line with seminal articles (e.g., Sahlman, 1990), we followed Gompers (2007, p. 483) and defined VC as ‘independent and professionally managed, dedicated pools of capital that focus on equity or equity-linked investments in privately held, high growth companies.’

Moreover, to obtain a better understanding of VC research, we followed the lead of Busenitz et al. (2003), Short et al. (2010b), and Drover et al. (2017), and considered 137 articles (see Table 1) published in the following entrepreneurship, management, finance, and sociology journals: *Journal of Business Venturing* (JBV; 50 articles), *Entrepreneurship Theory and Practice* (ETP; 17 articles), *Strategic Entrepreneurship Journal* (SEJ; 5 articles), *Journal of Management Studies* (JMS; 7 articles), *Journal of Management* (JOM; 1 article), *Management Science* (MS; 2 articles), *Administrative Science Quarterly* (ASQ; 7 articles), *Academy of Management Journal* (AMJ; 11 articles), *Academy of Management Review* (AMR; 1 article), *Organization Science* (OS; 2 articles), *Strategic Management Journal* (SMJ; 7 articles), *Strategic Organization* (SO; 1 article), *Journal of International Business Studies* (JIBS; 3 articles), *Journal of Financial Economics* (JFE; 5 articles), *Journal of*
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*Finance* (JOF; 12 articles), *Review of Financial Studies* (RFS; 5 articles), and *American Journal of Sociology* (AJS; 1 article).

We used the leading ABI/Inform and EBSCO electronic databases for this purpose, because they include a large number of generalist and specialist journals, such as those above. We also used journal websites (JBV, JFE, SEJ, and JOM) for verification purposes. We used ‘venture capital,’ ‘venture capitalist,’ ‘VC,’ ‘syndication’ (i.e., when a group of venture capitalists invests in a portfolio company), and ‘syndicate’ as search terms in the title, abstract, or keywords to include the most relevant articles in VC literature in our final sample.

We also checked the reference sections of these articles to identify other potentially relevant works (i.e., articles, but also some books). This process yielded 25 additional references (see Table 2). However, we excluded working papers, because they had not undergone peer review. Relatedly, following other reviews (Delgado García, De Quevedo Puente, and Blanco Mazagatos, 2015), we excluded dissertations and conference proceedings.

We examined all articles (titles and abstracts) to evaluate to what extent the search terms were employed in a relevant manner. When doubt on whether a work should be included occurred, we examined it in full to explicate its relevance for this specific research domain. Finally, we obtained a final sample of 162 references (137 + 25 additional references; all denoted with a ‘*’ in the references section), published between 1985 and 2017 (see Figure 1).
Finally, our coding scheme\(^3\) included the following themes: determinants of VC funding decisions and investment performance; roles of VCs; investment strategies and geographical scope; syndication; networking and reputational dimensions of the VC–entrepreneur dyad; relational, learning, and other aspects of the VC–entrepreneur relationship; and institutional influences on the VC–entrepreneur dyad.

**PAST ACCOMPLISHMENTS IN VC RESEARCH: AN ENGAGED REVIEW**

Several VC literature reviews attest the accomplishments in this field (e.g., see Fried and Hisrich, 1988; Manigart and Wright, 2013). However, research has thus far emphasized only the financial aspects of VC (Admati and Pfleiderer, 1994; Barry et al., 1990; Gompers, 1995; Kaplan and Strömberg, 2003, 2004; Megginson and Weiss, 1991; Sahlman, 1990), overlooking its relational and related knowledge-, learning-, and resource-related aspects. However, there is a need to focus on the latter aspects because of conflicting results. Indeed, Bygrave and Timmons (1992, p. 207) argued that ‘classic venture-capital investing is at its best when the suppliers and users of capital work in partnership,’ whereas Kaplan, Klebanov, and Sørensen (2012, p. 994) found more recently that ‘teamwork tends to be negatively related to performance.’ Our twofold goal is thus to review VC literature (including the stream related to relational, learning, and other aspects of the VC–entrepreneur relationship) and offer a blueprint for ‘better’ future inquiry by exploiting the potential of mixed methods. We therefore propose mixed methods-related directions. Below, we review VC literature before briefly presenting mixed methods and suggesting possible mixed methods-related directions (inside and outside this stream) for future VC research.

**Determinants of VC funding decisions and investment performance**

The determinants or drivers of VC funding decisions and investment performance continue to receive a great deal of attention. As early as the mid-1980s, MacMillan, Siegel, and

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\(^3\) Due to length limitations, the categorization of VC articles is not included here, but is available upon request.
Narasimha (1985) found that the qualities of entrepreneurs, such as their experiences (see also Riquelme and Rickards, 1992; Schefczyk and Gerpott, 2001) and personalities, are the most important determinants (see also Muzyka, Birley, and Leleux, 1996). Interestingly, the findings of Petty and Gruber’s (2011) longitudinal qualitative study indicated that the management team is not an important criterion for rejection decisions, a finding contrary to that of MacMillan et al. (1985) and Walske and Zacharakis (2009). Relatedly, Chen, Yao, and Kotha (2009) found that an entrepreneur’s perceived preparedness, as reflected in the business plan (see also Kirsch, Goldfarb, and Gera, 2009), influences VC’s investment decision, whereas Drover, Wood, and Payne (2014b) provided evidence that the VC’s perceived control over the entrepreneur is positively related to the willingness to fund a venture. Bengtsson and Hsu (2015) focused on entrepreneur and VC ethnicity, and reported that an investment match based on co-ethnicity (shared ethnicity) is correlated with more (less) successful firm outcomes. From a different perspective, Hellmann and Puri (2000) showed that innovation is also a determinant, with innovator firms being more likely to obtain VC funding and bring products to market faster (for the positive relationships between VC and (1) innovation and (2) commercialization, see also Dutta and Folta, 2016). Murnieks et al. (2011) showed that similarity in the decision-making processes of investors and entrepreneurs is also a determinant, while Matusik, George, and Heeley (2008) found that value homophily is a positive moderator of the (1) technical degree possession– and (2) start-up experience–founder quality evaluation relationships, whether negative or positive. Finally, contrary to Chemmanur, Krishnan, and Nandy (2011), who found a positive relationship between VC backing and efficiency, Alperovych, Hübner, and Lobet (2015) investigated how public and private VCs affect post-investment efficiencies in their portfolio companies and
reported that Belgian government VC-funded companies are associated with substantially lower efficiencies.\footnote{Although not discussed in detail here, there exists a more negative view of VC decision-making, with decision accuracy being negatively impacted by (1) overconfidence (Zacharakis and Shepherd, 2001) and (2) a greater amount of information (Zacharakis and Meyer, 1998, 2000; Zacharakis and Shepherd, 2001).}

Dimov and Shepherd (2005) focused on human capital, and found a positive association between education in the sciences and humanities, and the number of portfolio companies going public, whereas Zarutskie (2010, p. 169) found that ‘task-specific and industry-specific human capital are the strongest predictors of venture capital fund performance.’ Florin (2005) suggested that the resources and funding prior to an initial public offering are greatly enhanced when ventures have strong VC backing. Drawing from earlier research (Dimov and Shepherd, 2005), Bottazzi, Da Rin, and Hellmann (2008) investigated investor activism (see also Jackson, Bates, and Bradford, 2012), and found two successive positive relationships between human capital (i.e., partners with prior business experience), investor activism (i.e., recruitment of senior and outside management, portfolio company fundraising and interaction), and portfolio company success. Relationally, results from Ewens and Rhodes-Kropf (2015) suggested that a partner’s human capital impacts performance. Recently, Gerasymenko, De Clercq, and Sapienza (2015, p. 90) found that business model change experience positively impacts portfolio company performance. Finally, echoing the work of Dimov and Shepherd (2005), Florin (2005), and Colombo and Grilli (2010), Rosenbusch \textit{et al.} (2013) performed a meta-analysis of the benefits of VC funding, providing evidence that VC investment is positively related to funded venture performance. However, the performance effect is small and disappears after controlling for industry selection effects.

\textbf{Roles of venture capitalists}

The numerous roles of VCs have continued to attract scholarly attention. For example, Gorman and Sahlman (1989) found that VCs are involved in financing, strategic planning,
and management recruiting. MacMillan, Kulow, and Khoiyian (1989) corroborated their results, but also highlighted that VCs would prefer to be more involved in other activities, such as formulating business strategies and marketing plans, and replacing the management of their funded ventures. This result was found in Elango et al.’s (1995) study, confirming the importance of evaluation and recruitment of the management team for early-stage VC investors. Referring to prior literature (Rosenstein et al., 1993), Fried and Hisrich (1995) reported that VC firms that serve as lead investors are actively involved in providing access to networks, moral support, general business knowledge, and experience, whereas Amit, Brander, and Zott (1998), also referring to prior literature (Tyebjee and Bruno, 1984), demonstrated mathematically that VCs are skilled at choosing and monitoring entrepreneurial projects. Hellmann and Puri (2002) also focused on the scope of VC involvement, finding it goes beyond financing the professionalization of start-ups to include activities such as formulating HR policies, adopting stock option plans, hiring sales and marketing personnel, and replacing founders. Finally, Baum and Silverman (2004) indicated that VCs pick start-ups that promise superior performance during the pre-investment stage and then build them post-investment by providing management expertise and connections (see also Fitza, Matusik, and Mosakowski, 2009; Lungeanu and Zajac, 2016).

De Clercq et al. (2006), taking extant literature (e.g., Gifford, 1997; Sapienza, 1992; Sapienza, Manigart, and Vermeir, 1996) into account, compared the issues faced by venture capitalists, business angels, and corporate VCs during the pre-, post-, and exit investment phases, highlighting the strategic, financial, networking, interpersonal, reputational, and disciplinary roles of VCs. Large and Muegge (2008) proposed an eight-category typology of the nonfinancial value-adding inputs of VC firms (legitimizing, outreaching, recruiting, mandating, strategizing, mentoring, consulting, and operating). Gerasymenko and Arthurs (2014) underlined the advisory and CEO replacement roles of VCs, and found that the
stronger the perception for a portfolio company to have an initial public offering (IPO), the more likely its CEO would be replaced: the expected time to exit plays a moderating role (i.e., the shorter the time, the higher the probability). Finally, according to Celikyurt, Sevilir, and Shivdasani (2014, p. 99), ‘VCs play a significant role in enhancing R&D and innovation at mature public firms, even long after the firm’s IPO stage.’

**Investment strategies and geographical scope**

Investment strategies and geographical scope continue to receive significant attention (e.g., see Fulghieri and Sevilir, 2009). As early as the 1990s, Gupta and Sapienza (1992) demonstrated that VCs specialized in early-stage investments are likely to invest in ventures that are less diversified and narrower in geographic scope. In line with their study, Lerner (1995) found that the directors of ventures funded in geographical proximity are more likely to be VC firm board members. Dimov and Martin De Holan (2010) indicated that VCs with broader investment experience (see also Franke et al., 2008; Shepherd, Zacharakis, and Baron, 2003) are more likely to enter new markets in close proximity. De Clercq et al. (2001) observed that VCs diversify their investments by growth stage and geographical scope as they become more experienced.

Conversely, Norton and Tenenbaum (1993) suggested that VC firms control risks\(^5\) (see also Amit, Glosten, and Muller, 1990; Fiet, 1995; Lu, Hwang, and Wang, 2006) by prioritizing specialization and information-sharing strategies, while, referring to prior literature (Robinson, 1987), Manigart et al. (2002) found support for the resource-based view hypothesis that specialized VCs ask for lower returns for specialized investments. Patzelt, Zu Knyphausen-Aufseß, and Fischer (2009) investigated the influence of top management team (TMT) composition on the portfolio strategies of VC firms, and found that TMT members with science and engineering degrees and entrepreneurial experience increase the probability

\(^{5}\) However, we do not discuss contracts in detail here (e.g., see Burchardt et al., 2016; Cumming, 2008; Fiet, 1995; Kaplan and Strömberg, 2003, 2004; Li and Mahoney, 2011).
of investing in early-stage ventures. Lastly, Matusik and Fitza (2012) highlighted the U-shaped relationship between VC diversification and performance (on diversification, see also Buchner, Mohamed, and Schwienbacher, 2017).

**Syndication**

VC syndication has always been a popular research area. Bygrave (1987) showed that sharing expertise and knowledge is the main reason for *co-investing or syndicating* (Brander, Amit, and Antweiler, 2002; Gompers and Lerner, 2000; Manigart *et al.*, 2006) under high uncertainty. Evolving this networking perspective, Bygrave (1988) pointed out that VCs that invest in highly innovative technology companies are more interconnected than those investing in their less innovative counterparts. Lerner (1994) observed that VCs in late-stage syndicated investments team up with their peers and less experienced VCs, whereas Lockett and Wright (2001) demonstrated that the resource-based view better explains early-stage syndicated investments. Relatedly, Hochberg, Ljungqvist, and Lu (2010, p. 831) found that ‘there is less entry in VC markets in which incumbents are more tightly networked with each other, as evidenced by their past syndication patterns.’ Brander *et al.* (2002) provided evidence that VCs add value beyond merely selecting the best syndicated investments.

Finally, De Clercq and Dimov (2004) showed that financial- and knowledge-related hypotheses are equally valid in explaining syndication behavior, whereas, referring to Wright and Lockett (2003), Manigart *et al.* (2006) found a positive correlation between a VC’s non-lead investor role and its value-adding motive to syndicate.

Mäkelä and Maula (2006) created a grounded model and propositions, focused on commitment between organizations in syndicated cross-border VC investments, and included such moderators as distance, embeddedness, and financial importance, whereas Meuleman *et al.* (2017, p. 134) recently validated the hypothesis stating that ‘[p]rospective

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6 We herein focus on syndicated cross-border VC investments/cross-border VC syndicates.
foreign VC partners that have a higher number of previous direct ties with the pre-existing members of the syndicate will have a higher likelihood of joining a cross-border syndicate.’ Jääskeläinen, Maula, and Seppä (2006) also suggested that syndication frequency positively moderates the inverted U-shaped relationship between the number of companies and VC performance, and Dimov and De Clercq (2006) found that specialized expertise (investment syndication) is negatively (positively) correlated with portfolio failure (on VC entrepreneurs’ perceptions of venture failure, see also Zacharakis, Meyer, and DeCastro, 1999). Drawing from network finance literature (Hochberg, Ljungqvist, and Lu, 2007), Guler (2007) found that the higher a VC firm’s status is, the higher its investment termination probability will be (on termination, see also Devigne, Manigart, and Wright, 2016). De Clercq and Dimov (2008) validated the hypothesis of a positive relationship between a VC firm’s industrial knowledge and its investment performance, while, referring to prior works (Mäkelä and Maula, 2008), Liu and Maula (2016, p. 1414) validated the hypothesis that an ‘[i]nternational experience in the host country is positively related to VC firms’ propensity to partner with local VC firm(s) rather than invest alone or with other foreign VC firm(s) when investing in a foreign venture.’ Dai and Nahata (2016, p. 144) found that ‘[s]yndicate participation of local VCs, or of non-local VCs with investment experience in the host country, or of non-local VCs from a culturally similar country (as the host country), is associated with increased aggregate VC funding provided to portfolio companies’ (for a review on cross-border VC investments, see Wright et al., 2005). Lastly, Vedula and Matusik (2017) found that geographical proximity is twice more important than syndication for a VC firm’s decision to internationalize.

Dimov and Milanov (2010) built on earlier research (Guler, 2007; Hochberg et al., 2007; Sorenson and Stuart, 2001, 2008), and observed that new VC investments are also likely to be more syndicated among high-status VCs. Guler and Guillon (2010) found that the
social status of a VC in its home-based network is positively correlated with its entry onto overseas markets: home-based co-investors from overseas moderate the relationship between network advantages (social status and brokerage) and market entry. More recently, Ozmel, Reuer, and Gulati (2013) found that the positive relationship between the affiliation of a new venture with a prominent VC firm and the formation of future alliances decreases with the alliance network prominence of the new venture, whereas Hopp and Lukas (2014) referred to earlier findings (Ferrary, 2010) and confirmed that the positive relationship between partner investment experience and lead VC’s probability of collaboration is positively moderated by a reciprocated history of syndicating activities, signaling activity frequency, and the portfolio company’s development stage.

Ma, Rhee, and Yang (2013) investigated the impact of power source mismatch on the effectiveness of VC syndication, while Zhelyazkov and Gulati (2016) examined the relational and reputational impacts of withdrawing from VC syndicates on successful syndication behaviors, reporting VCs are less likely to syndicate with directly (relational) and historically (reputational) withdrawn co-investors. Relatedly, Gompers, Mukharlyamov, and Xuan (2016, p. 629) showed that ‘venture capitalists who share the same affinity-based characteristics are more likely to syndicate with each other and that this homophily has a detrimental effect on the probability of investment success […]’ Referring to prior works (e.g., Gu and Lu, 2014), Ter Wal et al. (2016) found that the best configuration for venture success is when syndicates have open-specialized or closed-diverse networks. Lastly, Chemmanur, Hull, and Krishnan (2016, p. 576) found that ‘entrepreneurial firms backed by syndicates of both international and local VCs are more successful than those backed by syndicates consisting of purely international VCs or purely local VCs, both in terms of exit likelihood and post-IPO operating performance.’

**Networking and reputational dimensions of the VC–entrepreneur dyad**
Research on VC–entrepreneur networks and reputation has grown substantially, especially over the past decade (e.g., see Nahata, 2008; Sørensen, 2007). Drover, Wood, and Fassin (2014a) investigated the reputational dimensions of the dyad, and noted that a funding rejection (enhancing the fear of failure) may lead entrepreneurs to accept teaming up with an unethical VC. Referring to prior works (e.g., Nahata, 2008; Sørensen, 2007), Cumming and Dai (2013) showed that a portfolio company that has improved its perceived quality is more likely to change to a new lead VC with a better reputation, despite the risk of obtaining lower investments and valuations in subsequent financing rounds. Wang (2016) also found that social network ties are more important in the early (attention/awareness) stages of the VC investment process. Referring to prior works (Steier and Greenwood, 1995), Shane and Cable (2002) documented that ex ante direct ties to an entrepreneur are positively related to investors’ decisions to invest in new ventures, this effect disappearing when the entrepreneur’s reputation is considered. Dimov, Shepherd, and Sutcliffe (2007) observed that the status of the VC reinforces the negative relationship between TMT’s financial expertise and investment selection, and Vanacker and Forbes (2016) subsequently found that financial resource attraction by a VC-funded company depends more on the industry-specific experience of the lead VC than its media prominence. Stuart, Hoang, and Hybels (1999) reported a positive relationship between uncertainty regarding the quality of the affiliated venture and reliance on external evaluators for the key dimensions of affiliates (i.e., successful innovation, and work and evaluation experience), whereas Hallen and Pahnke (2016) found that VC firm prominence is negatively related to an entrepreneur’s accurate evaluation of its track record. Moreover, referring to prior literature on reputation (e.g., Gompers, 1996; Hallen, 2008; Petkova, Rindova, and Gupta, 2013), Petkova et al. (2014) found that reputable VCs are more likely to invest in the emerging clean energy sector and, complementing prior works (Ozmel and Guler, 2015; Pahnke, Katila, and Eisenhardt, 2015),
Pahnke et al. (2015, p. 1348) found that ‘if the firm had a high-status VC, gaining an indirect competitor tie decreased product introductions […] by 43%.’ Milanov and Shepherd (2013, p. 732) found that ‘the reputation of a newcomer’s initial partners […] had a positive influence on its future status.’ Recently, referring to prior literature (Hsu, 2006), Ragozzino and Blevins (2016, p. 995) also validated the hypothesis that ‘the higher the prominence of the VC, the greater the likelihood that the new venture will go public after its founding.’ Unifying previous studies on reputation and status (including Hsu, 2004; Lee, Pollock, and Jin, 2011; Milanov and Shepherd, 2013), Pollock et al. (2015) found that the effect of reputation on status increases with the age of the firm. In their combined investigation of social ties and status hierarchies in VC decision making, Wuebker, Hampl, and Wüstenhagen (2015, p. 170) notably validated the hypothesis that ‘under conditions of market uncertainty, personal ties have a higher relative influence than status hierarchies in venture capital investment decisions.’ Lastly, Bermis et al. (2017) looked at how socially salient actors/actions (beacons) influence entrepreneurial activity, and identified two types. Endorsing beacons are closely related to status and reputation, because their influence comes from the reputation of exceptional insight. Conversely, demonstrating beacons are less reliant on reputation or status because they garner attention by their performance in the market.

Relational, learning, and other aspects of the VC–entrepreneur relationship
Numerous complex and important issues regarding the relational-, knowledge-, learning-, and resource-related aspects of VC research remain unexplored, but considerable progress has nevertheless been made. For example, grounded in earlier contributions (Rosenstein, 1988), Barney et al. (1996) emphasized that new venture teams (NVTs) generally have a strong desire to learn, but their evaluations of VC learning assistance diverge considerably. Their study provided evidence of two negative relationships between an NVT assessment of VC business management advice and the team’s venture industry experience and tenure in the
venture. The authors also found two other negative relationships between NVTs’ assessment of VC operational assistance and these two dependent variables, and one positive relationship with venture’s technological innovativeness as the dependent variable.

Contrary to the research finding of a negative correlation between a VC firm’s trust in the portfolio company and VC firm learning (De Clercq and Sapienza, 2005), De Clercq and Sapienza (2006) provided evidence that a VC firm’s trust (on trust, see Harrison et al., 1997) in social interactions with goal congruence and commitment to a portfolio company are positively related to positive outcomes, such as the VC’s perception of the company’s performance. In line with earlier findings (Sweeting, 1991), Cable and Shane (1997) proposed that time pressure, communication, social relationships, relational demography, congruence in work values, relative power, payoff, bonding mechanisms, generosity, penalties, and staged capital payouts impact whether entrepreneurs and VCs cooperate. The research of De Clercq and Sapienza (2001), inspired by several seminal articles (Dyer and Singh, 1998; Lane and Lubatkin, 1998), found that knowledge-based routines are positively correlated with relational rents, and that trust and knowledge relatedness moderate this positive relationship. Shepherd and Zacharakis (2001) built a model related to partner cooperation (on cooperation, see also Harrison et al., 1997; Zacharakis, Erikson, and George, 2010), which included trust and further proposed that open and frequent communication between VC firms and entrepreneurs leads to more effective trust generation mechanisms.

Lastly, referring to prior works (Busenitz et al., 1997), Busenitz et al. (2004) validated the hypothesis that procedural fairness between venture capitalists and NVT members is positively correlated with venture performance.

By referring to prior studies on the feedback–decision commitment relationship (Sapienza and Korsgaard, 1996) and to single- and double-loop learning (Argyris and Schön, 1978), Chugh, Nicolaou, and Barnes (2011) suggested that single-loop learning mediates the
VC feedback–start-up commitment escalation relationship, whereas inhibited double-loop learning mediates the VC feedback–start-up exit relationship. Finally, from an organizational learning perspective, Dimov et al. (2012) found that the accumulation, familiarity, and shaping of decisional experience positively influences a VC’s decision on early investments, while the decay of decisional experience related to dormant decisions has a negative influence.

**Institutional determinants of the VC–entrepreneur dyad**

The influence of institutions on the VC–entrepreneur dyadic relationship has long been considered as an important research area. Scholars have generally investigated VCs and institutions by building on Scott’s (1995) tri-dimensional (normative, cognitive, and regulatory) conceptualization of the institutional context. For instance, Bruton, Fried, and Manigart (2005) did so and proposed that the networking role of VCs is more important in strongly networked (i.e., Asian) countries. Based on earlier work (Bruton and Ahlstrom, 2003; Bruton, Ahlstrom, and Singh, 2002), Ahlstrom and Bruton (2006) conducted 65 semi-structured interviews with VCs around East Asia, and their data revealed that supportive networks and weak legal environments make it unlikely for a portfolio company’s CEO to be replaced. Zacharakis, McMullen, and Shepherd’s (2007) study of the U.S., South Korean, and Chinese economies indicated that Chinese VCs emphasize human capital (market) factors more than the U.S. (South Korean) VCs. Further, by using a case study methodology to compare Latin American and Asian VC contexts, Bruton, Ahlstrom, and Puky (2009) observed that community-oriented normative and cognitive institutions supportive of VC activity are not present in Latin America, while, focusing on VC investments in Latin America, Khoury, Junkunc, and Mingo (2015, p. 814) found ‘a negative relationship between the level of political hazards in the target venture’s home country and the amount of VC investment within a round.’ More recently, Li and Zahra (2012) found that uncertainty
avoidance or collectivism weakens the positive relationship between the national level of institutional development and VC activity (on the potential importance of national VC market development, see also Croce, Marti, and Murtinu, 2013).

**Critical conclusion**

Overall, although scholars have investigated topics such as syndication, investment strategies, and the roles and activities of venture capitalists, only a few articles\(^7\) have focused on trust, knowledge, relational rents, communication, fairness, learning, and procedural justice in the VC–entrepreneur relationship. However, this problem might easily be resolved because mixed methods (Creswell and Plano Clark, 2007; Greene, Caracelli, and Graham, 1989; Johnson and Christensen, 2004; Molina-Azorín, 2012; Tashakkori and Teddlie, 1998) have the potential to unlock major new insights into these aspects of VC research. Therefore, we briefly present mixed methods below before suggesting research directions based on these.

**PRESENTATION OF MIXED METHODS**

Here, we briefly present mixed methods.

**Definition**

Despite several notable definitions of mixed methods (Creswell and Plano Clark, 2007; Greene et al., 1989), we begin with the succinct yet comprehensive definition of Creswell et al. (2003):

*A mixed methods study involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research. (p. 212)*

We agree with this definition because mixed methods research uses both quantitative and qualitative data, and exploratory and confirmatory analysis in the same study (Walsh et al., 2015).

**Complementarity: An important purpose**

Greene et al. (1989) suggested that mixed methods designs can be used for several purposes (e.g., triangulation, development, initiation, expansion), although other authors have suggested that *complementarity* (i.e., when researchers seek the ‘elaboration, enhancement, illustration, [and] clarification of the results from one method with the results from the other method,’ Greene et al., 1989, p. 259; see also Bryman, 2009; Johnson and Christensen, 2004) is a key purpose (e.g., Molina-Azorín, 2007, 2012; Molina-Azorín et al., 2012; Tashakkori and Teddlie, 1998; Turner et al., 2017). For example, Molina-Azorín et al. found that complementarity was the second most important purpose, representing approximately 22 percent of mixed methods research in the entrepreneurship stream (2012, p. 435) and 13 percent in strategic management (Molina-Azorín, 2012, p. 43). Further, qualitative methods usually serve to clarify quantitative findings (Molina-Azorín, 2012, p. 44). Lastly, because complementarity ‘is typically used’ in exploratory design (Molina-Azorín et al., 2012, p. 448), we focus below on this design.9

**Explanatory design: Definition, purpose, and advantages**

Creswell (2003) drew on the works of Morgan (1998), Morse (1991), and Creswell et al. (2003), among others, and suggested the explanatory design10 is

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8 For a study illustrating development purpose, see Guler (2007).
9 Creswell and Plano Clark (2007, p. 85) explained that ‘[i]f one phase is followed by another phase, the first phase is quantitative, quantitative methods or data are emphasized, the second phase is connected to the results of the first phase, and the intent is to explain these results using qualitative data as a follow-up, then the choice of design is the Explanatory Design […].’ For a detailed presentation of other mixed methods designs, see, for example, Creswell and Plano Clark (2007).
10 Although we herein focus on explanatory design, researchers can also implement an exploratory mixed methods design. This design ‘is characterized by an initial phase of..."
the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. The priority typically is given to the quantitative data, and the two methods are integrated during the interpretation phase of the study. […] The purpose of […] [this] design typically is to use qualitative results to assist in explaining and interpreting the findings of a primarily quantitative study (p. 215). Lastly, many authors have highlighted the advantages of an explanatory mixed methods design, among which its straightforwardness (Creswell, 2002, 2003; Creswell et al., 2003).  

**POSSIBLE MIXED METHODS DIRECTIONS FOR FUTURE VC RESEARCH**

Here, we highlight the need for the greater use of mixed methods in future VC research. We also propose possible research questions and improvements that link mixed methods and VC research. We also present a cross-disciplinary mixed methods-related approach to VC research to inspire entrepreneurship scholars to pursue mixed methods research by pointing potential contributions that can be made.

**The need for the greater use of mixed methods in future VC research**

We contend that, despite substantial progress, many complex and important issues and knowledge gaps regarding the relational-, knowledge-, learning-, and resource-related aspects of VC research remain unexplored. In doing so, we echo the arguments of Combs *et al.* (2011) on franchising research. We therefore focus on these aspects and, following Teddlie and Tashakkori (2009, pp. 33–36), suggest how mixed methods might be applied to future VC research.

First, we suggest that mixed methods would enhance VC research by allowing researchers to create and test theory, make stronger inferences, and shed light on conflicting
results/findings and knowledge gaps regarding how variations in collective and strategic versus collective and operational knowledge-sharing routines (e.g., variations in specialization, transfer, and recombination; see Dyer and Singh, 1998) impact dyadic expertise and, in turn, relational rents (Dyer and Singh, 1998). Future mixed methods VC research could examine situations, with phenomenological data suggesting how statistical results should be interpreted. Moreover, other mixed methods analyses could focus on how large knowledge bases and the related flows (De Clercq and Dimov, 2008) affect uncertainty reduction (De Clercq and Dimov, 2004) and the investment performance of single (De Clercq and Dimov, 2008) and multiple (Jääskeläinen et al., 2006) VCs through syndication and external knowledge sources. Mixing quantitative and qualitative methods could also help scholars gain a deeper understanding of the role of perceived and achieved relational quality in learning (De Clercq and Sapienza, 2005). Lastly, future mixed methods VC research could create and test theory, provide stronger inferences, and shed light on the conflicting results/findings and knowledge gaps on the role of feedback (e.g., see Sapienza and Korsgaard, 1996) in each stage of the VC investment process: deal origination, screening, evaluation, structuring, and post-investment (Eckhardt, Shane, and Delmar, 2006; Elango et al., 1995; Robinson, 1987; Tian, 2011; Tyebjee and Bruno, 1984; Wang, 2016).

Second, mixed methods research on fairness has the potential to elucidate the ethical (Drover et al., 2014a) and reputational dimensions (e.g., Bermiss et al., 2017; Dimov and Milanov, 2010; Dimov et al., 2007; Lee et al., 2011; Milanov and Shepherd, 2013; Nahata, 2008; Petkova et al., 2013, 2014; Pollock et al., 2015; Ragozzino and Blevins, 2016; Sørensen, 2007; Vanacker and Forbes, 2016; Zhelyazkov and Gulati, 2016; Zott and Huy, 2007) of VC investment. Scholars could focus on the fair (Busenitz et al., 1997) and unfair decisions, and actions and techniques (e.g., lean or total quality management techniques) that impact professional relationships, procedures (e.g., see Busenitz et al., 2004), and, ultimately,
ongoing relationships in dyads and syndicates, as well as the investment performance of single (De Clercq and Dimov, 2008) and multiple (Jääskeläinen et al., 2006) VCs. In this regard, a better understanding of the role of trust (De Clercq and Sapienza, 2005; Harrison et al., 1997; Lockett and Wright, 2001; Shepherd and Zacharakis, 2001; Manigart et al., 2006) would be particularly important.

Third, future VC research could use mixed methods to test theories and inferences or explain the conflicting results/findings and knowledge gaps in the VC firm–portfolio company relationship by examining their prior experiences (De Clercq and Dimov, 2004, 2008; Dimov and Martin De Holan, 2010; Dimov and Milanov, 2010; Dimov and Shepherd, 2005; Dimov et al., 2012; Hopp and Lukas, 2014; Patzelt et al., 2009; Petty and Gruber, 2011; Sørensen, 2007) and learning dynamics (Barney et al., 1996; De Clercq and Sapienza, 2005; Dimov et al., 2012). Both dyadic and syndicated relationships could be explored as well as the past, present, and future investment performances of single (De Clercq and Dimov, 2008) and multiple (Jääskeläinen et al., 2006; Liu and Maula, 2016) VCs.

Fourth, another potentially fruitful area for mixed methods VC research is the impact of contact (Sapienza, 1992) and communication (Busenitz et al., 2004; Sapienza, 1992; Shepherd and Zacharakis, 2001) on dyadic and syndicated relationships and perceived and realized investment performance (De Clercq and Dimov, 2008; De Clercq and Sapienza, 2006; Jääskeläinen et al., 2006). In this regard, theory, inferences, and conflicting results/findings and knowledge gaps on the attitudes and emotions involved in and resulting from communication specifics (e.g., communication frequency and channels) provide fertile grounds for research.

Finally, mixed methods VC research could focus on key moderators of the VC firm–portfolio company relationship. Although our goal is not to develop a full list, Table 3
presents some examples of some moderators that, we believe, can help researchers provide a richer and more nuanced analysis of this relationship.

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Insert Table 3 about here
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Possible mixed methods questions

We now focus on sequential descriptive design and propose possible mixed methods research questions. According to Onwuegbuzie and Leech (2006), sequential descriptive studies include a descriptive component (i.e., the quantitative part that generates the independent variable) that informs a phenomenological component (i.e., the qualitative part that generates the dependent variable). However, due to space constraints, we will not repeat here the three benefits of mixed methods with regard to theory, inferences, and conflicting results/findings (see Teddlie and Tashakkori, 2009, pp. 33–36).

First, as previously mentioned, scholars of the relational-, knowledge-, learning-, and resource-related aspects of VC research might focus on differences in knowledge-sharing routines (e.g., variations in specialization, transfer, and recombination; see Dyer and Singh, 1998) within dyads or syndicates that generate high versus low relational rents (De Clercq and Sapienza, 2001). Longitudinal sequential descriptive studies could consider questions such as: (1) in terms of expertise, what are the differences between dyads or syndicates that share high versus low levels of knowledge; (2) regarding the creation of rents, what are the differences between dyads or syndicates with stronger versus weaker expertise? Herein, variations in routines (independent variable at t) could be used to inform the expertise of the dyadic or syndicated group (dependent variable at t; independent variable at t + 1) and, in turn, relational rents (dependent variable at t + 1).

Second, this type of research design could be used to investigate differences in terms of dyadic or syndicated fairness (Busenitz et al., 1997, 2004) between high- and low-performing VC investments (De Clercq and Dimov, 2008; Jääskeläinen et al., 2006). Indeed,
questions that could be examined using longitudinal sequential descriptive designs include:

(1) what are the procedural differences between dyads or syndicates that make or plan to make fair decisions, as opposed to those that do not proceed fairly; (2) what are the differences, in terms of fairness and procedural justice (Sapienza and Korsgaard, 1996; Shepherd and Zacharakis, 2001) between, for example, dyadic or syndicated groups that implement such procedures (e.g., several versus numerous); (3) In terms of fairness and procedural justice, what are the differences in VC investment performance between dyadic and larger syndicated groups? Herein, fair and unfair decisions (independent variable at t) could be used to shed light on the procedures (dependent variable at t; independent variable at t + 1) and, in turn, the dyad or syndicate (dependent variable at t + 1; independent variable at t + 2) and VC investment performance (dependent variable at t + 2).

Third, it might be useful to determine the differences between prior experiences (De Clercq and Dimov, 2004, 2008; Dimov and Martin De Holan, 2010; Dimov and Milanov, 2010; Dimov and Shepherd, 2005; Dimov et al., 2012; Hopp and Lukas, 2014; Liu and Maula, 2016; Patzelt et al., 2009; Petty and Gruber, 2011; Sørensen, 2007) and learning dynamics (Barney et al., 1996; De Clercq and Dimov, 2004, 2008; De Clercq and Sapienza, 2005; Dimov and Shepherd, 2005; Dimov et al., 2012; Liu and Maula, 2016) of dyads or syndicates that yield high versus low investment performance (De Clercq and Dimov, 2008; Jääskeläinen et al., 2006). Longitudinal sequential descriptive studies could address the following questions: (1) how do positive and negative experiences affect learning in dyads or syndicates; (2) how do dyads or syndicates that learn more versus less dynamically and efficiently differ; (3) how do differences in prior experience and learning dynamics in dyadic or syndicated groups affect VC investment performance? Herein, past experience (independent variable at t) could be used to gain a better understanding of the learning dynamics (dependent variable at t; independent variable at t + 1) and, in turn, the dyad or
syndicate (dependent variable at t + 1; independent variable at t + 2) and VC investment performance (dependent variable at t + 2).

Fourth, scholars that adopt longitudinal sequential descriptive research could turn their attention to differences in dyadic or syndicated communications (Busenitz et al., 2004; Sapienza, 1992) that yield high versus low investment performance (De Clercq and Dimov, 2008; Jääskeläinen et al., 2006) and their effects on firm reputation and status (Dimov and Milanov, 2010; Dimov et al., 2007; Guler and Guillén, 2010; Guler, 2007; Ma et al., 2013; Milanov and Shepherd, 2013; Pahnke et al., 2015; Stuart et al., 1999; Wuebker et al., 2015; Zhang, Gupta, and Hallen, 2016; Zhelyazkov and Gulati, 2016). This triggers the following research questions: (1) what are the differences between dyads or syndicates that have diverse and more or less efficient communication methods (e.g., emails, meetings; Shepherd and Zacharakis, 2001); (2) what are the differences in communications that affect VC investment performance in dyadic or syndicated groups; (3) what effects do such communications have on firm reputations and statuses? Herein, communication (independent variable at t) could be used to inform the dyadic or syndicated (and thus larger) group (dependent variable at t; independent variable at t + 1) and, in turn, VC investment performance (dependent variable at t + 1; independent variable at t + 2) and firms’ reputations and statuses (dependent variable at t + 2).

We believe that longitudinal sequential descriptive designs can provide new insights in areas generally beyond the reach of monomethods. Researchers have yet to take full advantage of the many ways in which sequential descriptive mixed methods research (and, globally, mixed methods) can guide and improve current methodological choices. Therefore, we follow Johnson and Onwuegbuzie (2004, p. 21) and propose possible improvements.

Possible mixed methods improvements
Mixed methods can address complex research questions via a three-process-oriented and longitudinal (Baum and Silverman, 2004; De Clercq and Sapienza, 2005, 2006; De Clercq et al., 2001; Florin, 2005; Gerasymenko and Arthurs, 2014; Patzelt et al., 2009; Petty and Gruber, 2011) study design, instead of the single-question, cross-sectional design. They can also help researchers avoid issues related to other longitudinal designs. Taking the example of panel studies (e.g., De Clercq and Dimov, 2004; Dimov and De Clercq, 2006; Dimov and Milanov, 2010), researchers who use mixed methods can avoid such panel study issues as (1) long-term sample attrition, (2) best timing concerning the juncture of further data collection, (3) poor long-term planning of the study, and (4) ‘panel conditioning’ effects (i.e., the impact of continued participation on participant behavior) (on these problems, see Bryman, 2008, p. 51). Indeed, when researchers use mixed methods, they can avoid these issues by (1) agreeing on participation before starting the initial data collection process, (2) starting the collection of further data at the end of the initial data collection process and analysis, (3) planning the study ex ante, and (4) asking another research member to handle the subsequent data collection process and analysis.

In fact, with mixed methods, entrepreneurship scholars can gain deeper and better insight and more complete knowledge (i.e., using various experiences, learning, and group possibilities). For example, through a three-pronged study that encompasses learning dynamics, dyadic and larger groups, and VC investment performances, the qualitative component of longitudinal sequential descriptive research design provides a more fine-grained and nuanced analysis of the process, overcoming quantitative component weaknesses by revealing and explaining (De Clercq and Sapienza, 2005; Tunarosa and Glynn, 2017) the mechanism of the correlations. All these explanations can then serve as a springboard for the development of (1) stronger (i.e., more triangulated) findings, and (2) more precise and relevant theoretical and practical implications. Following the lead of Short, Moss, and
Lumpkin (2009) and Short et al. (2010b), we propose potentially interesting and more general research perspectives. Our approach is *intentionally generic*, with the hope that the VC firm–portfolio company dyad and post-investment phase will become genuine research trajectories for entrepreneurship scholars.

**A cross-disciplinary mixed methods-related approach to VC research**

With regard to the VC firm–portfolio company dyadic relationship (Sapienza, 1992) during the post-investment phase (for a comprehensive overview, see De Clercq et al., 2006) and the portfolio company’s long-term performance and value creation, Table 4 details some of the prospects that are, in our opinion, the most promising for entrepreneurship scholars and show how mixed methods could be used to research them.

DISCUSSION

Having reviewed past accomplishments in VC literature, organized this body of research around streams, presented mixed methods, and proposed specific directions for future VC research, we now provide a short critical discussion on methods and practices. A great advantage of qualitative studies is that they give participants (Aguinis et al., 2010) the opportunity to discuss quantitative results in more detail. Further, provided that the researcher reports and shares *all* quantitative results (i.e., statistically significant *and* nonsignificant; see Starbuck, 2016) with study participants, he or she has the opportunity to explicate both (1) the statistically significant and (2) statistically insignificant results. Therefore, the use of mixed methods is a great opportunity to improve the level of *practical significance* (Aguinis et al., 2010), but only on condition that we cover *all* results (the online supplement could also include insignificant results) and *embrace* and *explore all* aspects of research rather than simply musing.
For example, entrepreneurship scholars interested in explanatory mixed methods and ethnography could use subsequent qualitative interviews to investigate (1) the meanings that participants attach to the quantitative results related to the expertise of venture capitalists and their portfolio companies, (2) reactions that participants have regarding the quantitative results related to high versus low relational rents, and (3) reasoning and thinking modes that participants use when viewing the results as practically significant (i.e., make sense to practitioners). Therefore, although we are fully aware that this approach is more demanding because researchers have to manage additional qualitative datasets or consume larger amounts of temporal resources, as they have to articulate diverse methods (on qualitative methods, see Rauch, Van Doorn, and Hulsink, 2014; Symon, Cassell, and Johnson, 2016), we contend entrepreneurship scholars to seriously take mixed methods into consideration in their research.

CONCLUSION

VC is a major source of venture financing. In this article, our aims were (1) to review the past accomplishments in VC literature and to organize this body of research around streams (including the under-researched relational, learning, and other aspects stream), (2) briefly present mixed methods and propose directions for future VC research using mixed methods, and (3) provide a short critical discussion on methods and practices. Although some scholars could argue high implementation costs (e.g., implementation problems, lack of personal motivation, knowledge, and competence), we contend that collaborative endeavors (e.g., Low, 2001) offer a solution, provided that research teams create synergistic environments. Moreover, the research questions we propose and the cross-disciplinary approach challenge the maturity of VC research (Edmondson and McManus, 2007) and can potentially revitalize it. Therefore, echoing Crook et al. (2010, p. 202; see also Chandler and Lyon, 2001), who wrote that ‘entrepreneurship research that moves beyond relying solely on one data source
seems like a fruitful endeavor,’ we invite teams of entrepreneurship scholars to consider underutilized mixed methods in their future VC, and globally, in their multi-theoretical and multi-cultural works.
REFERENCES


Venture Capital Research Review and Directions


Venture Capital Research Review and Directions


Venture Capital Research Review and Directions


Venture Capital Research Review and Directions


Venture Capital Research Review and Directions


## Table 1. Initial 137 references considered for review

|                          | JBV | ETP | SEJ | SMJ | JOM | JMS | OS | JIBS | ASQ | AMJ | AMR | SO | AJS | JFE | JOF | RFS | Total<sup>12</sup> |
|--------------------------|-----|-----|-----|-----|-----|-----|----|------|-----|-----|-----|----|----|-----|-----|-----|-----|-------------------|
| Initial search           | 561 | 193 | 85  | 90  | 38  | 67  | 52 | 35   | 54  | 31  | 68  | 5  | 14 | 17  | 152 | 80  | 55  | 1597             |
| Rejection justification:|     |     |     |     |     |     |    |      |     |     |     |    |    |     |     |     |     | 584              |
| no clear focus on VC or  | 189 | 78  | 24  | 35  | 12  | 26  | 23 | 16   | 25  | 8   | 19  | 2  | 6  | 9   | 59  | 27  | 26  |                 |
| overly specific          |     |     |     |     |     |     |    |      |     |     |     |    |    |     |     |     |     |                 |
| contribution             |     |     |     |     |     |     |    |      |     |     |     |    |    |     |     |     |     |                 |
| Rejection justification:|     |     |     |     |     |     |    |      |     |     |     |    |    |     |     |     |     | 323              |
| already selected         | 136 | 39  | 17  | 13  | 5   | 14  | 5  | 5    | 9   | 8   | 22  | 2  | 3  | 4   | 14  | 16  | 11  |                 |
| Rejection justification:|     |     |     |     |     |     |    |      |     |     |     |    |    |     |     |     |     |                 |
| not already selected     | 186 | 59  | 39  | 35  | 20  | 20  | 22 | 12   | 17  | 8   | 16  | 0  | 4  | 3   | 74  | 25  | 13  | 553              |
| Selected articles        | 50  | 17  | 5   | 7   | 1   | 7   | 2  | 2    | 2   | 7   | 11  | 1  | 1  | 1   | 5   | 12  | 5   | 137              |

<sup>12</sup> A detailed document presenting the selection is available upon request.
## Table 2. Additional (25) references considered for review

<table>
<thead>
<tr>
<th>Additional references</th>
<th>Access</th>
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<tbody>
<tr>
<td>Reference</td>
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<tr>
<td>Moderator</td>
<td>Example</td>
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<td>----------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Institutional factors and frameworks</td>
<td>Dimensions included in the World Governance Index (government effectiveness, quality of regulatory policies, rule of law and property rights protection, political stability, voice and accountability, and control of corruption); mix of political, economic, and contractual rules (see Li and Zahra, 2012, pp. 100–101)</td>
</tr>
<tr>
<td>Level of rules and regulations</td>
<td>Product-, management-, legal liability-, and government regulation-related risk factor (Arthurs and Busenitz, 2006, p. 206)</td>
</tr>
<tr>
<td>Firm location</td>
<td>Entrepreneurial firm’s headquarters (Tian, 2011, p. 137)</td>
</tr>
<tr>
<td>Levels of uncertainty and demand</td>
<td>Venture stage, technical, product, and marketing innovation (Sapienza et al., 1996, p. 455); the difficult assessment of customer preferences for technology, difficult forecasting of demand for technology, and difficult prediction of changes in customer preferences for technology (Townsend and Busenitz, 2015, p. 298)</td>
</tr>
<tr>
<td>Investment stage</td>
<td>Pre-investment (deal origination, screening, evaluation, and structuring), post-investment, and exit phase (De Clercq et al., 2006, p. 97); seed, startup, and other early stage; expansion, later/acquisition, and other stage (Dimov and De Clercq, 2006, p. 213)</td>
</tr>
<tr>
<td>Timing</td>
<td>Time to first VC investment (i.e., ‘the number of years, since inception, that it took the new venture to secure VC funding;’ Ragozzino and Blevins, 2016, p. 1001)</td>
</tr>
<tr>
<td>Contract</td>
<td>Security, veto, control, voting, board, and exit rights (for a full</td>
</tr>
<tr>
<td>specifications</td>
<td>presentation, see Burchardt et al., 2016, p. 28)</td>
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<tr>
<td>----------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Dyadic ethnicity</td>
<td>Surnames of the VC firm’s partners and portfolio company’s founders (Bengtsson and Hsu, 2015, p. 343; on ethnicity, see also Zhang, Wong, and Ho, 2016)</td>
</tr>
<tr>
<td>Geographical distance</td>
<td>‘[T]he miles between a VC’s headquarters and the portfolio firm’s headquarters’ (Lee et al., 2011, p. 42)</td>
</tr>
<tr>
<td>Reputation and other network-related dimensions</td>
<td>VC’s IPO capitalization share (Cumming and Dai, 2013, p. 1008; see also Nahata, 2008); VC firm centrality (Ozmel et al., 2013, p. 857)</td>
</tr>
</tbody>
</table>
### Table 4. Cross-disciplinary mixed methods-related approach to VC research

<table>
<thead>
<tr>
<th>Sub-field</th>
<th>Illustrative examinations/investigations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics</td>
<td>• (1) Quantitative examination of economic variables (e.g., GDP, firm profitability, employment rate) and (2) qualitative and phenomenological exploration of the effects of these variables on the VC firm–portfolio company dyadic relationship.</td>
</tr>
<tr>
<td>Sociology</td>
<td>• (1) Quantitative focus on norms, networks, institutions, and power variables (Ahlstrom and Bruton, 2006; Li and Zahra, 2012) and (2) qualitative and phenomenological focus on their effects on the dyadic relationship.</td>
</tr>
<tr>
<td>Political science and</td>
<td>• Examination of statistical and causal relationships between the VC value creation process and both (a) public policies and (b) culture (e.g., Li and Zahra, 2012; Sapienza et al., 1996).</td>
</tr>
<tr>
<td>anthropology</td>
<td>• Quantitative and correlational focus on and (2) qualitative and phenomenological comparison of the links between the entrepreneur’s gender (Malmström, Johansson, and Wincent, 2017) and national characteristics, plus their resulting effects on VC experiences.</td>
</tr>
<tr>
<td>Psychology</td>
<td>• (1) Quantitative investigations of the role of psychological conflicts (i.e., discrepancies in individual visions at group level) in the VC firm–portfolio company relationship, (2) qualitative interviews focused on those ‘conflictual’ experiences, and (3) empirical comparisons of experimental and control (i.e., no effects on value creation activity).</td>
</tr>
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</table>
### Venture Capital Research Review and Directions

<table>
<thead>
<tr>
<th>Category</th>
<th>Research Directions</th>
</tr>
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<tbody>
<tr>
<td>Organizational behavior</td>
<td>• (1) Quantitative investigation of the role of <em>cognition</em> (e.g., Mitchell <em>et al.</em>, 2007; Murnieks <em>et al.</em>, 2011) and (2) qualitative investigation of the cognition–dyadic success relationship.</td>
</tr>
</tbody>
</table>
| Human resource management | • (1) Quantitative and (2) qualitative investigations of the dyadic differences in human resource management and human capital practices with regard to contextual contingencies, such as firm location (e.g., Tian, 2011; Tyebjee and Bruno, 1984; Walske and Zacharakis, 2009).  
• (1) Quantitative and (2) qualitative investigations of these dyadic differences with regard to (public *versus* private) investors. |
| Operations management     | • (1) Quantitative and (2) qualitative investigations of the idiosyncratic dyadic differences concerning the management of supply chain (a) processes and (b) relationships (e.g., Liker and Choi, 2004). |
| Accounting                | • (1) Statistical (how much?) and (2) causal (why?) investigations of the role of costs (a) in the dyad during the post-investment phase and (b) on the portfolio company’s long-term performance. |
| Finance                   | • (1) Quantitative and (2) qualitative investigations on the role of contracts (Burchardt *et al.*, 2016; Cumming, 2008; Fiet, 1995; Kaplan and Strömberg, 2003, 2004) in the (a) portfolio company’s long-term performance and (b) value creation process. |
| Marketing | (1) Quantitative and (2) qualitative investigations on the role of advisors (e.g., helping overcome inexperience and funding problems) in the value creation process (Lahti, 2014).
|           | Examination of statistical and causal significance of the relationships between VC and market orientation of the portfolio firm strengths/weaknesses and environmental opportunities/threats (SWOT).
|           | (1) Quantitative and (2) qualitative investigations on the links between marketing and reputational benefits (e.g., market attractiveness, product differentiation) provided by a VC firm and the portfolio company’s (a) long-term performance and (b) value creation process. |
| Family business | (1) Statistical (how much?) and (2) causal (why?) investigation of the significance of the socioemotional wealth impact (e.g., Gómez-Mejía et al., 2007, 2011) on (a) the VC firm’s commitment, more generally, (b) dyadic relationship, and (c) family firm’s (e.g., Gedajlovic et al., 2012; Schulze and Gedajlovic, 2010) long-term performance. |
Setting research objectives

- Examine past accomplishments in VC literature
- Organize this literature around research streams/themes
- Include the stream/theme related to the relational, learning, and other aspects of the VC–entrepreneur relationship

Defining conceptual boundary

Focus on classic or professional venture capitalists (VCs)

Setting inclusion criteria

Search boundaries  List of search terms  Covered period

- ABI/Inform and EBSCO databases  ‘venture capital,’ ‘VC,’  1985–2017
- SEJ, JOM, JFE, and JBV websites  ‘venture capitalist,’
- Reference list of identified articles  ‘syndication,’ syndicate’
- Books

Applying exclusion criteria

- Articles that primarily focus on other major sources of equity finance (e.g., business angels, corporate venture capitalists)
- Working papers
- Dissertations
- Conference proceedings

Final sample (162 references)

Figure 1. Summary of the review process