

Peer effects and intentional entrepreneurial behaviour: A systematic literature review and research agenda

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Abstract

What role peers play in individuals' decisions to become entrepreneurs and to what extent peer effects play a role in influencing behaviours at the various stages of business venturing are important questions for scholars and policymakers. This systematic review takes stock of the recent additions to the literature around the phenomenon of peer influence in entrepreneurship. The review identified 2894 documents which were then narrowed down through three consecutive filtering stages. We thematically analysed the final sample of 27 empirical studies that shed light on how individual peers influence the process and outcomes of these individuals' entrepreneurial intentions and behaviour, allowing for critical analysis. We propose a conceptual schema of social influence that occurs in interactions among entrepreneurial individuals within business venturing and across the three stages of pre-formation, formation and growth. Our framework reconciles the conceptual classification around discovering, evaluating and exploiting entrepreneurial opportunities with the mechanisms of social influence affecting entrepreneurial behaviours. Grounded in the findings of the literature review, this framework synthesizes peer influence in entrepreneurship with the tripartite distinction of the behavioural motives recognized in contemporary theories of social influence. We suggest promising directions for further research on how interactions with peers might affect individuals' entrepreneurial behaviours.

INTRODUCTION

People are attracted to become entrepreneurs for the favourable aspects of entrepreneurship, including autonomy and independence in managerial decisions (Brockhaus, 1975; Sexton & Bowman, 1985). The conscious intentional decision to become an entrepreneur, however, is not made without the influence of others (Bosma et al., 2012; Davidsson, 2004; Davidsson & Honig, 2003; Engle et al., 2011). Similarly, the decisions underpinning nascent entrepreneurship or during growth phases are affected by

people in a businessperson's social environment (Carr & Sequeira, 2007; Gedajlovic et al., 2013; Salimath & Cullen, 2010). Substantial influence in people's social environment is exerted by peers, who are individuals with perceived similarity to the focal person in the 'aspects that they consider relevant', be that background, rank or attributes (Fox et al., 1989, p. 781). The endogenous social dynamics that result in acquisition of attitudes and patterns of behaviour among such similar and relevant individuals in groups are referred to as peer effects or peer influence (Manski, 1993, p. 531). Peer effects on a broad range of

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attitudes and behaviours are significant, and a well-studied phenomenon in social psychology (Brechwald & Prinstein, 2011). Recent additions to academic and business literature highlight the substantial impact of peer influence on individuals' intentional behaviours and outcomes in various processes related to management and entrepreneurship (Chase, 2015; McDonald & Eisenhardt, 2020; Steinberg & Watkins, 2021). This review aims to answer the question: 'What effects do an individual's peers have on that individual's entrepreneurial intentions and behaviours?'

The study of entrepreneurship is an important area of academic research (Aldrich, 2012; Shepherd et al., 2019; Zahra & Dess, 2001). Countries wishing to grow and develop particularly recognize entrepreneurship as an imperative (Acs et al., 2012; Dias & McDermott, 2006). Across the free market economy, entrepreneurship is a significant source of innovation and a vital means to increase efficiency in resource allocation (Acs et al., 2014; Wong et al., 2005). Although the volume and scope of entrepreneurship research may be overwhelming (Gartner et al., 2006), its contextualization (Gartner, 2007; Shepherd et al., 2019; Welter, 2011) ensures its relevance and engagement with practice (Van de Ven, 2007). Taking stock of entrepreneurship research using the contextual lens of social environment, specifically regarding the constituency and effects of peers on individuals' entrepreneurial behaviours, this review offers a nuanced unpacking of mechanisms and 'discrete contexts' (Johns, 2006, p. 391) that can advance further research in the field. Looking at how the decisions of individuals about entrepreneurial activities are influenced by peers as part of the social environment, with the often called for interdisciplinary approach (Colquitt & George, 2011; Jones & Gatrell, 2014; Pittaway et al., 2004), we make an attempt to elucidate the theoretical underpinnings of distinct and overlapping areas of research fields in management science and social psychology. We build on the foundational concepts of entrepreneurial behaviours and the role of social capital in entrepreneurship, then bring in the latest literature around peer influence on entrepreneurship. In doing so, this literature review provides a basis for critical analysis and future theoretical development and empirical research.

There are numerous studies which focus on the individual entrepreneur (e.g., Baum & Locke, 2004; Kets de Vries, 1977) as isolated, self-directed, 'sometimes maverick, often non-conforming but single-handedly relentlessly pursuing opportunity' (Dodd & Anderson, 2007, p. 341). Others see entrepreneurship as embedded (Cornelissen & Clarke, 2010; Granovetter, 1983), where entrepreneurs are considered beings influenced by their social circle (Rosenberg, 2011; Steinberg & Monahan, 2007). Past research on social influence has revealed counterintuitive psychologi-

cal effects generated by social forces (Asch, 1956; Milgram, 1963), and the impact of persuasion and normative influences (Cialdini & Goldstein, 2004) on an individual's judgement relating to entrepreneurial activity holds great interest for the field of entrepreneurship scholars (Minniti, 2005; Shepherd, 2015; Shepherd & Krueger, 2002) and more recently in Douglas et al. (2021). Still, ambiguities around the sources of influence and the mechanisms responsible for the effects remain with regard to entrepreneurial behaviour. For example, a recent review of the literature on the effect of prior exposure to entrepreneurship on the entrepreneurial process and outcomes (Zapkau et al., 2017) referred to studies on entrepreneurial role models like parents, relatives or friends, but did not highlight research on the endogenous social dynamics in groups of peers (peer effects) in relation to the phenomenon. Similarly, some studies combine different influences as social capital (Davidsson & Honig, 2003). Van Auken et al. (2006) identify fathers as the most significant role model, and Özcan (2011) focuses on the influence of spouses, yet specific peer effects are not isolated. Peer effects can be considered a special case among social effects. Besides social effects emanating from parents, relatives and friends (Zapkau et al., 2017), peer effects are important because of peers' similarity and special relevance to individuals. Peers can constitute a major part of an individual's social circle as they include acquaintances. Therefore, the application of aggregated social nodes that combine friends, significant others and role models might inhibit deeper understanding of what influences entrepreneurship. The studies mentioning peers and entrepreneurship exhibit a variety of definitions of peers, ranging from friends (e.g., Davidsson & Honig, 2003; Field et al., 2016) and colleagues (e.g., Moog et al., 2015; Tartari et al., 2014) to role models (e.g., Davidsson, 2004; Karimi et al., 2014; Wyrwich et al., 2019). Recent and rare studies that refer to effects of peers on entrepreneurship apply the concept of peers ambiguously with diffuse or inclusive operationalizations (e.g., Bellò et al., 2018; Markussen & Roed, 2017; Xu et al., 2021) that can be self-reported by informants or/and combine family members with academically affiliated individuals, and they leave underspecified how peers affect entrepreneurship. As entrepreneurial objectives and intentions at various stages of business venturing differ significantly (Gielnik et al., 2014; Jenkins & Johnson, 1997), what peers influence also requires specific attention. Seeking to address these inconsistencies in conceptualizations of constructs that hold back the research field, this paper presents a systematic review of the literature, and aims to describe and explain the effect of peers on entrepreneurial behaviours. The objective of this review is to provide a conceptual framework and propose a research agenda.

Addressing the requirements for systematic reviews in management disciplines to be grounded in theory and to provide ‘interactive “evidence maps” to identify what is known and not known’ (Rojon et al., 2021), we offer a synthesis of the literature across contextual dimensions in entrepreneurship research (Shepherd et al., 2019; Welter, 2011) and concepts and mechanisms of social influence (Cialdini & Trost, 1998; Wood, 2000) among peers. The following sections report on foundational theoretical perspectives, the systematic search and analysis of the empirical studies performed, and the synthesis of results. The proposed research framework organizes extant research based on the contexts and stages of the entrepreneurial process and the mechanisms responsible for the influence stemming from peers in an individual’s social environment. We indicate contradictions and lacunae in the research body and identify promising directions for further research.

THEORETICAL PERSPECTIVES ON THE PEER EFFECTS IN BEHAVIOURAL PROCESSES RELATED TO ENTREPRENEURSHIP

Addressing the need for clear definitions and constructs (Alvesson & Blom, 2021; Suddaby, 2010), we attempt to provide an overview of research that can help inform thinking about peer effects on intentional entrepreneurial behaviours.

Intentional entrepreneurial behaviour

Research on antecedents and determinants of individuals’ performance in entrepreneurship has for a long time been preoccupied with ideas of personality traits and demographics, before turning to cognitive behavioural models and attempting to explain and predict individuals’ self-employment choices (Krueger & Carsrud, 1993). The behavioural perspective defines entrepreneurship as the conscious and intended behaviour of initiating a new organization (Bird, 1988, p. 443). Understanding entrepreneurial intentions is an important path of scientific enquiry, as they are ‘the single best predictor [...], both conceptually and empirically’ (Krueger & Carsrud, 1993, p. 315) of behaviours connected with starting a new business. With exceptions (Lerner et al., 2018), scholars agree that entrepreneurial behaviours are neither spontaneous nor impulsive but intentional (planned). While entrepreneurial cognition is seen as situated (Dew et al., 2015; Grégoire et al., 2015; Haynie et al., 2010; Mitchell et al., 2002; Welter, 2011), entrepreneurial behaviour is

seen as an example of intentional (planned) behaviour (Kautonen et al., 2015; Lortie & Castogiovanni, 2015) that is informed by ‘a judgmental decision under uncertainty about a possible opportunity’ for economic and/or non-pecuniary gains (Shepherd, 2015, p. 493). In this vein, entrepreneurial intentions translate into entrepreneurial behaviours, where this translation is informed by the accumulated effect of motivational and control attitudes (Bagozzi et al., 2003; Madden et al., 1992; McGee et al., 2009). Contemporary convention in entrepreneurship research recognizes that individuals’ entrepreneurial attitudes, intentions and behaviours need to be studied within contexts that enable or set boundaries for business venturing endeavours (Shepherd, 2011; Shepherd et al., 2019; Welter, 2011). Influenced by attitudes and situational factors, entrepreneurial behaviour is ‘the processes of discovery, evaluation, and exploitation of [business] opportunities’ (Shane & Venkataraman, 2000, p. 218).

During the last three decades, several studies demonstrated the applicability of intentionality as a construct to explain the complexity of behaviours in relation to entrepreneurship (for a recent review of the literature, see Liñán & Fayolle, 2015) and it is possible to say that intentions are indeed the best predictor (Krueger & Carsrud, 1993) of a range of behaviours connected to starting and running a firm. The seminal conceptualization of the intentional Entrepreneurial Event Model (EEM) of Shapero and Sokol (1982) claims that decisions for entrepreneurial behaviour stem from attitudes—perceived desirability and feasibility—whilst the construct of propensity moderates the behaviour to act on opportunities. Later models of entrepreneurial intent (i.e., Krueger, 1993; Liñán & Santos, 2007; Schlaegel & Koenig, 2014) were greatly influenced by Ajzen’s (1991) Theory of Planned Behaviour (TPB) framework. This model includes *subjective norms*, which are responsible for the impact of expectations from social environments, and one’s willingness to comply with them, on an individual’s intentions towards a particular target behaviour. Even though the framework is well established in social psychology, several meta-analytical reviews of TPB suggested that the normative influence (subjective norms) is the weakest component of the model (Armitage & Conner, 2001; Shepard et al., 1988), as numerous tests found insufficient empirical evidence for the relationship between the subjective norms construct and the intentions formed (cf. Kautonen et al., 2015; Terry et al., 1999). While other scholars suggest that, depending on circumstances and behaviours, subjective norms could serve as a primary determinant of actions (Trafimow & Finlay, 1996), Ajzen (2002, 2011, 2015) and Fishbein and Ajzen (2011) pointed towards the interacting and moderating nature of variables when studying TBP with statistical tools. Recently,

with particular attention to subjective norms, La Barbera and Ajzen (2020) proposed that the predictive power of the TPB's normative influence can expand if interactions between elements are taken into account. For example, to illustrate the interactive links between the elements recently introduced to the model by Bosnjak et al. (2020), it is possible to assume that individuals can be less susceptible to normative expectations if they feel more control over performing a behaviour. Additionally, the authors suggest that subjective norms should be distinguished between *injunctive* and *descriptive* norms. While injunctive norms refer to compliance with expectations, in essence they inform us what *should be done*, descriptive norms are about the perception of prototypical behaviour of people in reference groups, or the attitudes to what is *being done* by others (Cialdini et al., 1991). The potential impact of these two types of norms on an individual's attitudes, intentions and behaviours can be substantial, though it depends greatly on the context and nature of the behaviours (Nolan et al., 2008). Applied to the multifaceted processes involved in entrepreneurship, the evidence on the relative power of the injunctive and descriptive norms is not converging (Carr & Sequeira, 2007; Engle et al., 2011; Tan, 2002; Zapkau et al., 2017).

Effects of peers on intentional entrepreneurial behaviour

The situational context influences an individual's entrepreneurial cognition (Clarke & Cornelissen, 2011; Dew et al., 2015; Karami & Read, 2021; Mitchell et al., 2011). Entrepreneurial behaviours can be informatively or normatively influenced by members of her/his social environment, such as parents (Lindquist et al., 2015), friends (Davidsson & Honig, 2003; Lu et al., 2017), mentors (Carsrud et al., 1987; Eesley & Wang, 2017), colleagues (Stuart & Ding, 2006) and distant or closely observed models of social learning (Bosma et al., 2012). In the recent review on the situated cognition of entrepreneurs, these social nodes are not specified in detail, aside from separating the role-modelling effects of parents from all other people in individuals' social environments (Zapkau et al., 2017). Another review on the role of stakeholders in the creative part of the entrepreneurial process did not map in detail the role of peers either (Karami & Read, 2021). In the field of entrepreneurship research, these sources of influence are sometimes combined under umbrella terms like 'peers' and 'role models', which are often used interchangeably (e.g., Wyrwich et al., 2016). The impact of peers and role modelling, as one of the processes of social learning (Bandura, 1977), in shaping individuals' behavioural patterns is hence difficult to overemphasize

as peers are often a major part of one's social environment (Brechwald & Prinstein, 2011; Steinberg & Monahan, 2007). Analysing entrepreneurial behaviours from the peer influence vantage point seems promising for expanding scholarly knowledge, if it were not for two obstacles. First, a lack of consensus concerning the conceptualization of peers impedes better understanding. This lack of a common definition of 'peer' is problematic; it combines with methodological problems in identifying the effects of normative social influence from a broader audience (Lee-Ross, 2017; Nolan et al., 2008) and peer effects particularly (Epple & Romano, 2011; Greenberg, 2021; Manski, 1993).

Contemporary understanding of influence in social psychology informs us that attitudes are socially constructed and 'they emerge from and are embedded in social interaction' (Wood, 2000, p. 561), thus they are subject to social normative influence. Moreover, the social influence itself is not limited to subjective norms but operates through various mechanisms of persuasion (Cialdini et al., 1990; Deutsch & Gerard, 1955) and individuals' concerns about 'coherence and favourable evaluation of the self [...], satisfactory relations with others, [...] understanding the entity or issue featured in influence appeals' (Wood, 2000, p. 541). With implications for entrepreneurial intentions and behaviours, the mechanism responsible for the coherence of an individual's self-identity (Sparks, 2019) manifests its influence through perceived desirability and attitudinal constructs in existing models (Ajzen, 1991; Shapero & Sokol, 1982). The more an individual perceives entrepreneurial identity as an attractive and desirable self-concept, the greater are the motivational factors towards entrepreneurial behaviour (Obschonka et al., 2015; Terry et al., 1999). The motive of maintaining relationships with others promotes a willingness to comply with social expectations (Brechwald & Prinstein, 2011; Cialdini & Goldstein, 2004), increasing the expected value of the outcomes of an individual's entrepreneurial behaviour in the way of approval or rewards. An individual's motive to obtain an accurate judgement around the complexity of an entrepreneurial task—and their personal aptitude for it—corresponds with the concept of the feasibility of an entrepreneurial act and can partly be explained by the construct of self-efficacy (Bandura, 1982, 1994) and partly by the construct of perceived behavioural control (Ajzen, 1991) in existing models. Besides discovering information and comprehending it, an individual's judgement of the quality and reliability of the information acquired from social sources, together with an individual's willingness to accept the information as accurate and valid, remains a matter of subjective cognition (Deutsch & Gerard, 1955; Smith & Semin, 2004). Applying the mechanisms responsible for normative influence and persuasion to the contexts of entrepreneurship and the role of peers in

forming one's attitudes and intentions towards entrepreneurial behaviours might shed light on the microprocesses beyond homophily and social learning. Therefore, it is possible to assume that a nuanced attention to the constructs from social psychology and new ways of conceptualization and operationalization of the effects of social influence, in particular the peer effects, on intentional behaviours in general (and intentional entrepreneurial behaviours specifically) can offer better theoretical underpinnings of the multifaceted processes of social cognition that inform the formation of an individual's motivational factors and intentions.

Peer effects

Peer effects, unrelated to entrepreneurship, are an area of study that has attracted a great deal of scholars' attention in social psychology (Brechwald & Prinstein, 2011; Epplé & Romano, 2011). The rest of this section provides the theoretical underpinnings in relation to peer effects on a general range of behaviours.

In sociology, the concept of 'peers' is in common use when studying the relative effects of individuals' behaviours and attitudes in groups of people with a certain degree of similarity across relevant factors. Peers could be broadly defined as 'those individuals in the immediate social context of similar rank and similar attributes to the focal individual' (Tartari et al., 2014, p. 1190). Studying endogenous social effects, scholars use 'peer influence' or 'peer effects' interchangeably, which are defined as the 'propensity of an individual to behave in some way [that] varies with the behaviour of the group' (Manski, 1993, p. 532). Conceptually, peer effects can be divided across two types of processes responsible for the phenomenon of observed similarities in attitudes and behaviours among peers, namely, the self-selection and socialization (interpersonal influence) processes (Brechwald & Prinstein, 2011; McPherson et al., 2001). The self-selection processes in general can be attributed to the mechanisms of homophily, that emphasize similarity as the factor for creating and maintaining social ties among individuals (McPherson et al., 2001). The socialization processes among peers relate to the mechanism of social learning (Bandura, 1977), which is responsible for acquiring behavioural patterns among individuals, thus removing differences among peers in groups. An individual's immediate social circle is often understood as a reference group to which that individual belongs through institutional imposition or self-selection (Steinberg & Monahan, 2007). Depending on the context, peers' similarity attributes can include—but are not limited to—age, institutional affiliation, geographical association, personal skills and

professional interests (McPherson et al., 2001). Research on the selection and socialization processes of peer effects has been dominated by studies determining these phenomena for a variety of adolescent behaviours, most frequently for education (e.g., Epplé & Romano, 2011) and risk-taking and aggressive behaviours (e.g., Brechwald & Prinstein, 2011). However, peer effects occur among adults, as susceptibility to peer influence continues to affect groups and social organizations (Steinberg & Monahan, 2007), where expectations and standards are reinforced by peer influence and sometimes peer pressure (de Klepper et al., 2017; Durkin, 1996).

Through their social embeddedness, individuals are connected with people in their social environment by strong and weak ties, according to the extent of trust and the time they spend together (Granovetter, 1983, 2005). Family members, friends, role models, colleagues and acquaintances are usually present in an individual's social circle, however, the nature of the connections (ties) with these categories of people would differ. Several reviews (Hoang & Antoncic, 2003; Nahapiet & Ghoshal, 1998; Slotte-Kock & Coviello, 2010; Ulhøi, 2005) discuss how an individual's social contacts (i.e., relatives, friends, co-workers, classmates, neighbours, etc.) broadly facilitate one's entrepreneurial endeavour, providing support and/or access to resources. However, so far none of the reviews on the role of social capital in the entrepreneurship process has focused on an individual's peers as a separate group of nodes in their social capital. This might be explained by the fact that scholarly interest in the topic of peer influence on entrepreneurship rapidly emerged only during the last decade, allowing insufficient time, as yet, to germinate a new area of research.

Peer effects have been studied in relation to various social and economic behaviours of adult individuals: occupational choices (Li et al., 2015; Roach & Sauermann, 2010), managers' remuneration (Zorn & Combs, 2011) and career development (Kram & Isabella, 1985; Siegel, 2000). In general, definitions of 'peers' used in research are often subsumed in the broader category of social contacts (e.g., Chase, 2015; Rosenberg, 2011) and operationalizations of the 'peer effects' often emphasize role modelling and normative regulation as the main mechanisms of influence on behavioural patterns among members of reference groups (Steinberg & Monahan, 2007). However, aside from possibly omitting opportunities for delineating mechanisms responsible for social learning (modelling) (Bandura, 1977) among peers, not differentiating between the sources of social influences risks generalizing too much. Indeed, not all people of similar rank and attributes in an individual's social circle serve as role models. Equally, not all role models can be defined as peers due to asymmetries in rank or attributes. Therefore, the indiscriminate or

interchangeable use of 'peers' and associated terms related to constitutions of groups and the effects of social interactions risks leading researchers astray from a conceptual understanding of the phenomenon they study.

We now discuss the details of the literature review we performed.

SYSTEMATIC ANALYSIS OF THE RESEARCH ON PEER INFLUENCE IN ENTREPRENEURSHIP

Search and selection method

The question which frames this literature review is 'What effects do an individual's peers have on that individual's entrepreneurial intentions and behaviours?' The aim of conducting the systematic literature review is to map simultaneously the existing body of knowledge (Rojon et al., 2021; Tranfield et al., 2003) and provide a basis for 'a synthesis and evaluation of the accumulated state of knowledge..., while stressing strengths and weaknesses of prior work' (Jones & Gatrell, 2014, p. 259). The search and selection criteria protocol used in this study builds on other systematic literature reviews in the field of entrepreneurship (García et al., 2015; Grégoire et al., 2011). The inclusion and exclusion quality criteria applied in selection stages are informed by the methodological approach offered by Pittaway et al. (2004), and the content analysis of articles selected was inspired by the synthesis logic approach to reviews (Denyer et al., 2008). We did not deliberately exclude any related constructs from the scope of this systematic review when searching and analysing studies. Instead, with an inclusive approach in search criteria, we did assess the extent to which previous research addressed the phenomenon of peer effects on entrepreneurship within the mechanisms of selection and social influence among individuals in groups. The process of search, analysis and synthesis of results is reported in detail, ensuring that the literature review can be replicated and updated. A schematic representation of the sequential stages involved in the process of sequentially searching, selecting and analysing the studies is offered in the flowchart in Figure 1.

The search was conducted in four electronic databases: ProQuest, Web of Science, Scopus and EBSCO. The search words used were 'peer*' AND 'entrepreneur*' in all fields, including title, abstract, keywords and excluding only full text. The open and inclusive character of search assures us that results will include the studies on concepts related to peer influence on entrepreneurship, and that we managed to capture all relevant studies in the field. We made several trial searches using a combination of words syn-

onymous with the key search words (e.g., intent, business venturing, friends, role models). To our satisfaction, these additional searches did not deliver any additional relevant results. We did not exclude dissertations, books and conference proceedings at the search stage, aiming to produce a more comprehensive outlook on the existing body of literature. Despite this inclusive approach in the search, we only considered articles published in peer-reviewed journals.

The databases and numbers of documents returned are presented in Table 1.

The search was completed in 2022. In total, 2894 documents were identified that matched the search criteria. This decreased to 1621 after deleting 1273 duplicates. Two stages of subsequent filtering were: (1) screening the titles and abstracts to identify literature specific to the review question (creating the shortlist); (2) reading shortlisted documents to find articles with a focus on the effect of peers on entrepreneurship (creating the list of focused articles). The second stage included applying the quality criteria, adopted from a review by Pittaway et al. (2004), to the focused studies by assessing each article's depth of analysis and its contribution to creating knowledge, addressing the question of how peers relate to entrepreneurial intention (assessing focused articles). A thematic analysis of the articles included in the sample followed, and resulted in a synthetic framework across contextual and conceptual themes identified in the literature.

The three stages of sample processing, criteria and number of articles corresponding to each stage are presented in Table 2.

After eliminating duplications, the initial sample of documents was filtered by searching in titles, keywords and abstracts for a mutual appearance of words related to contexts of entrepreneurship (i.e., business, venture, company) and peer influence (e.g., social, normative influence, role model) in a single, logical construct expressed in a sentence or paragraph (Delgado García et al., 2015). Our operationalization of the entrepreneurship construct at this stage was open and inclusive, and encompassed phenomena related to the individual-opportunity nexus (Davidsson, 2015; Shane & Venkataraman, 2000). Less inclusive was our application of the peer influence, retaining the studies in which the term 'peer' was used in application to social dynamics that are happening among individuals in reference groups (Brechtwald & Prinstein, 2011; Manski, 1993). Initial filtering, scanning only titles, abstracts and keywords, excluded more than half of studies because the term 'peer' appeared in keywords only—indicating the peer-review process that articles underwent before publication in scholarly journals, but not their engagement with the questions related to the phenomenon of peer influence on entrepreneurship. Further processing the remaining articles' titles, abstracts and full texts

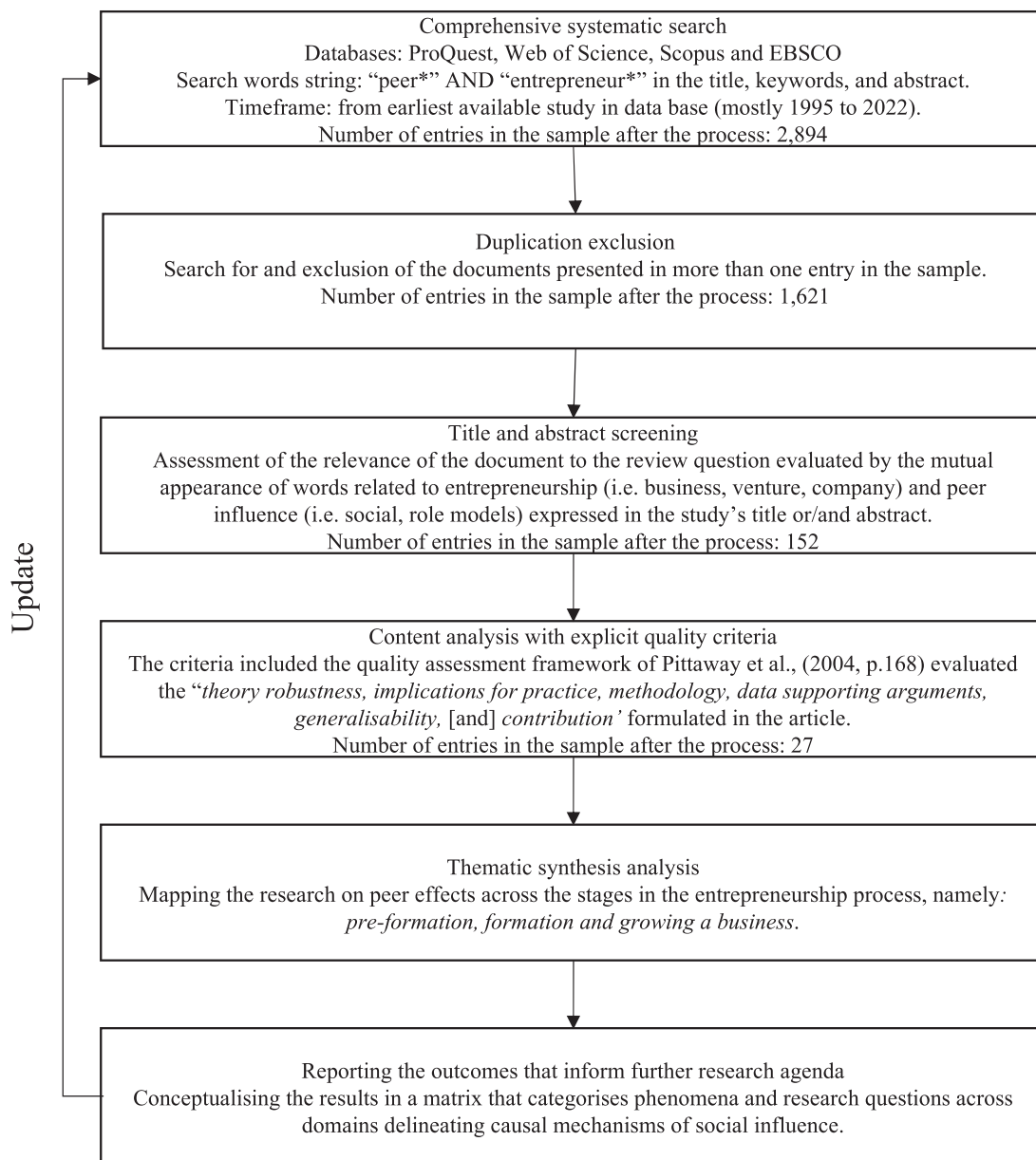


FIGURE 1 Sequential process diagram of searching, selecting and analysing research in the review

helped gauge their relevance to the review question. A substantial number of articles were excluded for the reason that they were focusing on 'peer-to-peer' services and lending business models instead of social effects when referring to the term 'peer'. This rather technical definitional criterion decreased the number of studies in the sample by 1469 entries, the majority of which were focused on entrepreneurship but not related to peer effects.

During the search, in order to be as inclusive as possible, we did not introduce any exclusion criteria based on the source of publication (e.g., journal rankings) as a proxy for study quality. Nor did we use journal rankings and their standings at the second stage when gauging the quality of the articles, as this mechanistic quality crite-

TABLE 1 Database output

Database	Number of entries
ProQuest	444
Scopus	964
Web of Science	880
EBSCO (Business Source Complete; PsycINFO; PsycARTICLES)	606
Total	2894

ria could exclude articles published in journals with lower ranking that otherwise would provide value and relevance to the review. We read and evaluated the articles using

TABLE 2 Stages of processing the literature

Stage of sample processing	Inclusion/exclusion criteria	Number of documents excluded at the stage	Number of documents remaining from the initial sample of 2894
Search for duplication	The same document presented in more than one entry	1273	1621
Relevance of the document to the topic of review	Mutual appearance of either both search words or their meanings in the document's abstract or title	1469	152
Depth of analysis of the topic 'effect of peers in entrepreneurship' presented in the article	The main focus of research is the influence of peers in entrepreneurship, or the study discusses the topic in depth. Concepts (e.g., peers) are clearly defined, rigorous methodological approaches applied in analyses.	125	27

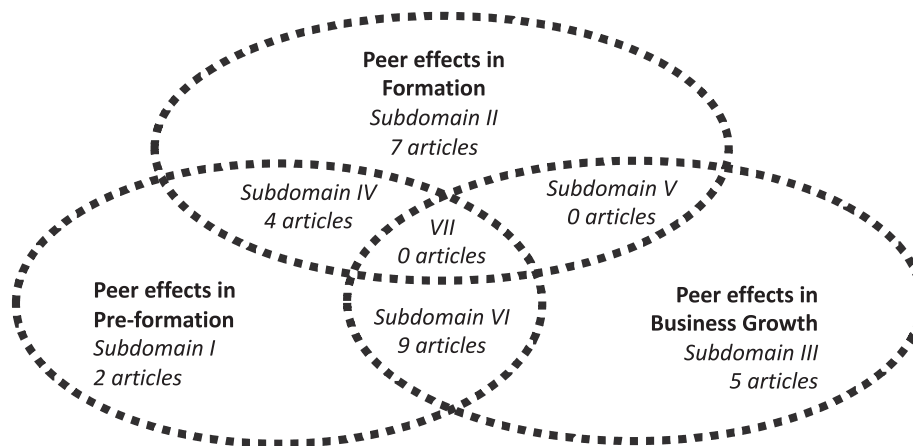
a quality assessment scheme (Pittaway et al., 2004). The full texts of the remaining 152 documents were read and evaluated on the basis of whether the main focus of the studies was on the effect of peers on entrepreneurship and whether the analysis was being done with a substantial level of academic rigour. That stage excluded a further 125 studies that did not meet the required levels of fitness for inclusion in the literature review. Informed by the synthesis approach to literature reviews (Denyer et al., 2008) and similar to the selection processes employed by Delgado García et al. (2015), we evaluated how articles ascribed the context of entrepreneurship, how the intervention of peer influence was identified and the measurement of outcomes of that intervention. This resulted in excluding almost half of the 152 studies, which only mentioned the reviewed constructs. For example, the concept of peers was not the focus of Mustapha and Selvaraju's (2012) study. Some of the excluded studies examined the social influence of several distinguishable groups of people while using the single term 'peers' (e.g., Patuelli et al., 2020). There were also studies excluded that did not discuss peer influence or/and entrepreneurship in sufficient depth to be relevant to the phenomenon (e.g., Shimamoto et al., 2021; Suratno et al., 2021; Xu et al., 2021; Yang et al., 2021), or where the data and methodology used in the research imposed substantial limitations on the evidence related to peer effects (e.g., Bade, 2022). Some research engaged with the context of entrepreneurship in a very superficial way, for example Lopera and Marchand (2018) studied peer effects on risk-taking among entrepreneurs in a staged experiment related to behaviours that pertain to gambling, not business or venturing. Employing the methodological quality assessment considerations of Pittaway et al. (2004), the contents of shortlisted empirical articles were examined by two researchers independently. The quality criteria that we applied consisted of metrics that evaluated the 'theory robustness' formulated in the article, how

well epistemological and methodological approaches were described, and the study's 'implications for practice [and] generalizability' (Pittaway et al., 2004, p. 168). To address the concerns that our content analysis delivers systematic and objective evaluations of the studies, we adhered to methodological recommendations for independent coding in literature reviews (Furrer et al., 2008). In case of disagreement between the two researchers, a detailed joint examination of the article's content was conducted until agreement was reached concerning the categorization of the study in question. The three consecutive filtering stages removed 1401 documents and left a final list of 27 studies. All the shortlisted empirical articles were published from 2007 onwards. About two-thirds were published after 2012, with the most recent third published during the last 5 years. The increasing pace of new additions to the publications on the topics related to peer effects on entrepreneurship might indicate emerging interest from scholars in the field. Our review reveals that the current state of research on peer effects in entrepreneurship suffers from potentially serious issues and thus we believe this is an appropriate time to review the present state of knowledge.

In the sections that follow, we offer our findings and a discussion of the empirical results and theoretical propositions presented in the reviewed articles. The analysis offers a comparison of the different ways researchers identify and qualify an individual's peers, together with the similarities and differences in antecedents and determinants of individuals' entrepreneurial behaviour in the studies reviewed.

FINDINGS

Our synthesis of the literature on peer effects on intentional entrepreneurial behaviour begins with organizing the reviewed articles along with the key entrepreneurial



Constituting studies:

I) Falck, Heblich and Luedemann (2012); Bellò, Mattana and Loi (2018)

II) Xu and Ruef (2007); Field et al. (2016); Haller et al. (2017); Lee (2017); McDonald and Eisenhardt (2020); Wood, Long and Artz (2020); Qin, Mickiewicz and Estrin (2021)

III) Vissa (2011); Kuhn and Galloway (2015); Brand, Croonen and Leenders (2017); Galloway, Kuhn and Collins-Williams (2021); Katila et al. (2022)

IV) Obschonka et al. (2012); Tartari, Perkmann and Salter (2014); Johnson, Monsen and MacKenzie (2017); Moog et al. (2015)

V) empty

VI) Bönnte, Falck and Heblich (2009); Giannetti and Simonov (2009); Nanda and Sørensen (2010); Kacperczyk (2013); Lerner and Malmendier (2013); Andersson and Larsson (2016); Wyrwich, Stuetzer and Sternberg (2016); Markussen and Roed (2017); Fauchald, Aaboén and Haneberg (2022)

VII) empty

FIGURE 2 Map of the research field domains (the number of studies addressing a particular subdomain is indicated by Arabic numerals)

processes in venturing and managing start-ups to increase the clarity of the link between peers and intentional entrepreneurial behaviour. These processes are compatible with the conceptual categorization in the adopted definition of entrepreneurship that refers to 'discovery, evaluation, and exploitation of opportunities' (Shane & Venkataraman, 2000, p. 218), comprising the main phases of the entrepreneurial process and behaviours. In line with a recently proposed contextual classification of entrepreneurial endeavours (Shepherd et al., 2019), this process allows for a mapping of novel work on peer effects within the familiar terrain of general entrepreneurship, a more transparent representation of the reviewed articles with similar foci, divergent emphasis and the identification of under-researched areas.

While acknowledging the embeddedness and complexity of entrepreneurial activity, we organized studies across the widely accepted stages in the entrepreneurship process, namely: *pre-formation*, *formation* and *growing* a business (Davidsson, 2015; Shane & Venkataraman, 2000; Shepherd et al., 2019). This clustering allows us to propose a simple structure for the reviewed research field. Further, we categorized studies across the mechanisms of social influence that are conceptually understood as concerns for effective acquisition and assessment of information, satisfactory relations with others and favourable self-concept maintained in interactions with peers (Cialdini & Trost, 1998; Cialdini et al., 1990; see also Wood, 2000, p. 541).

The peer influence in the articles reviewed looked at effects within and across the three conceptual stages of the venturing process. Within the social environments of individuals, this reflects various interactions with peers, who are contemplating entrepreneurship as a possible choice for their career path, who are already involved in nascent venture projects, and who have developed financially sustainable businesses. Peer effects across stages of the entrepreneurial process refer to interactions between individuals of similar attributes in their social environments who are involved in entrepreneurial activities at different stages to one another.

Figure 2 represents areas of social interactions and the peer effects between individuals involved in the entrepreneurial process, with oval shapes labelled pre-formation, formation and growth. The overlap areas show the influences from peer to peer across stages. The Roman numerals indicate subdomains of clustered themes. Subdomain I includes studies related to the influence among individuals who are not yet undertaking entrepreneurial activities besides unspecific ideation, and their peers who are also contemplating entrepreneurship. Subdomain II deals with the peer effects among entrepreneurs engaged in formation and nascent stages of business venturing. Subdomain III shows research on processes and the effects of interactions among established entrepreneurs. Studies clustered in this subset concern interactions among business owner-managers who are engaged with the growth

processes in their enterprises. Subdomain IV includes articles on the effects of interactions between individuals involved in the formation processes and those who are yet to discover ideas and opportunities or to form entrepreneurial intentions. The most populated area (subdomain VI) clusters articles that studied the processes of peer influence between entrepreneurs who are growing their enterprises and individuals who are preoccupied with pre-formation processes and considerations related to business venturing. Subdomain V is theoretically predicted as a cluster of articles on peer effects between entrepreneurs engaged in the formation stages of business venturing and those who are running their companies with the agenda of growth. This domain remained unpopulated in this review. Although interactions and peer effects among individuals engaged in entrepreneurial behaviours across all three stages of venturing are theoretically possible, our review shows no study addressing this area (subdomain VII). This graphical representation of the clusters of the reviewed literature facilitates the positioning of the studies across the themes and allows identification of the phenomena that have received less attention from scholars.

Synthesizing the literature on peer effects in entrepreneurship

We provide a synthesizing overview of the literature on peer effects in entrepreneurship in Table 3, then expand and critically engage with the emerging patterns. Before addressing the visible patterns in the literature, we focus first on the definition of peers.

Although our extensive search and selection efforts excluded thousands of articles that made use of the peer concept, we have to acknowledge an extremely wide range of definitions across and within subdomains (Tables 3A–3C). As a first contribution to a more meaningful focus on peer effects in entrepreneurship, our finding of inconsistent and even contradictory usage (e.g., peers are defined as those who are similar, as friends and role models, including parents), we confront the community of researchers with the nature of this definitional challenge.

Looking at the distribution of studies across subdomains, the imbalance is evident. In this review we could find no articles that studied the effects of interactions between entrepreneurs who are exploring opportunities for making their ideas and projects commercially viable, and their peers who are engaged in finding ways to optimize approaches to exploit opportunities in their fully fledged companies. We also found no articles that studied how peers with less entrepreneurial experience affect their more experienced counterparts. Additionally, we uncov-

ered no articles that comprehensively addressed the role of peer effects in entrepreneurship over the three phases we identify. Our review thus highlights that subdomains V and VII are orphaned as the empty central areas in Figure 2 illustrate. A comprehensive perspective on peers in entrepreneurship across pre-formation, formation and growth stages is therefore yet to be found.

The literature as mapped in Figure 2 and Table 3 mainly pays attention to how more senior entrepreneurial peers influence their junior peers, which can be seen in distinctly different ways. This pattern may reflect how the rich and deep human experience of entrepreneurs touches aspiring entrepreneurs profoundly when they encounter individuals with entrepreneurial experience. More surprising perhaps is that studies which include the aspect of experience are mainly quantitative studies that cannot fully explore the depth and richness of an entrepreneur's experience. However, the literature may also reflect a persistent institutional bias towards seniority known in other areas of society (the veteran effect), or a more ceremonial deference towards experience that is deemed valuable. Such bias towards seniority may occur in the field and therefore be studied more, yet it may also only reflect the views of researchers and analysts, who choose what to study and how.

The seniority bias, often associated with a difference in age, is related to studies that operationalize demography and geography, such as age brackets and location of residence, to measure peer influence precisely, alerting us to peer effects that emphasize similarity in age (Bönte et al., 2009). Similarity in age with those who are most likely to start up increases these individuals' rate of business formation where this age group's start-ups are common. This means, for example, that young people start businesses where other young people start them because being of the same age helps make social connections. Therefore, rather than the seniority orientation that the review revealed, similarity points to stronger effects among peers defined by attributes such as age and spatial proximity.

Intriguingly, Giannetti and Simonov (2009) concluded that precisely the cultural differences regarding the way in which societies value entrepreneurship affect an individual's propensity for self-employment (subdomain VI). This interpretation of the value of diversity in attitudes towards entrepreneurship has found additional support (Wyrwich et al., 2016). The authors argue that peer effects on entrepreneurship operate through observation of role models represented by established entrepreneurs that reduce the level of fear of failure experienced by these who contemplate becoming self-employed. This effect is moderated by the regional institutional environment, specifically, the cultural patterns related to the levels of approval of entrepreneurship in the area. In another study

TABLE 3 A Overview of research field subdomains I and II (focused on pre-formation and formation stages)

Domain	Article	Effects	Context	Approach	Finding	Peers
Peer effects in pre-formation stage (subdomain I)	Falck et al. (2012)	Peer influence via role modelling of parents as exogenous effect separated from peer influence	Students	Quantitative study	Interactions with peers who have a self-employed parent increase start-up intentions and behaviour as adults	Adolescent students (no start-up experience); peer identity (parents' careers)
	Bellò et al. (2018)	Emotional comfort, peers' cheering-up affects link of individual's creativity, self-efficacy with start-up intentions	Upper secondary school students	Quantitative study	Parents as entrepreneurial role models strengthens the causal link between creativity and entrepreneurial intentions	Entrepreneurial parents and encouragement from peers
Peer effects in formation stage (subdomain II)	Xu and Ruef (2007)	Including peers in start-up affects exploration and individuals' decisions; trust in peers more important than utility to the company	Nascent entrepreneurship, start-up projects	Quantitative study	Selection criteria often based on a potential member's trustworthiness, as perceived by peers, more than functionality	Individuals starting with entrepreneurial activity
	Field et al. (2016)	Peer effects on setting ambitious goals and staying more accountable to the goals set	Socialization on post-experience, short courses for female micro-entrepreneurs in India	Quantitative study	Attending the educational programme with a peer (friend) results in greater engagement with the business activities after completing studies	Presence of a close friend or relative

(Continues)

TABLE 3 A (Continued)

Domain	Article	Effects	Context	Approach	Finding	Peers
	Haller et al. (2017)	Peer socialization in the entrepreneurial process forms connections and aids collaboration in developing their businesses	Communications with peers in French wine-making industry	Exploratory study	Selection decisions in peer groups are informed by similarity in practices and a shared identity	Small business owners in winemaking industry in France
	McDonald and Eisenhardt (2020)	Peers' entrepreneurial sensemaking affects processes of business model formulation	Start-ups in nascent market of social investing online platforms	Multiple case study	Peers' social learning as a parallel-play process	Start-up project teams engaged in projects in the same emerging industry
	Lee (2017)	Peers' influence on the investment decisions of venture capital (VC) firms	Tie formation of US entrepreneurs and VCs; process of mutual opportunity exploration	Quantitative study	VC with HBS graduate more likely to work with executive who is a peer; deals of companies with peers on board more likely to succeed	Fellow students; university affiliation (same learning section)
	Wood et al. (2020)	Peer socialization in angel investor networks influences investment decisions	Venture capital industry in United States	Experimental study	Judgements by peer investors of an opportunity pitched can increase (up to 2×) the size of investment capital	Peers in business angel networks
	Qin et al. (2021)	Peer selection and socialization processes that influence informal investment decisions in nascent business venturing	The formation of entrepreneurship teams around start-up opportunities	Quantitative study	Individuals are more likely to become informal investors when their peers have higher levels of entrepreneurial business experience	Peers in groups defined by age, gender, education, income and neighbourhood

TABLE 3 B Overview of research field subdomains III and IV (focused on growth stage and the combination of pre-formation and formation)

Domain	Article	Effects	Context	Approach	Finding	Peers
<u>Peer effects in the growth stage (subdomain III)</u>	Katila et al. (2022)	Selecting partners for collaborative business relationships in developing products or for access to markets	Developers and publisher of video games in the United States	Exploratory	The decisions on the prospective peers' selection depends on resource complementarity and uncertainties	Peers are other companies in the video games sector
	Vissa (2011)	Selecting and networking with peers to grow; subjectivity limits accuracy in assessing value of ties	Business owners' networks in India	Exploratory	Homophilous networking (matching) tests propensity to form personal ties with peers who are entrepreneurs	Entrepreneurs based on social similarity and complementary task as peers
	Galloway et al. (2021)	Exchange of information on competitors among small business owners affects decisions	Small business owners in the same marketplace in the US Midwest	Exploratory	Perceptions of peers' motivation and ability to advise explain reliance on advice from two types of peer competitors	Peers are other entrepreneurs
	Brand et al. (2017)	Social interactions (peer feedback) and socialization affect growth-related decisions	Owner-managers in same marketplace affect performance of their colleagues	Exploratory	Peers' feedback raises efficiency; entrepreneurs value peers' advice and comforting; no effect on owners' subjective performance	Peers are other entrepreneurs
	Kuhn and Galloway (2015)	Social interactions with peers on owner-managers' decisions help seize opportunities	Franchising; franchisees of the same franchise business system	Quantitative	Company network and performance affect outcomes of peer interactions; communication benefits some firms, but costs others	Peers as fellow franchisees in same system

(Continues)

TABLE 3 B (Continued)

Domain	Article	Effects	Context	Approach	Finding	Peers
<u>Peer effects in pre-formation and formation stages (subdomain IV)</u>						
Peer-to-peer effects among nascent entrepreneurs who are contemplating entrepreneurial paths and entrepreneurs acquiring resources and/or seeking to enhance the value propositions	Tartari et al. (2014)	Social learning process of role modelling; peers in formation process affect others who are yet to discover their ideas	Entrepreneurial action of academics exploring the commercialization of research (i.e., scientists' attendance at industry events)	Quantitative	Peers affect academics' entrepreneurial intention through collaborations with industry	Peers as role models; academic colleagues who work in same department and are of similar rank
	Johnson et al. (2017)	Social learning process of role modelling; peers in formation process affect others, who are to form entrepreneurial identity and intentions	Academics explore commercializing research; entrepreneurial intentions (i.e., self-reported career choices)	Quantitative	Colleagues engaged in commercial activities provide models and motivation for peers to commercialize research	Peers as role models; academic colleagues in the same working group or organizational unit at university
	Moog et al. (2015)	Social learning process of role modelling; peers engaged in formation process affect others, who are to form entrepreneurial identity and intentions	Academics explore commercializing research; nascent academic entrepreneurs who develop innovative idea commercially	Quantitative	Scientists who work at a department where a colleague has experience with entrepreneurship are encouraged in entrepreneurial pursuits	Peers as role models; colleagues in the same working group or organizational unit at university
	Obschonka et al. (2012)	Social learning process of role modelling; peers in formation process affect others, who are to form entrepreneurial identity and intentions	Academics explore commercializing research; nascent academic entrepreneurs who develop innovative idea commercially	Quantitative	Social identity moderates the scientists' forming entrepreneurial intentions to commercialize research knowledge	Peers as role models; colleagues in the same working group or organizational unit at university

TABLE 3 C Overview of research field subdomain VI (focused on the stages combinations of pre-formation and growth)

Domain	Article	Effects	Context	Approach	Finding	Peers
<u>Peer effects in pre-formation and growth stages (subdomain VI)</u>	Fauchald et al. (2022)	Informational exchange during peer mentoring process is being channelled through mutual university learning experiences	Includes affiliation with an educational institution	Entrepreneurial behaviour as engaging in extracurricular venture incubator	Mentors' utilization of learning experience in business venturing facilitates mentorship process	Operationalization of peers' engaging in exploiting entrepreneurial opportunities and growing their businesses varies but requires first-hand experience in managing a venture and owning a significant share of the equity
	Andersson and Larsson (2016)	Peers with entrepreneurial experience affect entrepreneurial entry rates of others in spatial environment through social learning process and normative influence (culture)	Various variables, including spatial proximity of residency	Entrepreneurial behaviour operationalized as becoming self-employed	Living in areas with more experienced peers leads to higher rate of transition to self-employment	-

(Continues)

TABLE 3 C (Continued)

Domain	Article	Effects	Context	Approach	Finding	Peers
	Giannetti and Simonov (2009)	Interactions with neighbours who own and run their businesses affect entrepreneurial entry rates of others in a municipal unit	Various variables, including residency by municipality division	Entrepreneurial behaviour operationalized as becoming self-employed	Interaction with experienced peers leads to higher rate of transition to self-employment	–
	Wyrwich et al. (2016)	Normative influence (approval of entrepreneurship) increases the entrepreneurial entry rates through moderating individual fear of failure in business	Includes different regional level cultures	Entrepreneurial behaviour operationalized as becoming self-employed	Interaction with entrepreneurial peers leads to higher rate of transition to self-employment	–
	Bönte et al. (2009)	Interactions with entrepreneurial peers facilitates access to information and/or resources. Peer effects are age-specific	Includes different age groups	Entrepreneur behaviour as starting a company with or without employees	Interaction with entrepreneurial peers leads to higher rate of transition to self-employment	–
	Markussen and Roed (2017)	Peer effects on entrepreneurial entry rates through normative and informative influence are gender-specific	Includes gender differences	Entrepreneur behaviour as becoming self-employed	Interaction with entrepreneurial peers leads to higher rate of transition to self-employment	–

(Continues)

TABLE 3 C (Continued)

Domain	Article	Effects	Context	Approach	Finding	Peers
	Kacperczyk (2013)	Informational exchange with peers with entrepreneurial experience facilitates increase in entrepreneurial entry rates of peers without experience in business venturing	Includes affiliation with an educational institution	Entrepreneurial behaviour as leaving company and setting up a hedge fund	Interaction with experienced peers leads to higher rate of starting a venture	–
	Lerner and Mal-mendier (2013)	Informational exchange with peers with entrepreneurial experience facilitates decrease in entrepreneurial entry rates of peers without experience in business venturing	Includes affiliation with an educational institution and learning section	Entrepreneurial behaviour as starting a venture after graduation	Interaction with experienced peers leads to higher rate of starting a venture	–
	Nanda and Sørensen (2010)	Interactions with workplace peers who are ex-entrepreneurs increases entry rates of colleagues without prior entrepreneurial experience	Includes differences in workplace	Entrepreneurial behaviour operational-ized as becoming self-employed	Interaction with experienced peers leads to higher rate of starting a venture	–

on the effects and consequences of societal differences, Markussen and Roed (2017) found evidence that peer effects are consistently present at the levels of the local community, recent classmates and family. However, the difference in the number of peers engaged in exploiting entrepreneurial opportunities across genders, combined with the identified larger influence of same-gender peers, can explain much of the persistent gender gap in the numbers of these who begin discovering entrepreneurial ideas. Further evidence for the social and cultural aspects of uneven distribution of entrepreneurial activity among regions has been found by Andersson and Larsson (2016), who argue that there is a peer 'feedback effect where localities with a high density of established entrepreneurs are more likely to breed new entrepreneurs' (p. 39). Besides the importance of similarity and differences as a source of influence as seen above, these results suggest an interesting phenomenon of a 'threshold density' of entrepreneurs in a local area, above which additional entrepreneurs add little, if any, marginal peer effect on the likelihood of other residents of this area becoming self-employed.

Several studies in subdomain VI researched the influence of peers in the social settings of employment or university cohorts, where individuals tend to meet and engage with peers who are of similar rank in terms of role and position (e.g., co-workers or classmates). Building on the premise that employees spend a substantial part of their time at their workplace interacting with colleagues, Nanda and Sørensen (2010) investigated whether that might have any effect on self-employment career choices. They discovered that working with entrepreneurial peers increases an individual's rates of transition to entrepreneurship. The effect that entrepreneurial entry of university classmates has on an individual's chances to quit their employment career and set up a business has been studied by Kacperczyk (2012) in the wealth management industry in the United States. The work concluded that university peers who had launched a hedge fund influenced the entrepreneurial rates of their ex-classmates by providing them with information about opportunities and reducing uncertainty related to starting a venture. Contrary to the results of other studies on peer effects on entrepreneurship, Lerner and Malmendier (2013)—exploring whether students influenced each other while they were still studying at university—found that a greater proportion of university peers with previous entrepreneurial experience leads to a lower rate of entrepreneurial entry among other students in a Harvard MBA learning section after graduation. The authors propose that communication with entrepreneurial peers helps with rejecting unpromising ideas before allocating resources to projects, preventing failures in the implementation stages.

The research activity focused on peer effects in the formation stage (subdomain II, Table 3A) is remarkable. Five studies have been published since 2016. McDonald and Eisenhardt (2020) propose 'parallel activity', a behavioural model in social psychology that applies to pre-school children (Parten, 1933, p. 250), to understand teams and organizations in a given business context, which in this study establishes peer relationships. Similar to how children in early development play in the same playground independently and yet repeatedly replicate patterns observed and borrow toys from neighbours, entrepreneurial teams can work independently but observe and be inspired by peer teams (even rival teams) and their experiments in formulating business models in start-up projects. Such allocation of qualities and features—including collective cognition and social learning to teams within and between companies, instead of individuals—drastically extends the boundaries of the research field of entrepreneurial cognition (Grégoire et al., 2015) and peer effects, and offers new opportunities for further enquiries.

While parallel activity does not (yet) elaborate much on the factors within the context, Lee (2017) (Table 3A) shows how important specific elements of the context are in bringing peer effects to bear. Their study shows how venture capital companies with at least one Harvard Business School (HBS) graduate had a disproportionately greater chance of syndicating a deal with a company in which there was a peer from the same HBS learning section employed as an executive. Moreover, the deals syndicated by a pair of companies with HBS peers on board had a much greater chance of being financially successful. It is thus important to note that while HBS graduates of the same year would be considered peers by most, peers affect decisions when the individuals involved acknowledge the other as a peer (in this study, peers being of the same HBS learning section). Conceptual and empirical precision in what constitutes peer effects is thus of great importance to understand better precisely how peers can undermine or enhance entrepreneurial intention or behaviour. In their study, Falck et al. (2012) conceptually separated the parental role-modelling mechanisms from the peer influence, treating the former as exogenous effects on peers' attitudes towards entrepreneurship.

Focusing on peer effects in the growth stage (subdomain III, Table 3B), Kuhn and Galloway (2015) apply the construct of peers not to individuals but—like McDonald and Eisenhardt (2020) and Katila et al. (2022)—to companies, and find that the level of company performance and the company's network position influence the outcomes of commercial interactions with its peers. When franchisees

communicate with their franchisee peers, this might bring benefits to some companies but costs to others.

In contrast to the range of definitions in the other subdomains, the consistency and similarity of studies on peer effects in pre-formation and growth stages (subdomain VI) with their shared interest in specific effects, context, approach, similar understandings of peers and comparable findings is encouraging as it shows how consistent, seemingly programmatic research can provide reliable insights. Yet, together with subdomain IV (peer effects on pre-formation and formation stages; Table 3B), it also shows what is missing in the other subdomains. Table 3C provides an overview of research subdomain VI and clearly illustrates how research efforts have clustered around the pre-formation and growth stages, whereas, as mentioned above, subdomains V and VII remain unexplored.

The question we posed at the outset—‘What effects do an individual’s peers have on that individual’s entrepreneurial intentions and behaviours?’—can now be partially answered. Peers can have strong influences on entrepreneurial intentions and behaviours during the stages of pre-formation, formation and growth. Subdomains I, II and III (Tables 3B and 3C) show how influence, learning and emotional comfort and trust are benefits that individuals may enjoy consciously or indirectly. However, the informational, inspirational and emotional benefits that can be derived from peers depend to a large extent on who these peers are: individuals with entrepreneurship experience, but also those with self-employed parents (which provides indirect access to some benefits) and even those who belong to a specific circle (like learning groups) that are considered of greatest relevance can be considered peers. The flip side, of course, is that the absence of such peer benefits can close off individuals from entrepreneurial intention and behaviour. The important influence of peers who are entrepreneurial and those who are not on someone searching for an idea, establishing a firm or seeking growth appear to be more complex than thought. The effects that peers have are not only positive or negative but appear to require further research to develop a more nuanced consideration to understand these peers and their contexts, as well as the individuals and their circumstances.

The review shows that most studies focus on the effect peers have on entrepreneurial intention, for example through self-reported career choice intention (Johnson et al., 2017). However, several studies focus on explaining changes in entrepreneurial behaviour. These studies cluster on pre-formation and growth (subdomain VI, Table 3C) and examine peer effects by analysing the shift to self-employment and the start of entrepreneurial venturing.

In the following section we synthesize the different aspects of peer effects in entrepreneurship as shown in

the reviewed articles, relying on three important mechanisms of social influence from peers and their effect on an individual’s maintenance of entrepreneurial self-concept: concerns for acquisition and assessment of information (Deutsch & Gerard, 1955), perceived approval of entrepreneurial behaviours by peers (Cialdini & Goldstein, 2004) and social learning (Bandura, 1977). The coherence of an individual’s entrepreneurial self-concept, also referred to as identity (e.g., Bönnte et al., 2009; Falck et al., 2012), corresponds to perceived desirability and attitudinal constructs in existing models (Ajzen, 1991; Shapero & Sokol, 1982). Building on accessing information and approval by peers, these contemporary theories of social influence suggest a tripartite distinction of the behavioural motives of recipients mainly driven by concerns for acting effectively, building and maintaining relationships, and managing self-concept (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998; see also Wood, 2000).

Categorization of research around three mechanisms of peer influence

While in the previous section the three stages of the entrepreneurial process (pre-formation, formation and growth) put the kind of interactions among peers in context, here we focus on how and why peers influence and to what effect they are influenced to conceptualize across the subdomains we identified. We analyse how peer influences work, looking at how information is gathered, how alignment with peers matters and finally how an individual’s idea of self attenuates peer effects.

It is remarkable that much research on peer effects measures these indirectly with correlations, and not directly. This means what we know today about peer effects relies on correlations that mostly exclude an understanding of why influence occurred. One of the advantages of correlational studies is that with advanced statistical tools it is possible to process large samples that are much needed for recognizing one-off behavioural patterns, like entrepreneurial entry for example (Andersson & Larsson, 2016; Falck et al., 2012; Nanda & Sørensen, 2010). The apparent shortcoming of this approach is that the individuals’ similarity attributes and the circumstances of the interactions between peers remain inferred (Manski, 1993), which precludes developing theoretical explanations around the mechanisms through which the effects are conveyed.

We suggest delineating causal mechanisms of social influence. Starting with peer influence through wider *information acquisition and assessment*, as information processing and theories of cognition suggest (Adinolfi, 2020; Joseph & Gaba, 2020), we probe for access to

and evaluation of information obtained from peers, as recently presented by McDonald and Eisenhardt (2020). The importance of selection and socialization processes in peer effects (Brechtwald & Prinstein, 2011; McPherson et al., 2001) allows analysis of how *approval and alignment among peers* matters for their mutual influence (e.g., Davidsson, 2004; Davidsson & Honig, 2003; Falck et al., 2012). Finally, the individual's idea of self (Wood, 2000), for example as a scholar or as a business(woman), and the ability to maintain such a *self-concept* (Obschonka et al., 2012, 2015; Shepherd & Haynie, 2009), provides important views on how effective relationships can be in specific contexts.

The *acquisition and assessment of information* is an important role that peers have across the different domains and articles, which exerts varied effects in entrepreneurship. Acquisition of information that originates with peers is easier to process. Such information can include the provision of facts or access to them, advice or approval by peers. *Approval by peers*, which involves selection and socialization, is another important theme that runs across the different domains. *Selection mechanisms* in the business venturing process are driven mainly by the desire to maintain satisfactory relationships with peers and the potential acquisition of resources valuable for entrepreneurship in its various stages. Socialization, or *building and maintaining relationships* (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998), with peers can affect an individual's behaviours through mechanisms of social learning (Bandura, 1977) that might manifest themselves overtly or covertly. For example, individuals can learn explicitly from peers through the acquisition of information specific to entrepreneurial processes. Implicitly they can learn through constructing an entrepreneurial self-concept as a result of exposure to entrepreneurial role models among peers. The *maintenance of an entrepreneurial self-concept* is associated with how information from and about peers is assessed, how selection and socialization give rise to the idea of self as an entrepreneur but also the (in)stability of this conception of self. While these three behavioural mechanisms are interwoven, for example in that self-concept maintenance is associated with the assessment of information acquired and socialization depends on available models for learning and perceived approval of entrepreneurial behaviours by peers, they are distinct themes that permit more specific insights and synthesis of the peer effects in entrepreneurship.

In the subsections that follow we expand our classification with explanations of the articles reviewed for the phenomenon studied. These causal mechanisms are clustered into three groups covering effective assessment of specific information acquired in interactions with entrepreneurial peers, perceived approval of entrepreneur-

ship among peers, and individuals' forming and maintaining an entrepreneurial self-concept and identity.

Information mechanism: acquisition and assessment of information

This mechanism highlights across domains the fundamental difficulties of how people learn from others. Several challenges become prominent. Whose information to consider, and how to evaluate the information of peers without experience, of peers who may become rivals, what to make of information that is shared seemingly altruistically, or in knowledge spill-overs? These are some of the issues that arise when seeking to learn from peers. More specifically, a number of studies found that entrepreneurs' exposure to new information—such as informal advice from friends (Kuhn & Galloway, 2015), specific knowledge that spills over from entrepreneurial acquaintances (Kacperczyk, 2013; Lerner & Malmendier, 2013; Nanda & Sørensen, 2010) or peer entrepreneurs in competing start-ups (McDonald & Eisenhardt, 2020)—can influence individuals' behavioural patterns or teams' business development decisions.

Information spill-overs concerned with business opportunities (Kacperczyk, 2013), learning (borrowing) from peers competing in nascent markets (McDonald & Eisenhardt, 2020), collaboration with peers operating businesses in the same industry (Haller et al., 2017; Katila et al., 2022; Kuhn & Galloway, 2015) might reduce the uncertainty associated with entrepreneurial activity, promote successful commercialization of ideas or enhance performance in business. However, in some contexts the variance in the amount of information available fails to enhance the venture's performance (Kuhn & Galloway, 2015). A possible explanation of this could be the requirement of entrepreneurial judgement in the assessment of the information acquired (McDonald & Eisenhardt, 2020). Another factor that might inhibit the positive impact of information exchange among entrepreneurial peers is self-serving biases in selecting sources. Entrepreneurs can apply perceived similarity in judgements and business practices as a criterion in selecting peers with whom they can exchange business-specific information and collaborate (Haller et al., 2017), which might restrict the breadth of informational influence on entrepreneurial processes. The selection processes among peers are linked to entrepreneurs' intentions to form business partnerships and use interpersonal ties with people of similar status to further their business interests (Vissa, 2011; Xu & Ruef, 2007). Peers' trustworthiness, assessed with language and social class similarity, explains the peer selection choices for business partnerships, for better or worse.

Approval mechanism: perceived approval of entrepreneurship among peers

Complementary to the explanation of peer effects on an individual's intentional entrepreneurial behaviours through information sharing is the acceptance of behavioural norms that are valued and repeatedly reinforced in the individual's spatial social environment groups. Across the domains, how peers view each other and establish relationships with others surfaced as an important dimension of peer effects in entrepreneurship. Among the key attributes of approval in peer networks are behaviours that signal demand and also approval of peers' ideas in the pre-formation, formation and growth stages. Based on peers' legitimacy, in part driven by other peers' perception of success, such approval may encourage persistence or a pivot in the entrepreneurial endeavour. The stage of entrepreneurship can alter the way peers approve of each other in non-symmetrical ways. For example, in the pre-formation stage people may begin to see successful entrepreneurship as desirable and they may seek the approval of successful peers and role models. However, successful entrepreneurs may not necessarily seek the approval of peers who are still in the process of forming a clear entrepreneurial intention.

Two articles focused on the effects of local culture in socialization processes and peer effects attributed to regional and neighbourhood entrepreneurial activities. Both studies presented a perspective that peer effects result from nonpecuniary benefits (Andersson & Larsson, 2016; Giannetti & Simonov, 2009), the utility of which varies for an individual together with the value that entrepreneurship is given in different communities. This explanation resonates with the mechanisms through which peer influence can work in the context of academia. Obschonka et al. (2012) and Moog et al. (2015) propose that scientists may accept entrepreneurial behaviours in order to match social norms of their peer groups of university colleagues, to which they greatly value belonging. Similar explanations are offered by Tartari et al. (2014). Observation and communication with departmental colleagues engaged in the commercialization of research promote peers to emulate such behaviour. Interestingly, in the results of this study, peer effects are more pronounced among junior scientists compared to senior and high-performing scholars.

The constitution of a peer group to which an individual is introduced—either by imposition or chance (e.g., living nearby or being of similar age)—can significantly affect one's predisposition towards entrepreneurship. Bönthe et al. (2009) argued that as the propensity for entrepreneurial entry is unevenly distributed across the age scale and as an individual's peers are endogenously selected by age sim-

ilarity, regional age structure determines an individual's chances of being self-employed. Concerned with the selection mechanisms and outcomes in the context of venture capital investments, Lee (2017) examined the effect of prior university affiliation on business tie formation. The study finds not only that graduates from the same cohorts have greater chances of forming partnerships, but also that businesses with university peers on board tend to be more successful.

Identity mechanism: maintenance of entrepreneurial identity

The third mechanism that explains peer effects across the stages of entrepreneurship is the maintenance of entrepreneurial identity. The nature and sources of the narratives exchanged between peers without clear entrepreneurial intentions appears important to form and maintain identities, yet few studies examined the actual exchanges in pre-formation, formation and growth to understand which attributes are considered generally (un)desirable and which are more personal in nature and specific to individuals, dyads or group dynamics. How stories of exploring, starting up and growing, and success and failure therein, relate to maintenance of entrepreneurial self-concept is a theme that appears of great importance. In other words, how self-concepts of peers are associated with the stage (not yet entrepreneur, entrepreneur, veteran entrepreneur) matters for peer effects in entrepreneurship and remains an open question. Answering this appears particularly relevant when supporting peers in pre-formation, formation and growth stages, signalling the common themes of entrepreneurship across stages or emphasizing stage-specific aspects.

Several studies researched entrepreneurial entry or an individual's intentions to become self-employed and the relationship with entrepreneurial identity (Bellò et al., 2018; Falck et al., 2012; Obschonka et al., 2012). Socialization with peers triggers mechanisms of emulating role models' attitudes and behaviours that in turn affect one's self-employment choices. Falck et al. (2012), studying occupational intentions of adolescents, found that entrepreneurship is often perceived as a behaviour associated with high status: 'peers think it would be "cool" to be your own boss, run your own business, and not have to take orders from anyone else' (p. 42). Affiliation with individuals of higher perceived popularity—in this context, with aspiring entrepreneurs—increases exposure to social norms and behaviours accepted in that group and incurs engagement in those patterns of behaviour. In another study on the intentions of adolescents, Bellò et al. (2018)

established that encouragement from peers might operate through promotion and legitimization of entrepreneurial self-concept, indicating that entrepreneurial behaviours are desirable and appropriate. Similar explanations were offered by Wyrwich et al. (2016), who state that individuals' willingness to accept entrepreneurial identity as favourable for themselves is moderated by social approval of entrepreneurship. Obschonka et al. (2012) propose that strong association with the professional group (in this context, academics) correlates with less perceived control towards entrepreneurial behaviours. Nevertheless, strong group identification might promote individuals with exhibited lower levels of control beliefs to engage in entrepreneurial behaviours emulating colleagues who already do so. The authors point out the opposing features of the social identity shared with academic workplace peers and the features of the 'classical' entrepreneurial identity, which refers to strong control beliefs and the individualistic drive to act (Krueger et al., 2000). On the one hand, a strong association with academic peers might undermine the entrepreneurial intentions of individuals in their willingness to conform to social norms in academia. On the other hand, stronger identification with entrepreneurs rather than academics might promote the individual's performance in innovative entrepreneurship.

DISCUSSION AND FURTHER RESEARCH AGENDA

This study reviewed the literature on peer effects in entrepreneurship. Deploying our systematic approach to analysing the literature helped us to focus on a core set of studies. Organizing studies along the entrepreneurial venture contexts of pre-formation, formation and growth stages (Shane & Venkataraman, 2000; Shepherd et al., 2019), we presented several clusters of research that focused on the five domains outlined above. While more studies focus on how successful entrepreneurial peers influence those who are in the pre-formation stage, our review also shows that two areas of interest for theory development remain undeveloped. So far, scholars have not extended their attention to peer effects across the different stages of pre-formation, formation and growth, or only the latter two, which cover an area of particular practical relevance as this encompasses the important transition of scaling from start-up to established company (subdomain V). The absence of studies that explain *how* peers affect entrepreneurship is witness to the relative scarcity and fragmentation of the current state of the literature. Our approach to synthesis with the tripartite distinction of behavioural mechanisms of social influence (Wood, 2000)—which refer to information acquisition and assess-

ment, social approval and maintenance of self-concept—may present a first step in that direction. Grounded in the findings of the literature review, this synthesis of peer influence in entrepreneurship brings into the field important and contemporary theories of social influence.

Our analysis of the literature suggests that there are clear limitations in our current understanding of mechanisms through which the peer influence works. Some of these limitations are due to choices in research design and theorizing, like the large variations in how the term 'peers' is understood and used, which leads to confusion and misunderstandings.

The results of our review show issues with our understanding of peer effects, but also emphasize the timeliness of our review. This may indicate a possible limitation of literature reviews in general. Although much research has already been done, even among the carefully selected core studies we find definitional disagreements and contradictions, selective attention directed to some subdomains and neglect of important others. In short, traditional reviews are often deployed to sort through large bodies of literature. Our study illustrates that when the interest in an area is increasing, a review can take on the role of a timely and targeted intervention with the potential opportunity to gently redirect attention that has gone astray.

As stated above, foundational to facilitating convergence in the conceptualization of the constructs and phenomena related to peer influence on entrepreneurship is a clearer and more transparent use of the word 'peer'. This should exclude confounding influences, such as those of friends and family. With this in mind, we propose three conditions for classifying individuals as peers in relation to endogenous social effects. First, individuals need to be similar in an attribute that is explicit and relevant to the context of the behavioural phenomenon studied. For example, in the realm of education, studying at the same level would be a salient attribute of similarity, offsetting many others less relevant to the context. For entrepreneurial behaviours, these attributes might include age (Bönte et al., 2009), education affiliation (Kacperczyk, 2013), place of work (Nanda & Sørensen, 2010) or neighbourhood (Andersson & Larsson, 2016; Giannetti & Simonov, 2009), pending their context-specific relevance. Second, to be classified as peers, individuals should have reasons for holding shared mental representations about in-group and out-group categories (Mullen, 1991), which are related to the attribute they have in common, for example belonging to a profession (Tartari et al., 2014) or being part of the same learning group (Lee, 2017). Third, for the social effects among peers to take place, individuals need to interact in some way (Manski, 1993), be conscious of their connection, or at least be beyond the anonymity point in their relationships. In contrast, for example, dwelling in the same neighbourhood

and sharing several demographic attributes might classify individuals as peers, but in the absence of any kind of interaction, similarity in attitudes and behaviours might be equally or even better explained by the local cultural paradigm (George & Zahra, 2002; Marti et al., 2013) than peer influence.

To facilitate further research in the field, we offer a conceptual and systematic agenda for studying peer effects on entrepreneurship. We illustrate the directions and forms the research can take in a matrix that shows processes related to entrepreneurship and causal mechanisms of peer influence, and subsequently aggregate the concepts into topics that might deliver major contributions to our understanding of the phenomenon.

The framework thus makes the overlooked research areas apparent, including peer influences across pre-formation, formation and growth, but it also surfaces underlying social mechanisms of peer influence, of which the mechanism of maintaining entrepreneurial self-concept is under-researched. Table 4 summarizes our study's outcomes, presenting concepts and phenomena in existing research together with a synthesis across the stages of entrepreneurship, indicating the research opportunities and proposed further research questions (highlighted with shading).

For future research on peer effects within the same stages of business venturing (subdomains I, II and III), further exploration of the phenomena of social situational dynamics (Clarke & Cornelissen, 2011; Smith & Semin, 2004) among peers but also exogenous factors (e.g., societal crises) that might attenuate peer effects appears particularly relevant. The social situational dynamics are important and may strongly influence who is listened to and why, which information is perceived as useful, and how the idea of self-as-entrepreneur comes about and evolves. These kinds of questions are particularly under-researched in the pre-formation stage (subdomain I), where endogenous sources of information are expected to be scarce and speculative. Given the relative lack of consideration of social and situational factors in research on peer influence in entrepreneurship, the important personal interactions—also within diverse peer groups—present a way to throw a different light on the overly rational accounts of forming the intent to embark on a venture. Related to the social dynamics, the role of cognition and emotions (Grégoire et al., 2015; Mitchell et al., 2011) on individuals' entrepreneurial intentions and behaviours needs further investigation. Approaches in the tradition of rational decision-making would exclude the dimension of emotions on entrepreneurial decision-making. Analysing how emotions affect peers' influence on each other is important because the decision to become an entrepreneur is one of the major decisions in life, and appears to be

more transformative than accepting a job offer. Neglecting the emotional aspect impedes understanding of how individuals and teams form entrepreneurial intent. Among the other important questions to explore are how interactions among peers in the pre-foundation stage without entrepreneurial experience can help or hinder the motivation for individuals to start a new company (Davidsson, 2004; Davidsson & Honig, 2003; Falck et al., 2012). Such questions of peer dynamics between individuals with different levels of experience (subdomains IV, V, VI and VII) seem particularly important. Studying the kinds of interactions among nascent entrepreneurs in the pre-formation and formation stage (subdomain IV) that promote socially situated learning (Bandura, 1977; McDonald & Eisenhardt, 2020) promises to illuminate how to raise incubation success rates. To investigate dynamics among experienced entrepreneurs it would be worthwhile to understand how interactions can add or destroy value in growth-oriented companies (Brand et al., 2017; Haller et al., 2017). Finally, understanding the social and emotional dynamics among peers at the same stage (McDonald & Eisenhardt, 2020) may allow identification of different patterns of influencing at different stages of entrepreneurship. This could lead to reorientations of entrepreneurship and entrepreneurship education to heed the stage in the venturing process. Highlighting what promotes beneficial peer effects at the different stages could provide welcome information for entrepreneurs.

The lack of research on the peer influence of less-experienced entrepreneurs on their more seasoned venturing peers is notable. While the veteran effect with positive role-modelling effects (Giannetti & Simonov, 2009; Nanda & Sørensen, 2010) and the uncertainty reduction (Kacperczyk, 2013; Lerner & Malmendier, 2013) resulting from information acquisition from more experienced entrepreneurial peers is well presented in extant research, unanswered questions remain regarding how novice entrepreneurs might influence veterans by sharing information (downstream), exposing outdated or illegitimate patterns of behaviour, or highlighting what is worth emulating. The lack of understanding of how what is elsewhere called reverse mentoring (Marcinkus Murphy, 2012) appears costly to society as diverse knowledge cannot be leveraged.

It is certainly worthwhile assessing what the effects are of engaging with non-entrepreneurial peers on the tasks involved in nascent entrepreneurship (Xu & Ruef, 2007) and growing businesses. For instance, can interactions with pre-formation stage or nascent entrepreneurs inform and promote innovation and new avenues of venturing for experienced entrepreneurs? Does engagement with non-entrepreneurial peers affect the motivational factors of those nascent-stage entrepreneurs who are challenged by

TABLE 4 Synthesis of the research and possible directions for investigation (synthesis and arising questions white on black; under-researched areas emphasized with grey shading)

Interactions among peers across entrepreneurial contexts						
Mechanisms	Pre-formation (subdomain I)	Formation (subdomain II)	Growth (subdomain III)	Pre-formation and formation (subdomain IV)	Pre-formation, formation and growth (subdomain V and centre area VII)	Pre-formation and growth (subdomain VI)
Information mechanism: Acquisition and assessment of information	<ul style="list-style-type: none">- Peers as source of novel information related to discovering entrepreneurial opportunities.- How to assess info acquired from non-entrepreneurial peers?	<ul style="list-style-type: none">- The dynamics of search for informative in nascent entrepreneurial networks.- What are the perceived boundaries between cooperation/competition in networks of nascent entrepreneurs? (McDonald and Eisenhardt, 2020; Xu and Ruef, 2007)	<ul style="list-style-type: none">- The transactional mechanisms for exchanges of business related information among entrepreneurs (Brand, Croonen and Leenders, 2017; Kuhn and Galloway, 2015).- What is reciprocity in exchanges of valuable information (Katila et al., 2022)?	<ul style="list-style-type: none">- Perceived reliability of information depends on status/centrality of peers in social network.- Nascent entrepreneurs as source of information for peers in pre-formation stage- Is the nature of informational exchange altruistic/pragmatic?	<ul style="list-style-type: none">- Interplay between phases- Peer effects throughout the entrepreneurial process- What can peers learn when from each other learn from/inform established companies?	<ul style="list-style-type: none">- What is the value of information transferred between peers without entrepreneurial experience and established entrepreneurs (Fauchald, Aaboen and Haneberg, 2022; Kacperczyk, 2013)?- Nature of exchange (unplanned, driven by chance) (Nanda and Sørensen, 2010)?
	Approval mechanism: Perceived approval of entrepreneurship in reference group(s)	<ul style="list-style-type: none">- Key attributes of approval of entrepreneurship in peer networks- What are the rewarding signals for behaviours related to pre-formation opportunities? (Falck, Hebllich and Luedemann, 2012)- Perceptual patterns (Belló, Mattana and Loi, 2018)	<ul style="list-style-type: none">- The approved patterns of entrepreneurial behaviour among nascent entrepreneurs (Field et al., 2016; Xu and Ruef, 2007).- Is perseverance or pivoting perceived as aligned with nascent entrepreneurship?- The legitimacy/accountability sources among peers in nascent entrepreneurship (Lee, 2017).	<ul style="list-style-type: none">- The mechanisms of selection in building interpersonal relationships among entrepreneurs (Vissa, 2011).- What creates legitimacy/accountability among peers of entrepreneurs?	<ul style="list-style-type: none">- Do aspiring entrepreneurs personalize the challenges of nascent entrepreneurs or recognize them as part of the entrepreneurship?- Is success necessary for social approval of nascent entrepreneurial behaviours?- Nascent entrepreneurship as part of social identity (Johnson, Monsen and MacKenzie, 2017; Moog et al., 2015; Obschonka et al., 2012; Tartari, Perkmann and Salter, 2014)	<ul style="list-style-type: none">- How do successful entrepreneurs approve of engaging in discovery and exploration socially?- How does the reputation of previous success for established entrepreneurs become a driver of, or obstacle to, engaging in new start-ups?

(Continues)

TABLE 4 (Continued)

Interactions among peers across entrepreneurial contexts						
Mechanisms	Pre-formation (subdomain I)	Formation (subdomain II)	Growth (subdomain III)	Pre-formation and formation (subdomain IV)	Pre-formation, formation and growth (subdomain V and centre area VII)	Pre-formation and growth (subdomain VI)
Identity mechanism: Maintenance of entrepreneurial self- concept	<ul style="list-style-type: none">- Among peers without prior entrepreneurial experience, which factors form attitudes towards entrepreneurship in networks of peers without prior entrepreneurial experience (Bello, Mattana and Loi, 2018)?- What are the nature and sources of stories exchanged (Falck, Heblich and Luedemann, 2012)?	<ul style="list-style-type: none">- Among nascent entrepreneurs, what are the perceived (un)desirable, attributes of a typical nascent entrepreneur (Haller et al., 2017)?- Which are shared, common and which are individualized (Wood, Long and Artz, 2020)?	<ul style="list-style-type: none">- Among individuals who in the exploitation phase, what are the perceived (un)desirable attributes of a typical entrepreneur?- Which are shared, common and individualized?- How do entrepreneurs relate to success/failure?	<ul style="list-style-type: none">- Whether discovery, challenging business venturing experience and/or failure is an attribute of entrepreneurial identity?- Is there perceived value in discovery (Obschonka et al., 2012), starting up and failure experience?	<ul style="list-style-type: none">- How do self-concepts of peers (non-entrepreneurial, nascent entrepreneurs, veterans) relate?- How to make sense of each other's identity (past-future, winner-loser)?- How to reconcile the challenges of discovery, new scalable projects or securing sustainable returns with self-concept?- Are they aware of overlap?	<ul style="list-style-type: none">- What are the cognitive constructs related to entrepreneurial identity among peers with and those without prior entrepreneurial experience (Wyrwich, Stuetzer and Sternberg, 2016)?- Are they aware of overlap?
	<ul style="list-style-type: none">- Socially situated dynamics of exchange- Diversity of views within peer groups- Exogenous factors attenuating peer effects- Importance of cognitive, emotional, and social factors	<ul style="list-style-type: none">- Direction of influence (from individual to peers or from peers to individual) ?- Information flows upstream (from experienced to less experienced peers)- Veteran effect – when/how is learning from experienced peers valuable? When- Is learning from novices valuable?- Value of diversity within peer groups across experiences- Importance of cognitive, emotional, and social factors				
Syntheses and Questions	<ul style="list-style-type: none">- Questions on peer dynamics within peer groups with level entrepreneurial experience- How can exchanges among non-entrepreneurial peers give rise to entrepreneurial experiences?			<ul style="list-style-type: none">- How can exchanges among nascent entrepreneurs help or hinder?		<ul style="list-style-type: none">- When and how can engaging with non-entrepreneurial peers help nascent entrepreneurs?
	<ul style="list-style-type: none">- Questions on peer dynamics within peer groups with different levels of entrepreneurial experience			<ul style="list-style-type: none">- When and how can engaging with non-entrepreneurial peers be useful for veterans and established ventures?		<ul style="list-style-type: none">- When and how can engaging with non-entrepreneurial peers be useful for veterans and established ventures?

external factors to consider the options of pivoting, persevering or divesting from projects? While in other areas of management studies the importance of learning from newcomers and non-experts or the crowd (Chesbrough & Appleyard, 2007; Saebi & Foss, 2015) is largely seen as a key driver of open innovation, how this may apply to the formation and growth phases in entrepreneurship is yet unknown.

Despite the limitations of the present study that relies on an open and inclusive review of a growing literature that ultimately analyses the compact core literature comprising 27 studies, we reveal considerable disparities that threaten to widen further. Besides disagreement on what peers are, sharing and assessing information obtained from peers is not yet well understood (Andersson & Larsson, 2016; Lerner & Malmendier, 2013). Even less clear is how others' expectations affect the motivation for efficient information exchange and acquisition. Recent research on the entrepreneurial self-concept suggests its moderating effect on individuals' instrumental and experiential expectations when considering starting a business (Falck et al., 2012; Obschonka et al., 2015). The importance of the self-concept construct has been recognized for a broader range of behaviours. Whether as an additional element in intent models (Rise et al., 2010; Sparks, 2019) or self-identity as part of attitudes (Eagly & Chaiken, 2007), understanding how self-concepts of entrepreneurs evolve during the stages of the venture process—and how they relate to cooperation and competition—are promising areas of further research. Will a strong entrepreneurial self-concept (partially) compensate a lack of experience and feasibility concerns in less promising projects (McDonald & Eisenhardt, 2020)? Will a strong entrepreneurial self-concept (partially) blind entrepreneurs to information and advice from less experienced peers and exacerbate weaknesses (Brand et al., 2017; Haller et al., 2017)? Or will the self-concept of belonging to peers overcome the influences of the entrepreneurial stage and provide an opportunity for successful entrepreneurs to escape cognitive traps or over-adapt to past success?

A longitudinal study of the peer effect on entrepreneurship would provide further understanding of different patterns of social influence that entrepreneurs experience through their career path (Falck et al., 2012). Studying temporal variations of the peer effects perceived at different stages of the entrepreneurial process would enable researchers to distinguish different dimensions of peer influence that might stem from different social environments and have a different effect on individuals with various degrees of entrepreneurial alertness.

From the perspective of the research agenda proposed, the underlying motive of these questions is to understand

the origins, behavioural mechanisms and outcomes of peer influence in entrepreneurship within and across different levels of experience. By exploring these effects of social influence through the stages of the entrepreneurial process, taking into account different effects of internal and external forces, further research can contribute to unpacking the antecedents that affect individuals' entrepreneurial behaviour and entrepreneurs' ongoing exposure to complementary influences by those they see as peers.

Another limitation of our qualitative study—the focus on a still rather narrow area of research, peer influence—leads us to a change in perspective and a more abstract observation (Klag & Langley, 2013). The study of the literature on peer effects is the study of one narrow stream of literature. It potentially reflects a facet of the broader project of academic research and may take a longer time to address: the enduring fate of orphaned research areas.

We identified orphaned subdomains in the field of research on peer effects, which represent excellent opportunities to expand what we know about these very important subsets of social effects. However, for researchers it may not always be easy to choose such orphaned subdomains for reasons that are of a more structural nature and are not easily influenced by an individual researcher's choice (Alvesson & Sandberg, 2011; Rojon et al., 2021). Like orphaned diseases, those afflicted care—others only start paying attention when the market opportunities appear attractive. For academics, writing papers for a too narrow audience can be a career challenge; for research, such limiting conditions can curtail advancement of knowledge. How the challenge of orphaned domains could be overcome appears to us a question of great importance that goes beyond the focus of this study: peer effects on intentional entrepreneurial behaviour.

To conclude, we return to the question that motivated this review and report that research on peer influence on entrepreneurship has gained momentum. The critical discussion of the findings in this study suggests an emerging formation stage of the research field with the concepts and phenomena being studied, but not clearly defined and with potential overlaps, while leaving opportunities in relevant and exciting questions. Integrating across contextual stages of the entrepreneurial process and mechanisms of social influence responsible for the peer effects allowed us to propose several directions for further research. We encourage scholars to consolidate our knowledge across the temporal phases and levels of experience to foster our understanding of the mechanisms responsible for the phenomenon of peer influence on individuals' entrepreneurial intentions and behaviours.

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