



UvA-DARE (Digital Academic Repository)

Social Networks and Entrepreneurial Passion: Selection or Contagion?

Becker, K.; Ebbers, J.J.; Engel, Y.

DOI

[10.5465/AMBPP.2021.194](https://doi.org/10.5465/AMBPP.2021.194)

Publication date

2021

Document Version

Final published version

Published in

Academy of Management. Annual Meeting Proceedings

License

Article 25fa Dutch Copyright Act (<https://www.openaccess.nl/en/policies/open-access-in-dutch-copyright-law-taverne-amendment>)

[Link to publication](#)

Citation for published version (APA):

Becker, K., Ebbers, J. J., & Engel, Y. (2021). Social Networks and Entrepreneurial Passion: Selection or Contagion? *Academy of Management. Annual Meeting Proceedings, 2021*. <https://doi.org/10.5465/AMBPP.2021.194>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

SOCIAL NETWORKS AND ENTREPRENEURIAL PASSION: SELECTION OR CONTAGION?

KAI BECKER

Amsterdam Business School, University of Amsterdam
Plantage Muidergracht 12, 1018 TV, Amsterdam, Netherlands
Corresponding author. Email: k.becker@uva.nl

JORIS J. EBBERS

Amsterdam Business School

YUVAL ENGEL

Amsterdam Business School

INTRODUCTION

Empirical evidence is mounting that entrepreneurial passion — intense positive feelings for specific entrepreneurial role identities — is not only an important predictor of individual, team, and venture level outcomes (Boone, Andries, & Clarysse, 2020; Cardon & Kirk, 2015; Santos & Cardon, 2019) but that it is also contagious — i.e., passion can transfer from one person to another (Cardon, 2008; Hubner, Baum, & Frese, 2019; Uy, Jacob, Gielnik, Frese, Antonio, & Wonohadidjojo, 2020). For instance, entrepreneurs can transmit their passion to employees and investors (Hubner et al, 2019; Davis, Hmieleski, Webb, & Coombs, 2017), and members of a new venture team can experience passion convergence over time (Uy et al., 2020). Taken together, these studies advance a more socially embedded conceptualization of passion and effectively challenge earlier views of passion as a static intra-individual construct (e.g., Cardon, Gregoire, Stevens, & Patel, 2013; Murnieks, Cardon, & Haynie, 2020).

However, as scholars show more interest in how patterns of social relationships are central to our understanding of entrepreneurial passion, there is a need to recognize that these patterns can also be represented and modeled by social networks – sets of actors linked with sets of ties that together yield a particular social structure (Borgatti & Halgin, 2011; Park, Grosser, Roebuck, & Mathieu, 2020). To date, the interdependencies between entrepreneurs' social networks and their passion not only remain undertheorized but studies have also been missing out on methodological tools with which these interdependencies can be empirically examined (Steglich, Snijders, & Pearson, 2010; Snijders, van den Bunt, & Steglich, 2010).

For instance, that passion converges within new venture teams tells us something about the capacity of social networks (e.g., teams) to shape entrepreneurial passion (Uy et al., 2020); but it does not inform us about how passion might have shaped the development of these networks to begin with (e.g., similarly passionate entrepreneurs select into the same team). This tendency to seek the company of like-minded others is otherwise known as homophily (Lawrence & Shah, 2020; McPherson, Smith-Lovin, & Cook, 2001). Even if such co-evolutionary processes were to be considered theoretically, the analytical tools commonly used in studies of passion are not specifically designed to disentangle homophily from social contagion effects.

Clearly, team dynamics are extremely relevant to investigations of both homophily and social contagion (Knight, Greer, & de Jong, 2019; Lazar, Miron-Spektor, Agarwal, Erez, Goldfarb, & Chen, 2020). However, teams are not the only vectors of social interaction among entrepreneurs (Hallen, Davis, & Murray, 2020). Beyond their fellow co-founders, entrepreneurs also interact with peers who are members of founder networks (Collewaert,

Anseel, Crommelinck, de Beuckelaer, & Vermeire, 2016; de Mol, Cardon, de Jong, Khapova, & Elfring, 2020); peers in parallel industries (Zuckerman & Sgourev, 2006); and peers who join startup competitions (Boone et al., 2020; Foo, Wong, & Ong, 2005), take entrepreneurship training programs (Gielnik, Uy, Funken, & Bischoff, 2017), and use startup accelerators (Cohen, Bingham, & Hallen, 2019; Cohen, Fehder, Hochberg, & Murray, 2019). To the extent that other entrepreneurs are a valuable source of information, knowledge, resources, and motivation (e.g., Cai & Szeidl, 2018; Eesley & Wang, 2017; Lerner & Malmendier, 2013; Zuckerman & Sgourev, 2006) they are also likely to play a vital role in how entrepreneurial passion is developed and manifested. Overall, the study of passion as a socially embedded dynamic construct is currently missing a social network perspective (Uy et al., 2020).

To fill this gap, we investigate the co-evolution of entrepreneurial passion and peer networks. We use homophily theory and social contagion theory to hypothesize that entrepreneurs select similarly passionate others as network ties, and that once ties have been established, that passion exerts a social influence — or contagion — effect.

Our study makes several contributions to the literature. First, we advance understanding of how entrepreneurial passion shapes entrepreneurs' initial peer network configurations (e.g., Chatterji, Delecourt, Hasan, & Koning, 2019; Hasan & Koning, 2019; Ho & Pollack, 2014; Zuckerman & Sgourev, 2006). For instance, if homophily with regards to passion is not investigated, then a full understanding of what drives the formation of startup teams at nascent stages is missing (Clarysse & Moray, 2004; Lazar et al., 2020). Second, by showing that passion spills over between entrepreneurs over time, we complement passion-performance findings in prior studies (e.g., Cardon & Kirk, 2015; Drnovsek, Cardon, & Patel, 2016; Santos & Cardon, 2019). This thread of literature correlates static indicators such as aggregate mean or diversity passions with objective performance data years after passion data was obtained — we shed light on passion dynamics between those measurement points. Third, our research also contributes to social network theory, particularly the co-evolution of peer networks and entrepreneurial behavior (Ebbers and Wijnberg, 2019; Jack, 2010; Hoang & Antoncic, 2003) as we demonstrate that entrepreneurial passion is a personal characteristic that can both explain and be explained by social dynamics.

THEORY AND HYPOTHESES

Entrepreneurial passion and peer networks

One can identify three distinct and independent domains of entrepreneurial activity to which feelings of passion might be directed — those associated with the roles of founding, inventing, and developing (Cardon, Wincent, Singh, & Drnovsek, 2009; Cardon et al., 2013). First, passion for founding relates to setting up a new venture, becoming an owner, and engaging with early-stage efforts to obtain necessary human, social, and financial capital. Second, passion for inventing relates to identifying and pursuing new opportunities, and enjoying the innovative problem-solving process associated with the creation of new products and services. In this study, we follow the established practice (e.g., Collewaert et al., 2016; Gielnik et al., 2015; Santos & Cardon, 2019; Uy et al., 2020) of omitting — the third domain of — passion for developing because our focus is on nascent entrepreneurs in an early-stage acceleration program and passion for developing only becomes relevant at later stages.

Entrepreneurial passion has two inherent dimensions: Identity centrality and intense positive feelings (Cardon et al., 2009; Cardon et al., 2013). Identity centrality denotes the consciously accessible, self-ascribed importance of “what it means to be an entrepreneur”

(Murnieks et al., 2014: 1589) including its meaning in hierarchical distinction to other identities (Stryker & Serpe, 1994). Entrepreneurs differ in terms of their sense of core identity (e.g., founder, developer, inventor) (Fauchart & Gruber, 2011; Murnieks et al., 2020; Stryker & Burke, 2000). A central identity of being a founder, for instance, includes a passion for the specific sets of entrepreneurial activities associated with the inception phase of a startup, such as hiring new employees and securing venture capital. Intense positive feelings are conscious changes in core affect experienced as “excitement, elation, and joy” (Cardon et al., 2009: 515) attributable to engagement in activities that are meaningful to an entrepreneur’s identity (Baron, 2008; Chen, Yao, & Kotha, 2009).

Pioneering studies conceptualize passion as a self-contained motivational source fueling the pursuit of entrepreneurial activities (e.g., Cardon & Kirk, 2016; Cardon et al., 2009; Vallerand, 2008). This conceptualization, “as a construct that originates in a uniquely solitary and intraindividual manner within a person, may be obscuring important interindividual considerations” (Murnieks et al., 2020:2). Accordingly, more recent work examines passion’s effects on those surrounding individual entrepreneurs. For instance, Davis et al. (2017) find that the perception of passion increases venture funders’ positive affect, and the likelihood that they will invest; while Hubner et al. (2019) show that contact with passionate entrepreneurs makes employees more passionate, which increases employees’ organizational commitment. Most importantly, Cardon, Post et al. (2017) propose that when individuals begin to work on a new venture idea together, they may not have the same degree of passion initially, and Uy et al. (2020) show that entrepreneurial passion can change because of spillover from peer network ties. These findings suggest that both social selection as well as processes of social contagion are implicated in how entrepreneurial passion evolves across individuals.

Entrepreneurial passion and homophily effects

Homophily is the tendency to associate with similar others (McPherson, et al., 2001). A considerable amount of research emphasizes the link between the observed homogeneity of entrepreneurial networks and homophily based not only on an array of shared attributes including gender, ethnicity, or education (e.g., Aldrich & Kim, 2007; Ruef, Aldrich, & Carter, 2003; Vissa, 2011) but also based on perceptions of the world around us (Parkinson, Kleinbaum, & Wheatly, 2018). Acknowledging this wide range of attributes consistent with the homophily mechanism, McPherson et al. (2001) build on Lazarsfeld and Merton (1954) to classify them into *status* (e.g., demographics, education, occupation) and *values* (e.g., values, attitudes, beliefs) attributes. McPherson et al. (2001) suggest that *values* broadly include a “wide variety of internal states presumed to shape our orientation toward future behavior” (p. 419), and Lawrence and Shaw (2020) specifically position cognitions and emotions within this category.

Although no study to date has identified shared entrepreneurial passion as an attribute amplifying the association between entrepreneurs, the passion literature consistently conceptualizes entrepreneurial passion as “identity-focused affect” (Cardon, Post et al., 2017: 286) while emotional theory positions affect as an attribute individuals use to assess their sense of similarity to others (Barsade & Gibson, 1998). Central to these arguments is the claim that passion is readily observable and thus can be used as a criterion for selection. This is the case both for intensive positive feelings because “the experience of passion will lead entrepreneurs to display their situational emotions more frequently and intensely” (Cardon, 2008:79), and for identity centrality when entrepreneurs communicate the “salience and personal meaningfulness of entrepreneurial activities” (Hubner et al., 2019:4). Therefore, in line with Lawrence and Shaw’s (2020) categorization of “emotions” and “cognitions” that

inform and spur the formation of ties among entrepreneurs, we regard intensive positive feelings and identity centrality as key affective and cognitive dimensions of entrepreneurial passion (Cardon et al., 2009; Cardon & Kirk, 2015) based on homophily.

Once entrepreneurs engage in role-consistent activities, joy and enthusiasm are evoked and broadcasted publicly through facial expressions and body language (Cardon, 2008; Hubner et al., 2019). This increases entrepreneurs' capacity to attract similar others because positive experiences of emotions escape conscious emotion regulation more readily and can therefore be observed and used as a basis for selection (Gross, 1999). Moreover, entrepreneurs do not consider others in a vacuum; they base choices of affiliation on the shared sense of identity underpinning different potential role identities (Fauchert & Gruber, 2011; Murnieks et al., 2014; Murnieks et al., 2020). Therefore, those that share a similar notion of centrality for a specific entrepreneurial identity are more likely to associate with similar others and form networks more readily, because that shared understanding as to what it means to be an inventor or founder in the social context of entrepreneurship drives individual preferences (Greenberg & Mollick, 2017; Lawrence & Shah, 2020). Taken together, we expect

H1a: Similarity in passion for founding has a positive effect on network tie formation among entrepreneurs.

H1b: Similarity in passion for inventing has a positive effect on network tie formation among entrepreneurs.

Entrepreneurial passion and social contagion effects

Despite the theoretical rationale for expecting peer entrepreneurs to exhibit similar levels of entrepreneurial passion, given the homophilic potential, an alternative explanation would suggest that a shared sense of passion may be driven by a process of social influence. Social influence — otherwise referred to as “contagion” — describes the mechanism by which “a person or group influences the emotions or behavior of another person or group through the conscious or unconscious induction of emotional states and behavioral attitudes” (Schoenewolf, 1990: 50). On the one hand, social contact and emotional cues such as non-verbal facial expressions and body movements (Barsade, 2002; Buck, Loslow, Murphy, & Costanzo, 1992) are conduits for affective transfer mechanisms such as emotional mimicry (Hatfield, Cacioppo, & Rapson, 1994; Hess & Fischer, 2013). For instance, with regards to entrepreneurial passion, Cardon (2008) proposes that employees may adopt passionate behaviors and expressions because they subconsciously mimic these passion displays from their entrepreneurial employers, which, over time, may cause an internalization and actual experience of passion (also: Lazarus, 1991; Neumann & Strack, 2000).

On the other hand, individuals might also consciously come to an understanding as to why others engage in certain behaviors after picking up, and reflecting upon, communications related to the meaning associated with an identity (Douglas et al., 2008; Hillebrandt, & Barclay, 2017; Hubner et al., 2019). This cognitively elaborate process leads to internalization of identity displays because observers begin to view themselves through the eyes of others and understand the collective values and meanings behind certain entrepreneurial activities (Ashforth & Kreiner, 1999). In turn, this understanding can motivate engagement in similar behavior and thereby facilitate the emergence of similar emotions (Bagozzi & Lee, 2002; Sullins, 1991; Vallerand, Houliort, & Forest, 2014).

Although social contagion can have different sources, including supervisors and CEOs (Ho & Astakhova, 2020; Sy, Côté, & Saavedra, 2005), mentors (Becker, Ebberts, & Engel, 2019; Eesley & Wang, 2017), or entrepreneurial parents (Bosma, Hessels, Schutjens,

van Praag, & Verheul, 2012), one type of social relationship — peers — has gained particular attention in entrepreneurship research (e.g., Ebbers & Wijnberg, 2019; Falck, Heblich, & Luedemann, 2012; Nanda & Sørensen, 2010; Kacperczyk, 2013). For instance, Nanda and Sørensen (2010) find that proximity to workplace peers with a background in entrepreneurship is associated with an increased likelihood of a person becoming an entrepreneur. In addition, Ebbers and Wijnberg (2019) show that peers at school develop similar future entrepreneurial aspirations through social network ties and contact with peers. Finally, more recently, Uy et al. (2020) show that working closely with other entrepreneurs on the same startup team makes individuals converge in their affective experience of passion for founding over time. Thus:

Hypothesis 2a: There is a social contagion effect of passion for founding among entrepreneurs.

Hypothesis 2b: There is a social contagion effect of passion for inventing among entrepreneurs.

Insofar as team members share the responsibility of establishing and running a new business as co-founders (e.g., Harper, 2008; Kamm, Shuman, Seeger, & Nurick, 1990; Klotz, Hmieleski, Bradley, & Busenitz, 2014), social network ties within startups tend to be both deeper and more frequent compared to ties to other entrepreneurs (Granovetter, 1973). The claim that social contagion between any two individuals increases with more interaction has received wide empirical support (e.g., Festinger, Schachter, & Back, 1950; Kacperczyk, 2013; Lomi, Snijders, Steglich, & Torló, 2011; Raabe, Boda, & Stadtfeld, 2019). For example, friends, in contrast to mere classmates at school, seem to be disproportionately influential with regards to career choices because they spend much time interacting with each other (Lomi et al., 2011; Raabe et al., 2019). And, most convincingly, Kacperczyk (2013) shows that while university peers play a substantial role by influencing entrepreneurial entry in general, peers that are geographically and socially closer exert a greater influence. We therefore hypothesize that:

Hypothesis 3a: Social contagion effects of passion for founding are stronger for ties within the startup team than for ties outside the startup team.

Hypothesis 3b: Social contagion effects of passion for inventing are stronger for ties within the startup team than for ties outside the startup team.

DATA AND RESULTS

We tested our hypotheses on four waves of social network and individual actor level data from 89 entrepreneurs nested in 33 startup teams participating in an early-stage acceleration program. We use the novel Simulation Investigation for Empirical Network Analysis (SIENA), an actor-oriented statistical model for studying the co-evolution of networks and individual actor characteristics specifically (Ripley, Snijders, Boda, Vörös, & Preciado, 2020; Snijders et al., 2010; Steglich, Snijders, & Pearson, 2010). SIENA has recently found inroads in entrepreneurship research (Ebbers & Wijnberg, 2019) and uses panel data to specifically separate endogenous structural network effects from exogenous actor level effects thereby allowing researchers to statistically separate often highly correlated effects of network structure, selection, and social contagion. While data are recorded at discrete points in time (i.e., panel data), the model assumes continuous change in network ties and entrepreneurial passion between observations. This change is modeled as a series of (unobserved) mini-steps comprising of a change in a single network tie or actor attribute

(e.g., passion). Multiple mini-steps connect these discrete observations, while the exact ordering of the steps is varied using simulations which is used for hypothesis testing (Snijders et al., 2010; Steglich et al., 2010). To test for selection and contagion with regards to passion we included (*alter-ego*)², as well *average alter* and *average alter x team* interaction (For a detailed mathematical treatment of SIENA: Snijders, Steglich, and Schweinberger, 2007; For an overview of all its different effects and how to interpret them: Ripley et al., 2020).

We controlled for common structural network effects including *reciprocity*, *transitivity*, and *degree-related effects* (Ripley et al., 2020; Snijders et al., 2010), as well as (entrepreneurship-) specific demographics such as *age*, *sex*, *education*, and *entrepreneurial experience*. Our results support H1a, H2a, and H3a (i.e., selection and contagion for passion for founding) while H1b, H2b, and H3b (i.e., passion for inventing) were not supported.

CONCLUSION

This paper makes contributions to research on entrepreneurial peer networks and literature on passion contagion. First, the finding that passion for founding can shape one's network configuration integrates passion into the general literature on peer networks within entrepreneurship (e.g., Chatterji, Delecourt, Hasan, & Koning, 2019; Hasan & Koning, 2019; Ho & Pollack, 2014; Zuckerman & Sgourev, 2006). Consistent with this line of study, peer networks such as those among entrepreneurs in acceleration programs generate significant value through learning and information exchange (e.g., Cohen, Bingham et al., 2019; Hallen, Cohen, & Bingham, 2020; Pauwels, Clarysse, Wright, & van Hove, 2016; Yu, 2020). While passion for founding may be shaped through contact with passionate entrepreneurs, practitioners such as acceleration programs (e.g., Hallen, Cohen et al., 2020; Pauwels et al., 2016; Souitaris, Zerbinati, & Al-Laham, 2007) would do well to carefully select entrepreneurs with regards to their passion for inventing.

Second, our findings integrate contagion from peer entrepreneurs in the accelerator cohort with established contagion effects from co-founders (Uy et al., 2020) and inform the literature on passions temporal development (Collewaert et al., 2016; Lex et al., 2020). Together, selection and contagion mechanism contribute to studies on passions and venture performance (e.g., Boone et al., 2020; Cardon, Post et al., 2017; Drnovsek et al., 2016; de Mol et al., 2020; Santos & Cardon, 2019). These studies often rely on performance indicators such as accumulated funding, employee growth, and survival rates typically established long after measuring entrepreneurial passion. This approach is informative about how various passion measures at one point in time correlate with entrepreneurial success at another point in time, yet effectively treats passion as enduring between those measurement points (Cardon et al., 2013).

REFERENCES AVAILABLE FROM THE AUTHOR(S)