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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**Once an Entrepreneur, Always an Entrepreneur?****Entrepreneurial Identity, Job Characteristics, and Voluntary Turnover of Former****Entrepreneurs in Paid Employment****Abstract**

We focus on former entrepreneurs' employment in established firms. Understanding the retention of former entrepreneurs—those who were previously founders of business ventures—is important to firms hoping to reap the benefits of their entrepreneurial experience. We compare the duration of their retention to other employees without entrepreneurial experience and propose a theoretical model in which entrepreneurial identity and job characteristics play a central role. The time-dependent risk of voluntary turnover was estimated using survival analysis. Results from a primary survey collected from multiple firms in 2015-2018 (Study 1) reveal that former entrepreneurs quit sooner than others, and this effect was mediated by entrepreneurial identity. A second study using the NLSY79 and O\*Net longitudinal dataset (Study 2) again supports this mediated relationship and further shows that the indirect effect through entrepreneurial identity was moderated such that employees with entrepreneurial identity stayed longer in jobs with favorable characteristics (i.e., high levels of work autonomy and more entrepreneurial opportunities) than other jobs. In Study 2, we were able to observe individuals' careers over decades to capture the patterns of individual mobility—the back-and-forth exploration between businesses owned by self and others. The supplementary analysis provides additional evidence regarding turnover destinations. The findings offer implications for firms endeavoring to retain entrepreneurial talent and individuals pursuing a career that may involve both paid employment and entrepreneurship.

*Keywords:* former entrepreneurs in paid employment, voluntary turnover, entrepreneurial identity, job characteristics, longitudinal data

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**Once an Entrepreneur, Always an Entrepreneur?****Entrepreneurial Identity, Job Characteristics, and Voluntary Turnover of Former  
Entrepreneurs in Paid Employment**

To found new ventures (Gartner, 1985) and turn opportunities to practical account (Shane, 2003), entrepreneurs may need to deal with substantial uncertainty and chance of failure (McMullen & Shepherd, 2006), build a variety of capabilities and “jack-of-all-trades” skill set (Lazear, 2005), and maintain a series of goal-oriented behaviors that are different from those in paid employment (Bird et al., 2012; Frese, 2007). As such, the experience of working as entrepreneurs may foster the construction of a distinctive entrepreneurial identity, that is, the enduring attitudes, beliefs, meanings, and behaviors that typify the line of entrepreneurial work (e.g., opportunity seeking, initiative implementation, resource orchestration, and strategic decision-making) and define individuals as entrepreneurs (Hoang & Gimeno, 2010; Shepherd & Haynie, 2009).

Organizations have increasingly recognized that they may benefit from attracting, hiring, and retaining former entrepreneurs because the ability to initiate and grow new lines of business is also important to established firms (Lumpkin & Dess, 1996). Entrepreneurial skills and experience can be seen as a core human capital resource that is deployable to complement existing knowledge in alternative firms (Campbell et al., 2012; Gimeno et al., 1997; Hoetker & Agarwal, 2007). Established firms may also accumulate and internalize social capital, public praise, and individual reputation of former entrepreneurs (e.g., Batjargal & Liu, 2004; Murray, 2004) to achieve their strategic goals.

However, the hiring firms may also face a dilemma. Despite the potential benefits of hiring former entrepreneurs, firms will not be able to reap those benefits if these

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 employees leave in a relatively short period of time. One field experiment found that  
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employees leave in a relatively short period of time. One field experiment found that recruiters are less likely to be interested in hiring equally qualified applicants who have entrepreneurial experience (Koellinger et al., 2015), perhaps because they will not fit the job or organization and are therefore more likely to turn over (Kristof-Brown et al., 2005). Moreover, quitting of former entrepreneurs could incur not only the normal turnover costs (Cascio, 2000), but also extraordinary costs, including the formation of a competitor if former entrepreneurs start a new venture in a similar space (i.e., a spin-off). The loss of additional employees who join competing new ventures (Campbell et al., 2012) may also add another layer of risk for the hiring firms. Thus, how long former entrepreneurs stay with their employing firm and what organizations can do to encourage them to stay longer are important questions.

These questions become more salient, given the evidence that former entrepreneurs entering paid employment is increasingly common. Statistics reported by the Bureau of Labor Statistics<sup>1</sup> and empirical findings in entrepreneurship research have revealed that a considerable proportion of new ventures discontinue (e.g., DeTienne, 2010; Headd, 2003). Notably, among those who discontinued as entrepreneurs, only 15% to 30% of them became serial entrepreneurs (e.g., Gompers et al., 2010; Lafontaine & Shaw, 2016), which implies that a large majority (i.e., over 70%) of entrepreneurs may seek alternative employment opportunities. Even these figures may underestimate the prevalence of former entrepreneurs in the labor market because they do not include the phenomenon of entrepreneurs voluntarily leaving before their business closes.

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<sup>1</sup> The statistics are from the Bureau of Labor Statistics report that between 1994 and 2015, more than 50% of new establishments shut down within five years and fewer than 22% survived longer than 20 years ([http://www.bls.gov/bdm/entrepreneurship/bdm\\_chart3.htm](http://www.bls.gov/bdm/entrepreneurship/bdm_chart3.htm)); the statistics from recent years show a similar trend ([https://www.bls.gov/bdm/us\\_age\\_naics\\_00\\_table7.txt](https://www.bls.gov/bdm/us_age_naics_00_table7.txt)).

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3           Given the potential value associated with hiring former entrepreneurs as well as  
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5 the costs of their turnover, it is unfortunate that little is known about those who leave  
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7 entrepreneurship and take on paid employment. Moreover, scholars have paid far less  
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9 attention to what the hiring firms can do, proactively, to prolong the retention of former  
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11 entrepreneurs.  
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14           In this study, we adopt a careers perspective (Burton et al., 2016) to examine how  
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16 entrepreneurial experience in an earlier career period shapes the turnover behavior of the  
17  
18 individual in a subsequent career period. We use identity theory (Ashforth, 2001) and, in  
19  
20 particular, recent theoretical work on role transitions and lingering role identities  
21  
22 (Wittman, 2019) to explain the relatively high rates of turnover among former  
23  
24 entrepreneurs in paid employment. According to our theory, individuals are likely to  
25  
26 acquire or reinforce an entrepreneurial identity during their time working as  
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28 entrepreneurs. Entrepreneurs who subsequently enter paid employment are likely, to  
29  
30 varying extents, to retain a lingering entrepreneurial identity due to the uncertainty  
31  
32 surrounding the challenge of their new role in paid employment and the ongoing  
33  
34 possibility of reactivating their previous work role as an entrepreneur (Wittman, 2019).  
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36 As such, we propose a theoretical model that includes the mediating role of  
37  
38 entrepreneurial identity as an explanation of the difference in turnover likelihood between  
39  
40 former entrepreneurs and others in paid employment. We then posit that after entering  
41  
42 paid employment, former entrepreneurs continue to seek feedback to confirm their valued  
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44 identity (Burke, 1991, 2004). To the extent the job feedback or characteristics fail to  
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46 confirm the identity that is carried over from previous work experiences (Ashforth &  
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48 Kreiner, 1999; Ashforth & Mael, 1989), those individuals will be motivated to quit. Thus,  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 we propose that entrepreneurial job characteristics (i.e., work autonomy, job complexity,  
4 and entrepreneurial opportunity) will moderate the relationship between entrepreneurial  
5 identity and voluntary turnover because they indicate the extent to which paid  
6 employment provides cues consistent with an entrepreneurial identity.  
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12 Our examination of the theoretical model draws on survival analysis using two  
13 studies with unique samples. In Study 1, using a combination of personnel data and  
14 firsthand survey data from multiple firms in 2015-2018, we examine the entrepreneurial  
15 identity as the potential mechanism linking entrepreneurial experience to voluntary  
16 turnover in paid employment. In Study 2, we match two public datasets, the 1979 cohort  
17 of the National Longitudinal Survey of Youth (NLSY79) and the Occupational  
18 Information Network (O\*Net), across a 30-year time period to replicate and extend the  
19 findings in Study 1. In addition to demonstrating the mediating role of entrepreneurial  
20 identity, we investigate the moderating role of job characteristics in mitigating the  
21 influence of entrepreneurial identity on subsequent quitting. Together, these two studies  
22 provide a stronger test of our theory because they examine the extent to which faster  
23 turnover among former entrepreneurs is mediated by entrepreneurial identity (Study 1)  
24 but is moderated by contextual job characteristics that may confirm the individual's  
25 identity as an entrepreneur (Study 2). Moreover, the richness of our data in Study 2,  
26 which includes individuals' full employment history, allows us to explore turnover  
27 destinations and examine whether entrepreneurial experience and identity drive  
28 employees to re-enter entrepreneurship after turnover, as our theory suggests.  
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51 This study contributes to the literature on voluntary turnover, entrepreneurial  
52 identity, and the careers perspective on entrepreneurship. First, although employee  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 turnover has intrigued researchers for over a century (Hom et al., 2017), employee  
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5 turnover among former entrepreneurs raises unique issues for turnover models. This is  
6  
7 partly because identity constructs have not been systematically integrated into models of  
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9 turnover (Hom et al., 2017). Despite important work on identity processes during role  
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11 transitions (Ashforth, 2001; Nicholson, 1984), no research we are aware of has examined  
12  
13 the influence of lingering identities (Wittman, 2019) from a previous work role on  
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15 subsequent turnover in a new job. Our work is the first to demonstrate that we need to  
16  
17 think differently about turnover of former entrepreneurs because of the strong likelihood  
18  
19 that entrepreneurial identity can persist significantly beyond role change to influence the  
20  
21 likelihood of quitting paid employment. It is also worth noting that we investigate not  
22  
23 only *whether* former entrepreneurs are more likely to quit than others in the workforce,  
24  
25 but also *when* they quit and *where* they end up going, contributing to a burgeoning line of  
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27 research in turnover studies.  
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33 Second, this study extends the emerging research on entrepreneurial identity  
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35 (Mmbaga et al., 2020) that has been increasingly central in the entrepreneurship  
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37 literature. Previous empirical work has shown that identity aspirations (e.g., a possible  
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39 role identity, Farmer et al., 2011; Seibert et al., 2020) are associated with nascent  
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41 entrepreneurial activities and that different types of entrepreneurial identity can shape the  
42  
43 behavior of individuals as entrepreneurs (e.g., Cardon et al., 2013; Fauchart & Gruber,  
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45 2011; Mathias & Williams, 2017; Murnieks et al., 2014). A unique contribution of this  
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47 study is the focus on entrepreneurial identity as a lingering identity shaping behavior in a  
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49 new context, that of paid employment. Our investigation of the moderating effects of job  
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51 characteristics further deepens the understanding of how proactive consideration of work  
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3 design may provide a constructive way to shape the influence of an identity (Parker et al.,  
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5 2017). In this way, our study also contributes more broadly to the literature on work role  
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7 transitions (Ashforth, 2001) by exploring the conditions under which the influences of  
8  
9 any pre-existing/lingering identities (Wittman, 2019) persist after role change.

12 Third, our work heeds the call to adopt a careers perspective in the study of  
13  
14 entrepreneurship. Arthur et al. (1989) have defined career as the unfolding sequence of a  
15  
16 person's work experiences over time. Adopting a careers perspective on entrepreneurship  
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18 means to "engage in a more dedicated inquiry into how entrepreneurship intersects with  
19  
20 and influences individual career trajectories and outcomes" (Burton et al., 2016, p. 238).  
21  
22 We explicitly examine the way experiences in a previous work role, in this case that of an  
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24 entrepreneur, influences the identity and behavior of the individual in a subsequent work  
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26 role, that of paid employment. Thus, the current study showcases that entrepreneurial  
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28 careers may include continuous pathways that are likely to transcend organizational  
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30 boundaries and employment forms (Arthur et al., 2005). Finally, this study offers timely  
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32 implications for individuals who were entrepreneurs or who are interested in pursuing  
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34 entrepreneurship and for firms interested in hiring entrepreneurial talent while wishing to  
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36 limit undesirable losses in their human capital investments.  
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### 42 **Theory and Hypotheses**

44 When ventures end (for reasons such as bankruptcy, liquidation, acquisitions, and  
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46 an initial public offering), entrepreneurs may join established firms rather than  
47  
48 immediately starting a new firm. Some entrepreneurs join paid jobs simply to cover  
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50 expenses or to remain active in the labor market. Some entrepreneurs may intend to build  
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52 their skill sets, accumulate domain knowledge, and develop social networks, whereas  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 others may not have clear motives when joining paid jobs (e.g., the “undecideds”, Shipp  
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5 et al., 2014), but were hoping to gradually clarify their career aspirations over time while  
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7 employed. Therefore, either as an easy employment option, a proactive job choice, or a  
8  
9 reactive gravitation, it is likely that many entrepreneurs will have careers in which they  
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11 also experience periods of traditional paid employment (Dillon & Stanton, 2017). For  
12  
13 these (former) entrepreneurs, despite the motives of joining established firms, their career  
14  
15 path and work experience in business venturing may largely differentiate them from other  
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17 employees without such experience (Koellinger et al., 2015). To better understand the  
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19 career consequences of this entrepreneurial past, we draw upon a careers perspective and  
20  
21 define entrepreneurial experience as the cumulative exposures and observations to a wide  
22  
23 array of events surrounding individuals’ entrepreneurial past.<sup>2</sup>  
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29 Next, we illustrate that, when entering paid employment, former entrepreneurs  
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31 with experience in business venturing tend to retain and reinforce their entrepreneurial  
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33 identity as a lingering identity and are therefore more likely to quit and do so sooner than  
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35 the others without entrepreneurial experience.  
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### 38 **Entrepreneurial Identity**

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40 As with other salient identities that are shaped by work experience and social  
41  
42 relationships, entrepreneurial identity is likely to be internalized into cognitive self-  
43  
44 schemas during business venturing and entrepreneurial activities. The process of creating,  
45  
46 founding, and actually running a new venture is likely to enable individuals to develop a  
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48 focused, realistic, and detailed understanding of being an entrepreneur and fully  
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53 <sup>2</sup> We acknowledge that entrepreneurial experience has been conceptualized and/or examined in  
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55 different ways by scholars from diverse research perspectives (e.g., Baron & Ensley, 2006; Cope,  
56  
57 2005). We consider a definition of entrepreneurial experience from a careers perspective to be  
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59 more appropriate than the alternatives given the context in this study.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 internalize such identity as a salient aspect of the self (Hoang & Gimeno, 2010; Murnieks  
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5 et al., 2014; Shepherd & Haynie, 2009).

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8       When transitioned into work roles in paid jobs, former entrepreneurs may retain  
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10 such entrepreneurial identity for the following reasons. First, entrepreneurs are reluctant  
11  
12 to give up the identity of being entrepreneurs (Rouse, 2016). As one of the most visible  
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14 and socially valued identities (Navis & Glynn, 2011), an entrepreneurial identity is  
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16 considered to be more satisfying and salient than a non-owner or employee identity  
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18 (Kistruck et al., 2013; Shepherd & Haynie, 2009) and may therefore be likely to persist in  
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20 one's self-concept even when the individual no longer holds that particular role (Ashforth  
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22 & Kreiner, 1999; Ashforth & Mael, 1989).

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25       Second, although deidentification with a previous work role and/or adaptation to  
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27 the new work role is inevitable during role transitions (Ashford & Taylor, 1990; Van  
28  
29 Maanen & Schein, 1979), such a cognitive restructuring process is not easy and usually  
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31 takes time (Nicholson, 1984). Recent theoretical work by Wittman (2019) has  
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33 emphasized that under modern conditions of continuous, unpredictable, and disruptive  
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35 career change (Arthur & Rousseau, 1996), cognitive continuity, rather than restructuring,  
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37 is more likely, leading to what the author has termed "lingering identities," that is,  
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39 "identities premised on former roles that persist significantly beyond role change" (p.  
40  
41 725). Thus, entrepreneurial identity is likely to become a lingering identity when former  
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43 entrepreneurs join paid employment.

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45       Finally, as a socially distinctive group (and oftentimes the minority group) in a  
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47 workforce, former entrepreneurs may experience a heightened psychological need to  
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49 remain distinct (Forehand et al., 2002). Thus, they are more likely to demonstrate higher  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 levels of identity salience of being entrepreneurs to differentiate themselves from others  
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5 with little entrepreneurial experience.<sup>3</sup> We therefore hypothesize the following:

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8 ***Hypothesis 1 (H1):** Entrepreneurial experience will be positively associated with*  
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10 *entrepreneurial identity in paid employment, such that former entrepreneurs are*  
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12 *more likely to have an entrepreneurial identity than other employees.*

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14 While in paid employment, however, it is usually challenging to sustain and  
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16 confirm the entrepreneurial identity that demands high levels of personal initiative, work  
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18 autonomy, risk taking, and achievement motivation. Burke (1991, 2004) suggests that  
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20 individuals continually regulate their behaviors by monitoring external feedback from the  
21  
22 immediate context. When feedback fails to match identity, self-verification is not  
23  
24 achieved, and varying levels of psychological distress are experienced. Compared to  
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26 others in a workforce, former entrepreneurs make sense of their workplace through the  
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28 entrepreneurial identity that lingers on their mind; with such mindset, they are likely to  
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30 find different and even constrasting feedback in paid jobs (e.g., to follow instructions  
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32 instead of take initiative) that likely disconfirms their entrepreneurial identity. Such  
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34 identity disconfirmation is likely to motivate individuals to reassess how readily they fit  
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36 in the current context and may reduce individual support to the institution that is  
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38 considered incongruent with their identity (Ashforth & Mael, 1989; Walsh & Gordon,  
39  
40 2008). Thus, an entrepreneurial identity may exacerbate employee perceptions of a lack  
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42 of person-job fit (Kristof-Brown et al., 2005), amplify the already demanding process of  
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44 work transition (Nicholson, 1984), and ultimately lead to voluntary turnover.  
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53 <sup>3</sup> We acknowledge that it is possible that individuals with little enterpenreuriial experience may  
54 still develop some general and unsophisticated understanding of entrepreneurial identity through,  
55 for example, socialization (Falck et al., 2012), education (Donnellon et al., 2014), and/or self-  
56 perceived fit with the entrepreneurial role (Farmer et al., 2011).  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Taken together, we expect entrepreneurial identity to be a key mediator  
4 transimitting the influence of entrepreneurial experience on voluntary turnover, such that  
5 former entrprenurers are more likely to retain or reinforce their entrepreneurial identity  
6 and are therefore more likely to quit than employees with little entrepreneurial  
7 experience. Thus, we hypothesize the following relationships:  
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14 ***Hypothesis 2 (H2):** Entrepreneurial identity will be positively associated with the*  
15 *likelihood of voluntary turnover in paid employment, such that individuals with*  
16 *entrepreneurial identity will quit sooner than others.*  
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20 ***Hypothesis 3 (H3):** Entrepreneurial identity will mediate the relationship*  
21 *between entrepreneurial experience and voluntary turnover in paid employment.*  
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### 26 Study 1

#### 27 Method and Study Design

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30 Our data were collected from two high-tech research park zones in Northern  
31 China between November 2015 and March 2018.<sup>4</sup> We collected both firm-level personnel  
32 data and employee-level survey data to examine our research questions about voluntary  
33 turnover. The surveyed firms constitute a particularly appropriate setting to test our  
34 theoretical arguments because all firms are from high-tech and knowledge-intensive  
35 industries (e.g., software development, information technologies, new materials, bio-  
36 pharmaceutical, and photo-machinery-electronic), where moves between paid work and  
37 self-employment are common. The significant incidences of entrepreneurs switching  
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54 <sup>4</sup> This data collection was initiated in China where IRB approval is neither required nor common.  
55 However, we strictly followed the American Psychological Association ethical guidelines and  
56 IRB standards during the data collection process.  
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3 careers between ventures and paid employment provided opportunities to investigate our  
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5 research questions.  
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8 Using official records of the firm registration in these two park zones, we  
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10 excluded firms with fewer than 50 paid employees and firms established less than five  
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12 years ago because employment in small, newly established firms entails features similar  
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14 to entrepreneurship, which is beyond our research scope on solid, established firms. Of  
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16 the 96 firms that our research team spoke with to clarify the goals of our research and  
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18 data collection, thirty-three firms were willing to participate and provide data. Beginning  
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20 in November 2015, all newly hired employees in these firms were surveyed upon their  
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22 employment. None of the new employees in our sample was hired from Mergers and  
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24 Acquisitions. The questions in the onboarding survey measured entrepreneurial  
25  
26 experience (if any), personalities, and entrepreneurial identity. In March 2018, using  
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28 personnel data provided by the firm, we collected each new hire's annual pay range,  
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30 employee level, job start date, and job stop date and reason for leaving (if exit).  
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36 Because 11 participating firms did not hire any former entrepreneurs during our  
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38 observation period, we excluded them from our sample. Inclusion of those firms with no  
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40 new hires of former entrepreneurs did not change our findings. We compared the size,  
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42 sector, and tenure of the firms that hired former entrepreneurs and the firms that did not  
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44 and no significant differences were found. Following Meade and Craig's (2012)  
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46 recommendations, we removed 7 likely careless respondents who used response patterns  
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48 (e.g., selecting the same response option for every item on consecutive pages).  
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52 The final data comprised 603 employees (49% female, average age = 36 years)  
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54 who were hired within 22 firms, with a median firm size of 279 employees. The  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 employees included in this sample were either still employed as of March 2018 ( $n = 485$ ),  
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5 were laid off by the employer ( $n = 23$ ) or had left voluntarily prior to that date ( $n = 95$ ).  
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**Variables**

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10 **Voluntary Turnover.** The voluntary turnover data was retrieved from company  
11 records and coded to identify those who had quit ( $1 = \textit{voluntary turnover}$ ,  $0 = \textit{otherwise}$ )  
12 from the surveyed organizations from the date of entry later than November 2015 until  
13 March 2018. This variable solely represents voluntary turnover that was initiated by the  
14 employees and was used as a censoring variable in our survival analysis.  
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21 **Entrepreneurial Experience.** Upon their employment, employees in our sample  
22 were asked whether they had worked as a founder/co-founder. Following prior research  
23 (e.g., Dencker & Gruber, 2015; Farmer et al., 2011), we coded the answer to this dummy  
24 variable as 1 if the individual had any entrepreneurial experience, and 0 if otherwise.  
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30 **Entrepreneurial Identity.** We used two approaches to measure entrepreneurial  
31 identity. First, upon their employment, employees were asked “Do you identify yourself  
32 as an entrepreneur?” We coded the answer to this question, *entrepreneurial identity*, as 1  
33 if the employee answered *yes* and as 0 if the employee answered *no*. Second, to  
34 emphasize the subjective importance of the founder role identity within an individual’s  
35 overall self-concept relative to other identities (such as an employee identity), we  
36 followed the example of prior research (e.g., Murnieks et al., 2014) and modified  
37 Callero’s (1985) five-item scale of identity centrality to assess entrepreneurial identity.  
38 The respondents indicated the extent to which they agreed ( $1 = \textit{strongly disagree}$ ,  $5 =$   
39  $\textit{strongly agree}$ ) with statements such as “being an entrepreneur is something I frequently  
40 think about” and “entrepreneurship is an important part of who I am.” We then used the  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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2  
3 average score of these five questions. This scale produced a Cronbach's coefficient alpha  
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5  
6 ( $\alpha$ ) of .76.

7  
8 **Control Variables.** We included two sets of control variables: entrepreneurship-  
9  
10 related personality and other control variables. First, given the evidence that some  
11  
12 individuals may be more likely to self-select into entrepreneurship (e.g., Rauch & Frese,  
13  
14 2007; Zhao et al., 2010), we believe that controlling for entrepreneurship-related  
15  
16 personality helps disentangle the influence of entrepreneurial experience on identity and  
17  
18 turnover, the focus of our study, from that of the relatively stable traits and personalities  
19  
20 on likelihood of quitting paid jobs. Specifically, we controlled for *locus of control*, *self-*  
21  
22 *esteem*, and *risk preference*, using modified scales of Rotter Locus of Control Scale  
23  
24 (Rotter, 1966) ( $\alpha = .83$ ), Rosenberg Self-Esteem Scale (Rosenberg, 1965) ( $\alpha = .89$ ), and  
25  
26 the Gomez-Mejia and Balkin's (1989) risk scale ( $\alpha = .80$ ). Higher scores indicate  
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28 external locus of control, higher self-esteem, and greater risk-taking propensity. Again,  
29  
30 all of these variables were measured upon employees' employment.  
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36 Second, to further eliminate the possibility of alternative explanations in our  
37  
38 model, we controlled *pay range*<sup>5</sup>, *hiring year*, and *industry tenure* in all models. If there  
39  
40 were any entrepreneurs who returned to paid employment but quit in a short time because  
41  
42 of underemployment (e.g., reduced income) or lack of industrial knowledge, we would  
43  
44 have captured them using these control variables. We also controlled for the *hiring year*  
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46 to account for external labor market conditions. Finally, we included a number of  
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48 controls that have been shown to influence the likelihood of voluntary turnover (Griffeth  
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53  
54 <sup>5</sup> We converted RMB to USD to calculate pay range. Pay range of 1 represents a monthly salary  
55 below 893 USD, pay range of 2 starts from 893 to 1,489 USD, pay range of 3 starts from 1,489 to  
56 2,978 USD, and pay range of 4 represents a monthly salary above 2,978 USD.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

et al., 2000; Lyness & Judiesch, 2001), including *gender* (0 = female, 1 = male), *age* (measured in years), *marital status* (1 = married, 0 = single or other status), *education* (1 = high school, 2 = Bachelor's degree, 3 = Master's degree, 4 = Ph.D.), *employee level* (1 = lowest, 3 = highest), and *job history* (number of prior jobs).

### Analytical Strategy

To estimate the influence of entrepreneurial experience on individual probabilities of voluntary turnover, we used the statistical software STATA 15 and the command of *stcox* to construct the proportional hazards rate models or the Cox models (Cox, 1972). With survival analysis, events of various length can be studied over time and both the timing and occurrence of events can be examined. More importantly, respondents do not need to be enrolled at the same time or have the same duration of follow-up. The proportional hazards rate model of the influence of prior entrepreneurial experience through entrepreneurial identity on subsequent voluntary turnover, was:

$$h_i(t; \mathbf{x}) = h_i(t) \exp[\beta_1(X_{\text{entrepreneurial experience}}) + \beta_2(X_{\text{entrepreneurial identity}}) + \beta_3(X_{\text{controls}})],$$

where  $h_i(t; \mathbf{x})$  = the hazard function (i.e., conditional probability of turnover) at time  $t$ , for employees hired in year  $i$ ,  $h_i(t)$  = the baseline hazard function for individuals hired in year  $i$ ,  $\beta$  = the estimated regression weights, and  $X$  = the explanatory variables.

Note that our sample includes respondents from 22 firms, suggesting a nested data structure. We checked the proportionality assumption and followed previous research (e.g., Raffiee & Feng, 2014) to run Cox models with shared frailty to control for unobserved heterogeneity within firms. The Cox models with shared frailty is one of the common methods for analyzing mixed effects in multilevel survival data (Austin, 2017) and it resembles the Hierarchical (Generalized) Linear Modeling to incorporate



## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 subject-specific or firm-specific random effects to account for unmeasured subject  
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5 characteristics or within-firm homogeneity. To examine the influence of entrepreneurial  
6  
7 experience on the dummy variable and the continuous variable of entrepreneurial  
8  
9 identity, we constructed multilevel *probit* and multilevel regression models, respectively,  
10  
11 that taken account for the nested structure of the data in firms.  
12  
13

**Results**

14  
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16  
17 The means, standard deviations, and intercorrelations for study variables are  
18  
19 presented in Table 1.  
20

21  
22 Insert Table 1 about here  
23

24 Table 2 presents the results of the Multilevel *probit*/regression analyses used to  
25  
26 test Hypotheses 1 and the Cox models with shared frailty used to test Hypotheses 2 and 3.  
27  
28 As noted, we used two measures of entrepreneurial identity. We first tested our  
29  
30 hypotheses using the dummy variable of entrepreneurial identity. Column 3 and 4 of  
31  
32 Table 2 show that entrepreneurial experience was significantly related to entrepreneurial  
33  
34 identity ( $\beta = 1.54, SE_{\beta} = .32, p < .001$ ) and entrepreneurial identity had a significant  
35  
36 effect on likelihood of voluntary turnover in the subsequent paid job ( $\beta = 1.21, SE_{\beta}$   
37  
38  $= .37, p = .001$ ), supporting Hypotheses 1 and 2. As shown in Column 2 of Table 2,  
39  
40 entrepreneurial experience was positively related to one's subsequent likelihood of  
41  
42 voluntary turnover ( $\beta = 1.08, SE_{\beta} = .35, p = .002$ ). Combining these results, our data also  
43  
44 provide support to Hypothesis 3 that entrepreneurial identity transmitted the influence of  
45  
46 entrepreneurial experience to voluntary turnover.  
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51  
52 In paid employment, individuals with entrepreneurial identity (experience) have  
53  
54 3.35 (2.94) times the hazard of voluntary turnover (using the formula:  $e^{\beta}$ ) compared to  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 employees without entrepreneurial identity (experience). As shown in Figure 1A, the  
4  
5 plots of survival curve indicate that employees without entrepreneurial identity  
6  
7 demonstrated a much higher likelihood of retention than those former entrepreneurs (at  
8  
9 mean values for all other covariates in the model). The retention possibility of those with  
10  
11 entrepreneurial identity started to decline in about 20 weeks after they joined paid jobs.  
12  
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14  
15 Insert Table 2 & Figure 1 about here  
16

17 We then tested the mediating role of identity using the continuous measure,  
18  
19 *entrepreneurial identity centrality*. Column 5 and 6 of Table 2 show that entrepreneurial  
20  
21 experience was significantly related to entrepreneurial identity centrality ( $\beta = .20, SE_{\beta}$   
22  
23  $= .09, p = .019$ ) and identity centrality had a significant effect on likelihood of subsequent  
24  
25 quitting ( $\beta = .54, SE_{\beta} = .22, p = .015$ ), again providing support for our Hypotheses 1-3.  
26  
27

28 We calculated the effect sizes of mediation using  $P_M$ , the proportion of the total effect  
29  
30 mediated ( $P_M = \frac{\text{Indirect effect}}{\text{Total effect}}$ , Wen & Fan, 2015). The results suggest both *entrepreneurial*  
31  
32 *identity* (44.4% of total effect mediated) and *entrepreneurial identity centrality* (13.0%  
33  
34 of total effect mediated) mediated the relationship between entrepreneurial experience  
35  
36 and voluntary turnover, thus providing further evidence to our hypothesized mediation  
37  
38 model. We also replicated our findings using alternative, multilevel *probit* models to  
39  
40 predict voluntary turnover and the results were robust.  
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### 45 Discussion of Study 1

46  
47 The results supported our hypotheses that former entrepreneurs quit sooner than  
48  
49 employees without entrepreneurial experience and that entrepreneurial identity partially  
50  
51 transmitted this effect. It is worth noting that our findings were robust when controlling  
52  
53 for the effects of personality that might associate with entry into entrepreneurship.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 However, we acknowledge that the jobs in Study 1 are relatively homogenous and note  
4 that the findings might be specific to the high-tech, high growth context, limiting the  
5 generalizability of our findings. Therefore, in Study 2, we intend to replicate and extend  
6 the findings of Study 1 using a large, longitudinal nationally representative sample of  
7 respondents and jobs in the U.S. This dataset in Study 2 has a number of advantages.  
8 First, it allows us to generalize our findings to a much broader range of occupations and  
9 industries and to a second national context. Second, it provides a longer timeframe over  
10 which to examine turnover events. Third, this longitudinal dataset provides detailed  
11 information on previous entrepreneurial experience, allowing us to test the robustness of  
12 alternative operationalizations. Fourth, and most importantly, it allows us to match jobs  
13 with established job characteristics and conduct a direct test of our theoretical proposition  
14 that former entrepreneurs turn over when their jobs provide cues and feedback that  
15 contradicts their lingering role identities.  
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**Study 2**

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35 Although entrepreneurs who enter paid employment are likely to hold a lingering  
36 entrepreneurial identity that may be challenged in paid employment, these individuals are  
37 also open to ongoing possibilities of reactivating their valued work role as an  
38 entrepreneur (Wittman, 2019). Applying Burke's (1991, 2004) identity model to an  
39 entrepreneurial context, we argue that employees with entrepreneurial identity are likely  
40 to view certain job characteristics and/or working conditions as opportunities to  
41 reactivate their entrepreneurial role, reveal who they were, and recognize their value.  
42 Therefore, former entrepreneurs are less likely to experience psychological strain in paid  
43 jobs with favorable, entrepreneurial characteristics and stay longer.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Given the scant research on whether some jobs are more entrepreneurial than  
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5 others (Baron, 2010), we start by seeking for the defining features of entrepreneurship  
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7 (Dobrev & Barnett, 2005; Sørensen, 2007) that are inherent in characteristics of paid jobs  
8  
9 (Hackman & Oldham, 1976; Humphrey et al., 2007; Morgeson & Humphrey, 2006). As  
10  
11 we explain below, our examination of these two streams of literature leads us to propose  
12  
13 that entrepreneurial features can be best found in jobs with more decision-making  
14  
15 authority, tasks to utilize their unique skill sets, and opportunities to initiate and create  
16  
17 new ideas and projects, in other words, in jobs with high levels of work autonomy and  
18  
19 job complexity, and more entrepreneurial opportunities.  
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24 Work autonomy, which refers to the individual's discretion to decide *what, where,*  
25  
26 *when,* and with *whom* to work (Hackman & Oldham, 1976) generally increases  
27  
28 employees' intrinsic motivation, psychological empowerment, and subsequent retention  
29  
30 (Morgeson & Campion, 2003). However, work autonomy can be particularly important to  
31  
32 individuals holding entrepreneurial identity because autonomy is one of the key factors  
33  
34 motivating individual pursuit of novel ideas (Thompson, 1965) and entrepreneurial  
35  
36 activities (Hamilton, 2000; Kolvereid, 1996). Thus, jobs with high levels of autonomy  
37  
38 may resemble a well-fitting context that provides confirmative identity feedback (Burke,  
39  
40 1991, 2004) to individuals with a lingering entrepreneurial identity, further prolonging  
41  
42 their retention in paid employment. Conversely, given that low autonomy (e.g., in rigid  
43  
44 and closely monitored jobs) discourages the exercise of discretion and the taking of  
45  
46 initiative (Den Hartog & Belschak, 2012), individuals with entrepreneurial identity may  
47  
48 find little positive feedback to confirm their identity and derive little benefit from taking  
49  
50 initiative (Glaser et al., 2016). Quitting is more likely in such a poor-fitting context.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Another defining feature of entrepreneurship, which also varies inherently in  
4 traditional workplaces, is job complexity. Complex jobs are multifaceted and complicated  
5 to perform, and thus often require processing ambiguous and divergent information that  
6 tends to be mentally demanding and overwhelming for many employees (Humphrey et  
7 al., 2007; Van Der Vegt et al., 2000). However, in contrast to the typical requirements of  
8 employees, the process of business venturing is often complex (Wortman, 1987),  
9 containing multifunctional tasks and demanding a jack-of-all-trades skill set (Lazear,  
10 2005; Lumpkin & Dess, 1996). Thus, employees who view themselves as entrepreneurs  
11 tend to find complex jobs as opportunities to bring their strong points into play, utilize  
12 their unique skills, and sustain their distinctive identity, all of which may help prolong  
13 their retention in paid jobs. However, employees with entrepreneurial identity may feel  
14 overqualified in simple jobs (Erdogan & Bauer, 2009), finding simple and repetitive jobs  
15 boring, demotivating, and in misalignment with their broad range of skills and  
16 entrepreneurial identity, and consequently quit sooner.

17  
18  
19 The third job characteristic we propose to moderate the focal relationship is  
20 entrepreneurial opportunity within jobs, which we define as the degree to which a job  
21 provides opportunities for employees to act like an entrepreneur, such as initiating  
22 projects, leading people, and utilizing creativity and alternative thinking to develop new  
23 ideas, processes, products, and businesses within organizations. Jobs with more  
24 entrepreneurial opportunities are likely to provide confirmative feedback to individuals  
25 with a lingering entrepreneurial identity because these jobs allow individuals to, for  
26 example, continuously create and introduce novel ideas, initiate projects, and lead others,  
27 in the way entrepreneurs typically see themselves perform. Thus, in jobs with more  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

entrepreneurial opportunities, employees with an entrepreneurial identity are likely to receive positive feedback, continue to see themselves as entrepreneurs, and ultimately stay longer. In contrast, in jobs with fewer entrepreneurial opportunities, a lingering entrepreneurial identity may be constantly challenged and employees with this identity may end up quitting sooner. Taken together, we formulate the following hypothesis:

***Hypothesis 4 (H4):** Job characteristics will moderate the indirect relationship between entrepreneurial experience and voluntary turnover via entrepreneurial identity, such that higher (vs. lower) levels of work autonomy (H4a) and job complexity (H4b), and more (vs. less) entrepreneurial opportunities (H4c) will weaken the relationship between entrepreneurial identity and voluntary turnover.*

### **Method and Study Design**

We obtained data on individual demographic characteristics, work experience, and voluntary turnover (e.g., job start/stop date, reason of turnover, turnover destination) from NLSY79, a public dataset sponsored and administered by the Bureau of Labor Statistics of the United States Department of Labor. The NLSY79 is a nationally representative sample of 12,686 men and women with inclusive records of individual employment spells from 1979 to 2016. One of the advantages of NLSY79 data in studying former entrepreneurs in paid employment is that the data contain rich information on individual respondents' job spells spanning over decades, including both self-employment and paid employment spells. Given our focus on employee retention in paid employment, testing our hypotheses requires the construction of a sample only containing job spells in paid employment. To help rule out alternative explanations (e.g., retirees), we eliminated all those under age 18 or above age 60.

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Another advantage of NLSY79 data in studying our research questions is that the  
4 data include adequate representation across hundreds of occupations. We matched  
5 information on job characteristics from O\*Net to NLSY79 using the Standard  
6 Occupational Classification (SOC) codes. O\*Net is a modern computerized occupational  
7 database that contains approximately 1,000 distinct occupations representing most job  
8 titles within the U.S. labor force and allows for individual occupation matching in  
9 NLSY79. Where there were a small number of cases for which the O\*Net divided a  
10 single job into several subcategories, we averaged the scores of the job characteristics for  
11 the subgroups. We ended up with a final sample that consists of 14,339 job spells.  
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***Variables***

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26 **Voluntary Turnover.** We followed prior studies (e.g., Lee et al., 2008) and  
27 created a dichotomous outcome variable that identified, for all paid job spells across  
28 survey years, instances of voluntary turnover (1 = *voluntary turnover*, 0 = *otherwise*). All  
29 exits explicitly identified as a quit or employee-initiated separation (e.g., “quit to look for  
30 another job” or “moved to another geographic area”) were coded as voluntary turnover.  
31 Retirements were not included as voluntary turnover. Responses indicating an employer-  
32 initiated separation (e.g., “layoff,” “discharged or fired,” or “end of temporary/seasonal  
33 job”) were coded 0. This turnover variable was used as a censoring variable in our  
34 survival analysis.  
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47 **Entrepreneurial Experience.** Consistent with Study 1, we coded *entrepreneurial*  
48 *experience*, using a variable in NLSY79, indicating whether an individual had ever  
49 owned at least 50 percent of a business or were principal managing partner of a business.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 We discuss the coding and the analysis using alternative measures of entrepreneurial  
4 experience in the supplementary analysis section.  
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8 **Entrepreneurial Identity.** *Entrepreneurial identity* is measured in NLSY79  
9 using the question of “Do you consider yourself to be an entrepreneur,” which was asked  
10 when respondents answered questions about prior venture(s) regardless of their  
11 ownership status of that year (e.g., 2010). We coded this dummy variable as 1 if the  
12 respondents had considered themselves as entrepreneurs and as 0 if not.  
13  
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19 **Job Characteristics.** Consistent with prior studies (e.g., Glomb et al., 2004; Liu  
20 et al., 2005; Shaw & Gupta, 2004), we selected and extracted variables from the Work  
21 Context and Work Values files of the O\*Net database to code our job characteristic  
22 variables. We assessed *work autonomy* of the paid job using the job information of how  
23 much decision-making freedom, without supervision, the job offered. We operationalized  
24 *job complexity* as the average score of 41 items of work activities from O\*NET (e.g.,  
25 Glomb et al., 2004; Shaw & Gupta, 2004). Sample items are the level of “updating and  
26 using relevant knowledge,” “analyzing data or information,” and “monitoring and  
27 controlling resources” ( $\alpha = .95$ ). Both of these measures are based on a 5-point scale.  
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Higher scores indicate higher levels of *work autonomy* and *job complexity*.

Given that an established scale of entrepreneurial opportunity at the job level is  
lacking, we relied on our definition of job-level entrepreneurial opportunity and carefully  
selected the best proxies in O\*Net dataset. We first measured *entrepreneurial opportunity*  
using a question based on a 5-point scale, asking about the extent to which a job “requires  
creativity and alternative thinking to develop new ideas for and answers to work-related  
problems.” We then created an alternative measure based on a 7-point scale, using the



## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 enterprising score in Holland's (1958, 1997) theoretical job interest types. According to  
4  
5 O\*Net, the enterprising item measured the extent to which a job involves "starting up and  
6  
7 carrying out projects, leading people and making many decisions, and risk taking and  
8  
9 dealing with business," thus we consider it as a representative measure to capture  
10  
11 entrepreneurial opportunity in jobs. For both measures, higher scores indicate more  
12  
13 *entrepreneurial opportunities*. We collected additional data to investigate the validity of  
14  
15 these measures and the results demonstrate acceptable construct validity.<sup>6</sup>  
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19       **Control Variables.** Similar to Study 1, we included two sets of control variables  
20  
21 in NLSY79—personality related variables and other control variables—to account for  
22  
23 alternative explanations and confounding factors. Specifically, we controlled for *self-*  
24  
25 *esteem* (measured in 1980) ( $\alpha = .76$ ), *locus of control* (measured in 1979) ( $\alpha = .31$ )<sup>7</sup>, and  
26  
27 *self-mastery* (measured in 1992) ( $\alpha = .78$ ), using the measures of the Rosenberg Self-  
28  
29 Esteem Scale (Rosenberg, 1965), the Rotter Locus of Control Scale (Rotter, 1966), and  
30  
31 the Pearlin Mastery Scale (Pearlin et al., 1981). We also controlled and measured *risk-*  
32  
33 *taking propensity* using the respondents' answers to the question in 2010, "Are you  
34  
35 generally a person who is fully prepared to take risks or do you try to avoid taking risks?"  
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43 <sup>6</sup> We invited 185 MBA students to complete an online survey to validate the measures we used.  
44 During the data collection process, we strictly followed the American Psychological Association  
45 ethical guidelines and IRB standards. We informed the participants that they would be qualified  
46 for a "lottery draw" to be rewarded with a \$20 gift card. A total of 122 participants (average age  
47 was 35; 52% were male) completed the questionnaire and passed the attention check question  
48 (i.e., "select *strongly disagree* for this item", Meade & Craig, 2012). The survey included two  
49 entrepreneurial opportunity scores we used and two distinctive but relevant constructs—i.e.,  
50 adapted measures of the corporate entrepreneurship scale (Zahra, 1991) and the intrapreneurship  
51 scale (Antoncic & Hisrich, 2001). Results show that the entrepreneurial opportunity measures in  
52 our study correlated highly with the corresponding measures (max  $r = .75$ ,  $p < .001$ ; min  $r = .61$ ,  
53  $p < .001$ ), suggesting acceptable construct validity of the measures we used.

54 <sup>7</sup> In NLSY79, the internal consistency of the locus of control scale is low for the whole cohort ( $\alpha$   
55 = .36).  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 We controlled for *age* and *gender* (0 = *female*, 1 = *male*) that were both measured  
4 in 1979, and *cognitive ability*, using the Armed Forces Qualifications Test score in 1981.  
5  
6 We also controlled for *marital status* (yearly) and *race* (measured in 1979). We included  
7  
8 yearly *job history* as the total number of past jobs to account for opportunity costs and  
9  
10 labor market experience (Shane, 2003; Trevor, 2001). We collected information on  
11  
12 hourly *pay* (measured yearly) to account for the influence of possibly lowered income on  
13  
14 employee turnover (Griffeth et al., 2000; Kaiser & Malchow-Møller, 2011). In doing so,  
15  
16 we also accounted for those arguably lower-paid, necessity entrepreneurs—those who  
17  
18 were forced into states of self-employment (Sørensen & Sharkey, 2014) but rejected the  
19  
20 entrepreneurial identity. Furthermore, we controlled measures of *firm size*, two-digit U.S.  
21  
22 Census *Industry Codes*, *industry change*, and *year* fixed effects.  
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**Results**

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30 Table 3 displays the bivariate correlations among variables, means, and standard  
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32 deviations.  
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Insert Table 3 about here

38 We used the same analytical strategy in Study 1 to analyze the data in Study 2.  
39  
40 The results in Column 3 of Table 4 suggest that entrepreneurial experience was positively  
41  
42 associated with entrepreneurial identity ( $\beta = 1.18, SE_{\beta} = .03, p < .001$ ), again supporting  
43  
44 Hypothesis 1. As expected, the estimate in Column 4 of Table 4 further suggests that  
45  
46 when controlling for entrepreneurial history and other individual characteristics that were  
47  
48 shown to affect entrepreneurial choices, entrepreneurial identity was positively related to  
49  
50 voluntary turnover ( $\beta = .12, SE_{\beta} = .05, p = .033$ ). This result indicates that the expected  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 hazard of voluntary turnover is 1.13 times higher for those with entrepreneurial identity  
4  
5 as compared to others, supporting Hypothesis 2.  
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7  
8 The survival curves presented in Figure 1B indicate that, at mean values for all  
9  
10 other covariates in the model, employees with entrepreneurial identity left at a greater  
11  
12 rate and sooner than the workforce without entrepreneurial identity. The difference in  
13  
14 retention probability between the two groups grew larger in approximately 30 weeks after  
15  
16 they joined paid jobs and continued in the next decades. As shown in Column 2 of Table  
17  
18 4, the coefficient for entrepreneurial experience predicting voluntary turnover was  
19  
20 positive and statistically significant ( $\beta = .15, SE_{\beta} = .06, p = .008$ ). The expected hazard  
21  
22 of quitting is 1.16 times higher for former entrepreneurs than other employees.  
23  
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25  
26 Combining these results, we found a significant mediation effect or  $P_M$  ( $P_M = \frac{\text{Indirect effect}}{\text{Total effect}}$ ,  
27  
28 Wen & Fan, 2015): a 26.7% of total effect of the relationship between entrepreneurial  
29  
30 identity and voluntary turnover was mediated by *entrepreneurial identity*, supporting  
31  
32 Hypothesis 3.  
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35  
36 Insert Table 4 about here  
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38  
39 To further test the moderators proposed in H4a-H4c, we included the interaction  
40  
41 terms of entrepreneurial identity and the proposed job characteristics respectively in  
42  
43 survival models. The results are presented in Columns 5-10 of Table 4. The coefficient of  
44  
45 our hypothesized interaction effect of work autonomy ( $\beta = -.34, SE_{\beta} = .11, p = .002$ ) and  
46  
47 entrepreneurial opportunity ( $\beta = -.30, SE_{\beta} = .09, p = .001$ ) were significant. Therefore,  
48  
49 H4a and H4c were supported. However, our data did not support H4b, the moderating  
50  
51 role of job complexity ( $\beta = -.16, SE_{\beta} = .15, p = .279$ ). We also included all the  
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53 moderators and their interaction terms with entrepreneurial identity simultaneously in the  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 same model (see Column 9 of Table 4) to predict voluntary turnover. The moderating  
4  
5 role of work autonomy ( $\beta = -.27, SE_{\beta} = .12, p = .026$ ) and entrepreneurial opportunity  
6  
7 ( $\beta = -.23, SE_{\beta} = .10, p = .026$ ) again received statistical support. However, the  
8  
9 moderating role of entrepreneurial opportunity using the alternative measure was not  
10  
11 significant ( $\beta = -.02, SE_{\beta} = .03, p = .516$ ; see Column 8 of Table 4), even when  
12  
13 including all the moderators and their interaction terms with entrepreneurial identity in  
14  
15 the same model ( $\beta = -.00, SE_{\beta} = .03, p = .958$ ; see Column 10 of Table 4).  
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20 We followed Trevor's (2001) approach to calculate and plot fixed timeframe (i.e.,  
21  
22 two years) turnover probabilities to interpret the moderation effects in Figure 2A and 2B.  
23  
24 The bar charts verified the proposed interaction effects of job characteristics on  
25  
26 subsequent voluntary turnover. As shown in Figure 2A, employees with entrepreneurial  
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28 identity were more likely to quit in paid jobs with low levels of work autonomy (i.e., one  
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30 SD below the mean score of work autonomy; see the right solid bar in Figure 2A) than in  
31  
32 jobs with high levels of work autonomy (i.e., one SD above the mean score of work  
33  
34 autonomy; see the right dotted bar in Figure 2A); the predicted log hazard ratio for low  
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36 vs. high levels of work autonomy for employees with entrepreneurial identity was .41 ( $SE$   
37  
38 = .09,  $p < .001$ ). However, employees without entrepreneurial identity demonstrated a  
39  
40 smaller difference in likelihood of turnover between low (see the left solid bar in Figure  
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42 2A) vs. high levels of work autonomy (see the left dotted bar in Figure 2A); the predicted  
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44 log hazard ratio was .11 ( $SE = .05, p = .020$ ).  
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50 We then plotted the moderation effect of entrepreneurial opportunity in Figure  
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52 2B. Employees with entrepreneurial identity were more likely to quit in conditions of less  
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54 entrepreneurial opportunities (i.e., one SD below the mean; see the right solid bar in  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Figure 2B) than their counterparts in conditions of more entrepreneurial opportunities  
4 (i.e., one SD above the mean; see the right dotted bar in Figure 2B); the predicted log  
5 hazard ratio for employees with entrepreneurial identity with fewer vs. more  
6 entrepreneurial opportunities = .40 ( $SE = .09, p < .001$ ). For employees without  
7 entrepreneurial identity, the difference in tendency of quitting was smaller between the  
8 conditions of more (see the left dotted bar in Figure 2B) and fewer entrepreneurial  
9 opportunities (see the left solid bar in Figure 2B); in this case, the predicted log hazard  
10 ratio was .10 ( $SE = .05, p = .040$ ).  
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22 Insert Figure 2 about here  
23

### 24 **Supplementary Analysis**

25  
26 We measured *entrepreneurial experience* using alternative variables that included  
27 a dummy variable, *recent job as a founder*, and three continuous variables, *length of the*  
28 *recent venture*, *number of prior ventures*, and *total length of prior ventures*. Results in  
29 Columns 1-4 of Table 5 show that the coefficients for *number of prior ventures* ( $\beta = .17,$   
30  $SE_{\beta} = .01, p < .001$ ), *length of the recent venture* ( $\beta = .09, SE_{\beta} = .01, p < .001$ ), *recent*  
31 *job as a founder* ( $\beta = .61, SE_{\beta} = .07, p < .001$ ), and *total length of prior ventures* ( $\beta$   
32  $= .02, SE_{\beta} = .00, p < .001$ ) were all statistically significant, providing additional support  
33 for our hypothesis that entrepreneurial experience was associated with entrepreneurial  
34 identity.  
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48 Insert Table 5 about here  
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50 We also tested alternative models for robustness check. First, we empirically  
51 examined a first-stage moderation model (i.e., job characteristics moderated the  
52 relationship between entrepreneurial experience and identity) and an alternative model in  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 which entrepreneurial identity functioned as a moderator instead of a mediator, but the  
4  
5 results of these moderation effects were not significant. Second, we reran all models  
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7 using employing firm size and voluntary *vs.* involuntary exits from prior ventures as  
8  
9 moderators (to distinguish different types of former entrepreneurs) but failed to find  
10  
11 significant results for these moderators. Third, to account for nonindependence of  
12  
13 repeated individual events, we followed prior study (e.g., Trevor, 2001) and used the  
14  
15 robust variance estimator (Lin & Wei, 1989) to rerun all Cox models. The results are  
16  
17 robust. Last, we reran our Cox models with shared frailties (Gutierrez, 2002) on work  
18  
19 autonomy, entrepreneurial opportunity, and job complexity and reran all *probit* models  
20  
21 with individuals nested in jobs of varying degrees of these characteristics to account for  
22  
23 the potential selection concern that former entrepreneur might favor certain jobs.<sup>8</sup> The  
24  
25 results are robust, again supporting our main findings.  
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***Post-hoc Analysis: Turnover Destinations or “Where People Go”***

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33 The richness of the data in Study 2 provides an alternative way in testing how  
34  
35 entrepreneurial identity leads former entrepreneurs to depart paid jobs with different  
36  
37 turnover destinations. Consistent with the identity arguments, we expect former  
38  
39 entrepreneurs to quit paid jobs and restart another venture business to sustain their  
40  
41 lingering, entrepreneurial identity. Thus, we conducted a *post-hoc* analysis using a  
42  
43 competing-risks framework where individuals were assumed to be at risk of either  
44  
45 starting business ventures (i.e., enter serial entrepreneurship) or entering another paid job;  
46  
47 the occurrence of one event makes impossible the occurrence of the other. Results of  
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49 Column 6 and 7 of Table 5 suggest that compared to employees without entrepreneurial  
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<sup>8</sup> We wish to acknowledge and thank an anonymous reviewer for pointing out this issue.

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 experience, those employees who were once founders were more likely to quit in general  
4 but were also more likely to quit and start a venture ( $\beta = 1.24, SE_{\beta} = .02, p < .001$ )  
5 instead of joining another paid job ( $\beta = .07, SE = .06, p = .237$ ) after quitting. Similarly,  
6 we also found that, compared to others, those with an entrepreneurial identity were more  
7 likely to quit and start a venture ( $\beta = 1.18, SE_{\beta} = .19, p < .001$ ) instead of joining  
8 another paid job ( $\beta = .08, SE = .05, p = .123$ ).  
9

**Discussion of Study 2**

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11  
12 In Study 2, with nationally representative panel data that spans more than 30  
13 years, we replicated our findings in Study 1 and further confirmed our Hypothesis 4a and  
14 4c that employees with entrepreneurial identity were more likely to quit in paid jobs,  
15 especially in jobs with a low level of autonomy and less entrepreneurial opportunities.  
16 The results in supplementary analysis have provided further support that entrepreneurial  
17 identity drives former entrepreneurs to quit sooner than other employees.  
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19

**General Discussion**

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21  
22 Although it is common for individuals to transcend many types of organizational  
23 and occupational boundaries throughout their careers (Arthur et al., 2005), very little  
24 research has studied the behavior of entrepreneurs who choose to join paid employment,  
25 either as temporary transitions or permanent destinations. Recent evidence shows that this  
26 transtion is quite frequent (Dillon & Stanton, 2017) and may be motivated for reasons  
27 such as purposeful knowledge accumulation and network building, unexpected work and  
28 life shocks (Lee & Mitchell, 1994), or to research the labor market for a better fit.  
29 Entrepreneurship scholars may overlook former entrepreneurs in paid employment partly  
30 due to data limitation in capturing the heterogeneity of entrepreneurial experience among  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 employees and partly due to a commonly shared assumption that “for learning benefits  
4 from prior entrepreneurship to materialize, entrepreneurs who founded the failed business  
5 must deploy the resultant new knowledge—for example, by embarking on another  
6 entrepreneurial venture”; if entrepreneurs choose to completely exit from  
7 entrepreneurship, “both the entrepreneur and society may lose out” (Ucbasaran et al.,  
8 2013, p. 164).

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17 In this study, we demonstrate that many entrepreneurs can and do opt for paid  
18 employment—e.g., among the respondents who reported entrepreneurial experience in  
19 Study 2, about 71% had also been employed elsewhere, or, in other words, only 29% of  
20 the respondents had solely been running ventures throughout their entire career. Given  
21 that the potential contributions of entrepreneurs to established organizations (e.g.,  
22 creating entrepreneurial cultures, developing internal ventures, identifying new  
23 opportunities, and promoting innovation) stem partly from employee longevity in the  
24 hiring firm, our investigation of former entrepreneurs’ retention in organizational  
25 employment, with a special focus on their identity and job characteristics provides  
26 important research implications to the scholarship on voluntary turnover, entrepreneurial  
27 identity, role transition, and a careers perspective of entrepreneurship.

### 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 **Theoretical Implications**

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45 This study contributes to the turnover literature by demonstrating that we need to  
46 include identity-related process as a key driver of quitting, especially when studying  
47 entrepreneurs. Classical models of turnover are based on the concept of job attitudes and  
48 needs fulfillment (Hom et al., 2012). More recent approaches have modeled less gradual  
49 decision processes triggered by “shocks” (Lee et al., 1999) and a broader range of social  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 and psychological forces that lead people to stay with their current organization (Mitchell  
4 et al., 2001). Although role identity theory has been used extensively in the literature on  
5 role transitions (Ashforth, 2001; Nicholson, 1984), it has not been systematically  
6 integrated into models of turnover (Hom et al., 2017). In particular, our work is the first  
7 to demonstrate the influence of a lingering identity (Wittman, 2019), in this case  
8 entrepreneurial identity, on employee turnover.  
9

10  
11 The lingering identity construct may be an important addition to turnover models  
12 in a range of populations and circumstances. For example, previous research by Kraimer  
13 et al. (2012) found that expatriates who had returned to their home organization  
14 continued to hold a strong identity as an international employee and were therefore more  
15 likely to turn over when they experienced career deprivation. A lingering identity may  
16 also influence turnover in other situations where role transition involves ongoing anxiety  
17 and uncertainty appraised as an identity threat (Wittman, 2019). These could include any  
18 occupational change, but especially those that involve a perceived drop in occupational  
19 prestige: lawyers moving from private practice to corporate employment; medical  
20 doctors, researchers, or consultants moving to a management position; any occupational  
21 retraining necessitated by long-term employment declines.  
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42 The lingering identity construct used in this paper links to an emerging area in  
43 turnover research by improving our understanding of the factors that determine “*when*  
44 and *where* people go” when they turn over. Classical and modern turnover models have  
45 helped us understand why employees go (e.g., dissatisfaction, shocks) and why they stay  
46 (e.g., commitment, embeddedness), but only limited insight into when they go (i.e., some  
47 unfolding paths are faster than others) and even less insight into where they go. Our  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 results in Study 2 indicate that, on average, the tenure of those with an entrepreneurial  
4 experience (identity) was approximately one fourth (sixth) the length of the tenure of the  
5 others without entrepreneurial experience (identity). We believe that evidence on “timing  
6 of turnover” not only holds the key to better understanding the causal relationships, but  
7 also offers important theoretical implications in its own right. Our results in  
8 supplementary analysis also show that former entrepreneurs and employees with an  
9 entrepreneurial identity were more likely to leave paid employment and to start a new  
10 venture. Along with research that shows future-oriented entrepreneurial identity  
11 aspirations can lead employees toward entrepreneurship after the experience of certain  
12 career shocks (Seibert et al., 2020), identity constructs offer considerable promise into the  
13 question of when employees leave and where they go after turnover.  
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28         Second, this paper also contributes to the literature on entrepreneurial identity, an  
29 area that continues to grow in importance (Mmbaga et al., 2020). Research on  
30 entrepreneurial identity has most frequently focused on the different role identities an  
31 entrepreneur might hold (e.g., inventor, founder, manager) and the effects of those  
32 identities on subsequent motivations, behaviors, decisions, strategic moves, and venturing  
33 outcomes (e.g., Cardon et al., 2013; Fauchart & Gruber, 2011; Mathias & Williams,  
34 2017; Murnieks et al., 2014). Other research has focused on entrepreneurial identity  
35 aspirations, a positively valued possible self-identity (Markus & Nurius, 1986) and its  
36 impact on efforts to become an entrepreneur (Farmer et al., 2011; Seibert et al., 2020).  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 previous ventures is not easy to give up. Instead, it is relatively enduring to transcend  
4 organizations (Ashforth & Kreiner, 1999) and is likely to become a lingering role identity  
5  
6 (Wittman, 2019) in influencing behaviors outside the entrepreneurial territory.  
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10 This study also heeds the call to address under what conditions entrepreneurial  
11 identity reduces the negative influences of entrepreneurs exit (Rouse, 2016). The role  
12 transition literature explores how individuals alter the way they see themselves to adapt  
13  
14 to the new external reality, sometimes amalgamating previous identities to craft an  
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16 identity appropriate to the new role (Ibarra, 1999) and sometimes substituting a new  
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18 identity for an old identity to enact a more complete break with the past (Pratt, 2000).  
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20 Less explored are the conditions under which former work role identities persist after role  
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22 change and the potential positive or negative consequences of such lingering identities for  
23  
24 the individual and organization. Entrepreneurs entering paid employment provides an  
25  
26 opportune setting because the ongoing possibility of reactivating the entrepreneurial role  
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28 and the challenge of enacting entrepreneurial role behaviors within a traditional  
29  
30 employment context are likely to create demands for cognitive continuity rather than  
31  
32 cognitive restructuring (Wittman, 2019). This is the first study we are aware of that  
33  
34 provides a quantitative test of the influence of a lingering entrepreneurial identity and  
35  
36 explores the conditions under which such influences persist after role changes. Thereby,  
37  
38 we also contribute to the promising area suggested by Parker and colleagues (2017)  
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40 regarding the role that work design plays in “shaping, or protecting, personal and  
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42 occupational identity” (p. 415).  
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51 Finally, our paper contributes to the career perspective on entrepreneurship  
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53 (Burton et al., 2016; Carroll & Mosakowski, 1987). Although much of the  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 entrepreneurship literature has focused on the novice entrepreneur (Reynolds, 1997),  
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5 entrepreneurial failure (Shepherd et al., 2016), entrepreneurial learning (Politis, 2005),  
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7 and serial entrepreneurship (Wright et al., 1998). What even these perspectives largely  
8  
9 overlook is the period once or future entrepreneur spends in paid employment. Given that  
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11 the back-and-forth movement of an entrepreneurial career across paid jobs and new  
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13 ventures is indeed common, by ignoring former entrepreneurs in paid employment,  
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15 scholars may miss the opportunity to reveal the full range of career experiences of many  
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17 entrepreneurs. Our paper sheds light on a careers perspective of entrepreneurship,  
18  
19 advocating that the pursuit of entrepreneurship can be a continuous journey (rather than a  
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21 transient state of venture creation) toward learning and developing capacity to initiate,  
22  
23 organize, and manage (Burton et al., 2016; Carroll & Mosakowski, 1987), not only in  
24  
25 one's own business, but also inside established firms owned by others. We consider our  
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27 study as largely consistent with the line of boomerang research (e.g., Shipp et al., 2014)  
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29 in emphasizing the importance to connect the seemingly isolated but related dots of  
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31 individuals' employment to their entire career.  
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**Practical Implications**

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40 Our study offers timely implications for firms that are interested in hiring former  
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42 entrepreneurs. Although hiring firms may want to give considerable weight to  
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44 entrepreneurial experience in hiring decisions, they should also be aware that  
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46 entrepreneurs, particularly those who retain an entrepreneurial identity, are likely to feel  
47  
48 stifled by the organizational norms, daily routines, and bureaucratic controls of a  
49  
50 traditional work environment in paid jobs. These entrepreneurial employees may indeed  
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52 quit sooner than others and may incur extraordinary costs of turnover.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 This study also offers intriguing avenues for firms to retain former entrepreneurs.  
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5 Across both studies, our results suggest that the retention rates of former entrepreneurs  
6  
7 begin to meaningfully diverge several months into employment and to continue to widen  
8  
9 over time. This may suggest a period of time early in their tenure when organizations  
10  
11 have a grace period to retain those with a strong entrepreneurial identity. We speculate  
12  
13 based on theorizing about the nature of organizational entry and early socialization  
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15 experiences that distinct socialization and rites of passage as the entrepreneur role ends  
16  
17 and the employee role begins can help the former entrepreneurs process the loss of the  
18  
19 former identity which is the prerequisite to cognitive restructuring and identity adaptation  
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21 (Wittman, 2019). Quickly seeking to embed the former entrepreneur into the new  
22  
23 organization (Mitchell et al., 2001), by emphasizing shared values, establishing links to  
24  
25 important insiders, and offering benefits and perks of membership, should also help the  
26  
27 new employee deidentify from their previous role. Recent work on socialization tactics  
28  
29 suggests benefits to personalizing early experiences based on newcomer individual  
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31 differences (Peltokorpi et al., in press). Future research should consider the efficacy of  
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33 tailoring socialization programs to keep former entrepreneurs engaged over time.  
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40 Another approach is to allow former entrepreneurs opportunities to express their  
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42 entrepreneurial identities in constructive, rather than counter-productive ways in the  
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44 organization. For example, firms who hire former entrepreneurs should recognize the  
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46 importance of deliberately redesigning jobs and/or cultivating venturing opportunities  
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48 from within, providing these employees with an alternative option to adapt their  
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50 entrepreneurial identity and to keep learning, initiating, and creating, and be  
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52 entrepreneurial without leaving the firms (e.g., Google's 20 percent time initiative  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 encouraging employees to allocate 20 percent of their work time to their own projects is  
4 credited with the creation of Gmail, among other innovations). Our analysis suggests  
5 such initiatives empowering individuals to develop new work processes or innovative  
6 product or service extensions could be powerful tools for retaining former entrepreneurs.  
7 It is worth noting, however, that broadly providing such opportunities could backfire as  
8 some employees with little entrepreneurial interest may view this as a burden (D'Onfro,  
9 2015)<sup>9</sup>. Also, internal venturing opportunities and resources may stimulate thoughts and  
10 actions to become actual entrepreneurs (Farmer et al., 2011) and therefore encourage  
11 employees (even those who did not previously embrace an entrepreneurial identity!) to  
12 quit and exploit their ideas in an independent start-up. Thus, one strategy could be to  
13 allow former entrepreneurs significant latitude to craft their own work design.

**Limitations and Future Research**

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Despite the numerous strengths of our unique samples (e.g., longitudinal data, replicative studies, and rich data on entrepreneurship-related personality traits), the data still have limited us in testing some aspects of our theory, suggesting promising directions for future research. First, we were unable to identify whether the entrepreneurs' exits from their previous venture were due to business failure or other reasons (Wennberg et al., 2010) and whether former entrepreneurs' entry into paid jobs were a result of temporary choices or serious, long-term plans. Although we expect our identity argument to also explain some of the unmeasured motives former entrepreneurs might have for entering paid jobs (e.g., those who strategically enter established firms as

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<sup>9</sup> Former Google employee and Yahoo! CEO Marissa Mayer commented on Google's 20 percent time initiative: "It's really 120% time" (D'Onfro, 2015). This perhaps explains why some employees may view this program as a burden and why Google discontinued this project in 2013.

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 temporary stepping-stones to build social networks or identify new markets may hold an  
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5 entrepreneurial identity), it would be useful for future research to explicitly measure the  
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7 motives of joining paid employment and examine the influence of these motives on  
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10 lingering identity and subsequent likelihood of quitting.

11  
12 Second, we were unable to exclusively partial out some possible, alternative  
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14 mechanisms underlying our focal relationship between entrepreneurial experience and  
15  
16 voluntary turnover. For example, by the same token as entrepreneurial entry depends on  
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18 one's legitimacy in the eyes of external audiences (Navis & Glynn, 2011), one's  
19  
20 successful transition from entrepreneurship to paid employment may also hinge on the  
21  
22 legitimacy in the eyes of others in the workplace (e.g., peers, managers). For example, if  
23  
24 managers identify former entrepreneurs as out-group to discount their experience, it can  
25  
26 result in penalization in the form of diminished financial return or opportunities for  
27  
28 promotion (Kaiser & Malchow-Møller, 2011). Thus, future research can investigate  
29  
30 whether existing employees/managers may find it disruptive to their work when  
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32 dissimilar others, such as former entrepreneurs, are hired.

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35 Third, the snapshot identity measure in our study fails to address the possible  
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37 change in entrepreneurial identity during individuals' employment in paid jobs.

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40 Alternative measures (e.g., multi-dimensional and repeated measures) of entrepreneurial  
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42 identity (e.g., Cardon et al., 2009; Fauchart & Gruber, 2011) might offer more than our  
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44 crude measures were able to reveal and further crystallize individual behaviors when exit  
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46 entrepreneurship. Future research can also benefit from conceptualizing and developing  
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48 more fine-grained dimensions of entrepreneurial experience.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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3 Fourth, in this study, we were only able to discuss voluntary turnover as one of  
4 the many consequences of entrepreneurs returning to paid employment. Although former  
5 entrepreneurs might eventually choose to leave, it should be recognized that they could  
6 still make excellent hires, especially in roles that involve risks and ambiguity and roles  
7 that demand innovation and creativity. The rewards of attracting, hiring, and utilizing  
8 former entrepreneurs—including the complementarity engendered, potential revenue  
9 generated, and/or entrepreneurial orientation formed—may still outweigh the costs of  
10 their turnover. An important future direction, then, lies in understanding how  
11 entrepreneurs contribute to firms, which can be largely enriched from exploring  
12 alternative outcomes such as financial returns and innovation.  
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26 Finally, we have developed data and methods for understanding the patterns of  
27 transition back and forth between paid employment and business venturing. This is an  
28 important first step to understand how different patterns of career progression or  
29 advancement that involves entrepreneurship may influence individual subsequent  
30 employment and career consequences. We encourage future study to adopt such a  
31 dynamic view and devote more attention to understanding the patterns of career  
32 transitions to make further contributions to a careers perspective on entrepreneurship. We  
33 also encourage future research to incorporate alternative approach (e.g., inductive theory  
34 development and/or mixed methods) and advanced research design to replicate our study  
35 and further extend our theory.  
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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**Conclusion**

Former entrepreneurs in paid employment deserve greater attention because entrepreneurial experience may profoundly influence their subsequent career and add strategic value to the potential employers. Our results provide a promising start to look into the likelihood of voluntary turnover of employees who were former entrepreneurs. Findings from two studies show that former entrepreneurs in paid employment were more likely to quit than other employees with little entrepreneurial experience. This relationship was partially explained by entrepreneurial identity but was mitigated when their work roles offered a high degree of work autonomy and more entrepreneurial opportunities within the firm. Regarding the question, “once an entrepreneur, always an entrepreneur?” we would argue that although former entrepreneurs intend to sustain their identity and may continuously seek for opportunities to resume entrepreneurship, the duration of their retention can indeed be managed by the hiring firms. We hope our work opens up a fruitful dialogue about the career pathways through which individuals pursue entrepreneurship as well as the important means for established firms to prolong the retention of entrepreneurial talent.

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## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**TABLE 1***Study 1: Descriptive Statistics and Correlations*

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Voluntary turnover <sup>a</sup>	0.16	0.36													
2 Entrepreneurial experience	0.07	0.25	.15												
3 Entrepreneurial identity	0.08	0.28	.16	.27											
4 Entrepreneurial identity centrality	1.54	0.54	.14	.11	.20										
5 Gender <sup>b</sup>	0.51	0.50	-.12	.03	.05	.02									
6 Age	36.43	7.35	-.02	-.01	.04	.01	.04								
7 Marital status	0.75	0.43	-.02	.01	-.14	-.02	-.04	-.28							
8 Education	1.66	0.79	.27	.00	-.05	.02	.05	-.00	-.01						
9 Job history	2.64	0.57	.07	.05	-.01	-.02	.02	-.01	-.02	.04					
10 Employee level	1.65	0.74	.25	-.01	.07	.02	-.06	.13	-.03	.27	.01				
11 Industry tenure	4.18	1.33	.14	-.05	-.02	.04	.12	.42	.00	.09	.03	.31			
12 Risk preference	4.01	1.07	.29	.03	-.01	.04	.07	.10	-.07	.29	.18	.13	.18		
13 Self-esteem	5.37	1.00	.14	.03	-.04	-.07	.08	-.05	.01	.30	.01	-.01	.03	.09	
14 Locus of control	4.30	1.06	.15	-.00	-.02	-.00	.10	.00	.03	.23	.06	.09	.06	.13	.13

*Note.* N = 603. <sup>a</sup> Voluntary turnover was measured as whether the respondents end up quitting the job (0/1). <sup>b</sup> Female = 0, male = 1. All correlations greater than the absolute value of .09 are significant at .05 level.

RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**TABLE 2**  
*Study 1: Survival Analyses (Cox Models with Shared Frailty) Predicting Voluntary Turnover and Multilevel Probit/Regression Models Predicting Entrepreneurial Identity*

	(1)	(2)	(3)	(4)	(5)	(6)
	Cox model With shared frailty	Cox model With shared frailty	Multilevel Probit model	Cox model With shared frailty	Multilevel regression model	Cox model With shared frailty
D.V. =	Voluntary Turnover	Voluntary Turnover	Entrepreneurial Identity	Voluntary Turnover	Entrepreneurial Identity_Centrality	Voluntary Turnover
Gender <sup>a</sup>	-1.27*** (.24)	-1.45*** (.25)	.09 (.19)	-1.51*** (.26)	.01 (.04)	-1.49*** (.26)
Age	-.02 (.02)	-.03 (.02)	.00 (.01)	-.03 (.02)	-.00 (.00)	-.03 (.02)
Marital status	-.21 (.28)	-.21 (.28)	-.54** (.20)	-.10 (.29)	-.03 (.05)	-.21 (.28)
Education	.10 (.14)	.07 (.14)	-.20 (.13)	.10 (.14)	.01 (.03)	.11 (.14)
Job history	.14 (.22)	.09 (.23)	-.08 (.15)	.13 (.23)	-.02 (.04)	.09 (.23)
Employee level <sup>b</sup>	.46** (.15)	.44** (.16)	.21 (.13)	.43** (.16)	-.01 (.03)	.41** (.16)
Industry tenure	.22* (.10)	.25* (.10)	-.05 (.08)	.29** (.11)	.02 (.02)	.27** (.10)
Risk preference	.32** (.11)	.40*** (.11)	-.05 (.09)	.45*** (.12)	-.01 (.02)	.41*** (.11)
Self-esteem	.33* (.13)	.31* (.13)	-.02 (.09)	.30* (.12)	-.04 (.02)	.32* (.13)
Locus of control	.17 (.15)	.25 (.15)	-.15 (.11)	.32* (.15)	-.06 (.03)	.26 (.15)
Entrepreneurial experience		<b>1.08**</b> (.35)	<b>1.54***</b> (.32)	.60 (.40)	<b>.20*</b> (.09)	.94** (.35)
Entrepreneurial identity				<b>1.21**</b> (.37)		
Entrepreneurial identity_centrality						<b>.54*</b> (.22)
BIC	1011.83	1010.40	392.89	1007.21	1053.31	1011.27
Chi-squared	110.89	111.03	53.07	115.75	32.83	112.32
Pseudo-R <sup>2</sup>	.453	.482		.503		.500
Δ Pseudo-R <sup>2</sup>		.029		.050		.047

Note. N = 603. <sup>a</sup>Female = 0, male = 1. <sup>b</sup>Lowest = 1, highest = 3. Pseudo-R<sup>2</sup> values were calculated using Royston & Sauerbrei's (2004) recommended R<sup>2</sup> statistic based on the index of discrimination (D) for proportional hazard models of censored survival data. Δ Pseudo-R<sup>2</sup> was calculated using the difference between the focal model in each column and the baseline turnover model in Column 1. Values in bold are relevant to tests of hypotheses. All models took into account of individuals nested in 22 firms and included dummies of pay range and the hiring year.  
 \*  $p < .05$ .  
 \*\*  $p < .01$ .  
 \*\*\*  $p < .001$ .  
 Two-tailed tests.

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

**TABLE 3***Study 2: Descriptive Statistics and Correlations*

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Voluntary turnover <sup>a</sup>	0.18	0.39																	
2 Entrepreneurial experience	0.15	0.35	.00																
3 Entrepreneurial identity	0.19	0.40	.01	.36															
4 Work autonomy	4.05	0.44	-.05	.06	.03														
5 Job complexity	3.04	0.33	-.04	.04	.01	.36													
6 Entrepreneurial opportunity (EO)	3.47	0.52	-.03	.05	.02	.35	.40												
7 Entrepreneurial opportunity_alternative (EO_alt)	3.89	1.87	-.03	.06	.05	.27	.31	.23											
8 Gender <sup>b</sup>	0.52	0.50	-.10	.06	.13	.00	-.06	-.10	-.14										
9 Age	38.28	10.51	-.07	-.04	-.04	-.05	-.05	-.09	.09	.02									
10 Job history	2.75	0.59	-.02	-.04	-.03	-.04	-.03	-.08	.06	.01	.83								
11 Pay <sup>c</sup>	6.98	0.75	-.18	.05	.03	.15	.12	.09	.19	.16	.57	.53							
12 Firm size <sup>c</sup>	3.93	2.06	-.07	-.05	-.04	.03	.07	.02	.01	-.02	.07	.06	.21						
13 Cognitive ability	0.38	0.28	-.08	.12	-.02	.21	.19	.24	.25	-.01	-.01	-.08	.28	.07					
14 Risk preference	4.89	2.94	-.01	.14	.19	.05	.02	.04	.05	.09	.00	.01	.07	.00	.05				
15 Self-esteem	3.21	0.40	-.03	.05	.04	.09	.09	.11	.13	.04	.00	-.05	.14	.05	.33	.05			
16 Locus of control	2.41	0.92	-.02	.07	.06	.05	.06	.07	.07	.01	.00	-.04	.08	.02	.21	.02	.16		
17 Individual mastery	3.15	0.46	-.05	.08	.08	.09	.10	.10	.11	.02	-.03	-.02	.14	.02	.22	.08	.28	.11	
18 Industry change	0.36	0.48	.02	.02	.05	-.02	.00	.01	-.02	.02	-.20	-.10	-.17	-.04	-.03	.02	-.01	.01	.00

*Note.* N = 14,339. Entrepreneurial identity, gender, age, cognitive ability, risk preference, self-esteem, locus of control, and individual mastery were measured at person level and other variables were measured at the job spell level. <sup>a</sup> Voluntary turnover was measured as whether the respondents ended up quitting the job (0/1). <sup>b</sup> Female = 0, male = 1. <sup>c</sup> Variable that is natural logged. All correlations greater than the absolute value of .02 are significant at .05 level.

## RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

TABLE 4

Study 2: Survival Analyses (Cox Models with Shared Frailty) Predicting Voluntary Turnover and Multilevel Probit Model Predicting Entrepreneurial Identity

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Cox model with shared frailty	Cox model with shared frailty	Multilevel probit	Cox model with shared frailty	Cox model with shared frailty	Cox model with shared frailty	Cox model with shared frailty	Cox model with shared frailty	Cox model with shared frailty	Cox model with shared frailty
D.V. =		Voluntary Turnover	Voluntary Turnover	Entrepreneurial Identity	Voluntary Turnover	Voluntary Turnover	Voluntary Turnover	Voluntary Turnover	Voluntary Turnover	Voluntary Turnover	Voluntary Turnover
Gender <sup>a</sup>		-.34*** (.04)	-.35*** (.04)	.31*** (.03)	-.36*** (.04)	-.37*** (.04)	-.37*** (.04)	-.37*** (.04)	-.37*** (.04)	-.38*** (.04)	-.38*** (.04)
Age		-.07*** (.01)	-.07*** (.01)	.02** (.01)	-.07*** (.01)	-.07*** (.01)	-.07*** (.01)	-.07*** (.01)	-.07*** (.01)	-.07*** (.01)	-.07*** (.01)
Job history		1.07*** (.14)	1.08*** (.14)	-.37*** (.09)	1.08*** (.14)	1.08*** (.14)	1.08*** (.14)	1.09*** (.14)	1.08*** (.14)	1.09*** (.14)	1.09*** (.14)
Race <sup>c</sup> :	Black	.08 (.06)	.08 (.06)	.35*** (.04)	.07 (.06)	.07 (.06)	.07 (.06)	.06 (.06)	.07 (.06)	.06 (.06)	.06 (.06)
	Caucasians	-.11* (.06)	-.12* (.06)	.05 (.04)	-.12* (.06)	-.12* (.06)	-.12* (.06)	-.13* (.06)	-.12* (.06)	-.13* (.06)	-.12* (.06)
Marital Status <sup>d</sup> :	Married	.01 (.05)	.00 (.05)	.05 (.03)	.00 (.05)	.00 (.05)	.00 (.05)	.00 (.05)	.00 (.05)	.00 (.05)	.00 (.05)
	Separated	.41*** (.08)	.41*** (.08)	.21*** (.06)	.40*** (.08)	.39*** (.08)	.40*** (.08)	.39*** (.08)	.40*** (.08)	.39*** (.08)	.39*** (.08)
	Divorced	.28*** (.06)	.28*** (.06)	.09* (.04)	.27*** (.06)	.27*** (.06)	.28*** (.06)	.27*** (.06)	.28*** (.06)	.27*** (.06)	.28*** (.06)
Pay <sup>b</sup>		-.68*** (.03)	-.68*** (.03)	.13*** (.03)	-.68*** (.03)	-.68*** (.03)	-.68*** (.03)	-.68*** (.03)	-.68*** (.03)	-.68*** (.03)	-.68*** (.03)
Firm size <sup>b</sup>		-.08*** (.01)	-.08*** (.01)	-.03*** (.01)	-.08*** (.01)	-.08*** (.01)	-.08*** (.01)	-.08*** (.01)	-.08*** (.01)	-.08*** (.01)	-.08*** (.01)
Cognitive ability		-.06 (.10)	-.08 (.10)	-.44*** (.06)	-.07 (.10)	-.03 (.10)	-.04 (.10)	-.03 (.10)	-.04 (.10)	-.00 (.10)	-.01 (.10)
Risk preference		.02** (.01)	.02* (.01)	.08*** (.00)	.01* (.01)	.01* (.01)	.01* (.01)	.01* (.01)	.01* (.01)	.01* (.01)	.01* (.01)
Self-esteem		.06 (.06)	.06 (.06)	.01 (.04)	.06 (.06)	.06 (.06)	.06 (.06)	.06 (.06)	.06 (.06)	.07 (.06)	.07 (.06)
Locus of control		-.00 (.02)	-.01 (.02)	.08*** (.01)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)	-.01 (.02)
Individual mastery		-.16*** (.05)	-.16*** (.05)	.18*** (.03)	-.17*** (.05)	-.17*** (.05)	-.16*** (.05)	-.17*** (.05)	-.16*** (.05)	-.17*** (.05)	-.16*** (.05)
Industry change		.53*** (.05)	.53*** (.05)	.12*** (.03)	.53*** (.05)	.53*** (.05)	.53*** (.05)	.53*** (.05)	.53*** (.05)	.53*** (.05)	.53*** (.05)
Entrepreneurial experience			.15** (.06)	1.18*** (.03)	.11 (.06)	.12 (.06)	.11 (.06)	.11 (.06)	.11 (.06)	.11 (.06)	.11 (.06)
Entrepreneurial identity					.12* (.05)	1.49*** (.44)	.60 (.45)	1.14*** (.32)	.19 (.12)	1.66** (.54)	1.54** (.54)
Work autonomy						-.12* (.05)				-.07 (.06)	-.08 (.05)
Entrepreneurial identity × Work autonomy						-.34** (.11)				-.27* (.12)	-.34** (.11)
Job complexity							-.19** (.07)			-.14 (.08)	-.15 (.08)
Entrepreneurial identity × Job complexity							-.16 (.15)			.11 (.16)	-.01 (.16)
EO								-.09* (.04)		-.04 (.05)	
Entrepreneurial identity × EO								-.30** (.09)		-.23* (.10)	
EO_alt									-.02 (.01)		-.01 (.01)
Entrepreneurial identity × EO_alt									-.02 (.03)		-.00 (.03)
BIC		45096.77	45099.50	12056.88	45104.61	45097.56	45110.04	45099.09	45119.13	45120.88	45129.50
Chi-squared		1887.75	1893.72	2133.74	1899.21	1920.39	1912.32	1917.79	1895.05	1933.49	1923.37
Pseudo-R <sup>2</sup>		.333	.334		.335	.339	.336	.335	.336	.340	.339
Δ Pseudo-R <sup>2</sup>			.001		.002	.006	.003	.002	.003	.007	.006

Note. N=14,339. EO refers to entrepreneurial opportunity; EO\_alt refers to the alternative measure of entrepreneurial opportunity. <sup>a</sup> Female = 0, male = 1. <sup>b</sup> Variable that is natural logged. <sup>c</sup> Hispanic is the omitted group. <sup>d</sup> Single is the omitted group. Pseudo-R<sup>2</sup> values were calculated using Royston & Sauerbrei's (2004) recommended R<sup>2</sup> statistic for proportional hazard models. ΔPseudo-R<sup>2</sup> was calculated as the difference of the focal model to the baseline turnover model in Column 1. Standard errors are based on standardized coefficients. Values in bold are relevant to tests of hypotheses. All models included 2-digit *industry* and *year* fixed effects.

\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ 

Two-tailed tests.

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TABLE 5

Study 2: (Supplementary Analysis) Multilevel Probit Models Predicting Entrepreneurial Identity using Alternative Measures of Entrepreneurial Experience and Competing-risks Cox Models Predicting Voluntary Turnover of Different Destinations

		(1)	(2)	(3)	(4)	(5)	(6)
		Multilevel <i>probit</i> models				Competing-risks Cox models	
DV:		Entrepreneurial Identity	Entrepreneurial Identity	Entrepreneurial Identity	Entrepreneurial Identity	Quit, to start a business venture	Quit, to enter a paid job
Gender <sup>a</sup>		.29*** (.03)	.32*** (.03)	.32*** (.03)	.29*** (.03)	-.41* (.19)	-.35*** (.05)
Age		.01 (.01)	.02** (.01)	.02** (.01)	.02** (.01)	-.02 (.04)	-.07*** (.01)
Job history		-.23* (.09)	-.39*** (.09)	-.38*** (.09)	-.27** (.09)	.84 (.94)	1.12*** (.15)
Race <sup>c</sup> :	Black	.35*** (.04)	.31*** (.04)	.31*** (.04)	.33*** (.04)	-.08 (.28)	.09 (.06)
	Caucasians	.03 (.04)	.08* (.04)	.07* (.04)	.04 (.04)	-.06 (.25)	-.12* (.06)
Marital Status <sup>d</sup> :	Married	.12*** (.03)	.10** (.03)	.10** (.03)	.12*** (.03)	.29 (.25)	-.01 (.05)
	Separated	.24*** (.06)	.23*** (.06)	.22*** (.06)	.25*** (.06)	.22 (.43)	.42*** (.08)
	Divorced	.12** (.04)	.12** (.04)	.11** (.04)	.14*** (.04)	.11 (.33)	.29*** (.07)
Pay <sup>b</sup>		.14*** (.02)	.13*** (.02)	.14*** (.02)	.12*** (.02)	-.44*** (.13)	-.70*** (.03)
Firm size <sup>b</sup>		-.02** (.01)	-.04*** (.01)	-.04*** (.01)	-.03*** (.01)	-.13* (.05)	-.08*** (.01)
Cognitive ability		-.35*** (.06)	-.28*** (.06)	-.28*** (.06)	-.31*** (.06)	.15 (.42)	-.09 (.10)
Risk preference		.08*** (.00)	.09*** (.00)	.09*** (.00)	.08*** (.00)	.04 (.03)	.01* (.01)
Self-esteem		.01 (.04)	.01 (.03)	.01 (.03)	.02 (.04)	-.28 (.25)	.07 (.06)
Locus of control		.07*** (.01)	.09*** (.01)	.09*** (.01)	.08*** (.01)	-.08 (.10)	-.00 (.02)
Individual mastery		.22*** (.03)	.20*** (.03)	.20*** (.03)	.21*** (.03)	-.27 (.21)	-.16*** (.05)
Industry change		.09** (.03)	.11*** (.03)	.09** (.03)	.11*** (.03)	.67** (.21)	.52*** (.05)
Number of prior ventures		.17*** (.01)					
Length of the recent venture			.09*** (.01)				
Recent job as a founder				.61*** (.07)			
Total length of prior ventures					.02*** (.00)		
Entrepreneurial experience						1.24*** (.20)	.07 (.06)
BIC		12287.32	13349.51	13320.76	12782.22	1425.93	42951.04
Chi-squared		1852.08	1008.59	1035.70	1425.15	2199.40	1847.12
Pseudo-R <sup>2</sup>						.379	.338
Δ Pseudo-R <sup>2</sup>						.046	.005

Note. N=14,339. <sup>a</sup>Female = 0, male = 1. <sup>b</sup>Variable that is natural logged. <sup>c</sup>Hispanic is the omitted group. <sup>d</sup>Single is the omitted group. Standard errors are based on standardized coefficients. Pseudo-R<sup>2</sup> values were calculated using Royston & Sauerbrei's (2004) recommended R<sup>2</sup> statistic for proportional hazard models. Δ Pseudo-R<sup>2</sup> was calculated using the difference between the focal model and the baseline turnover model in Column 1 of Table 4. All models included 2-digit industry and year fixed effects.

\*  $p < .05$ .

\*\*  $p < .01$ .

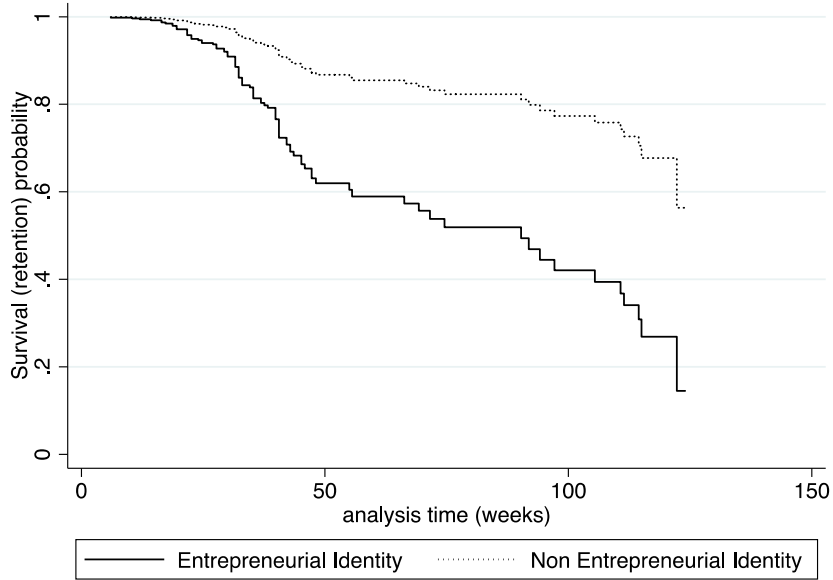
\*\*\*  $p < .001$ .

Two-tailed tests.

RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

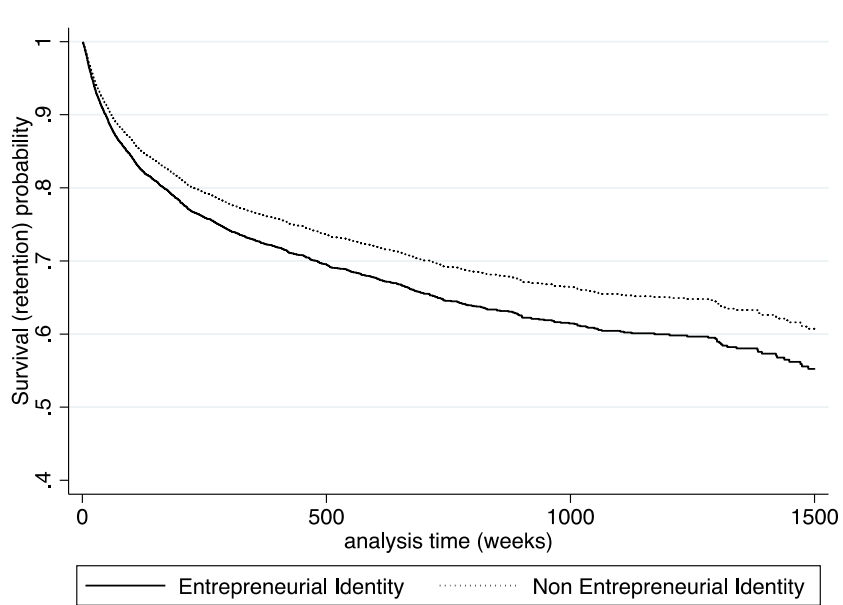
**Figure 1A**

*Study 1: A Comparison of Timing of Voluntary Turnover between Employees with Entrepreneurial Identity and Others*



**Figure 1B**

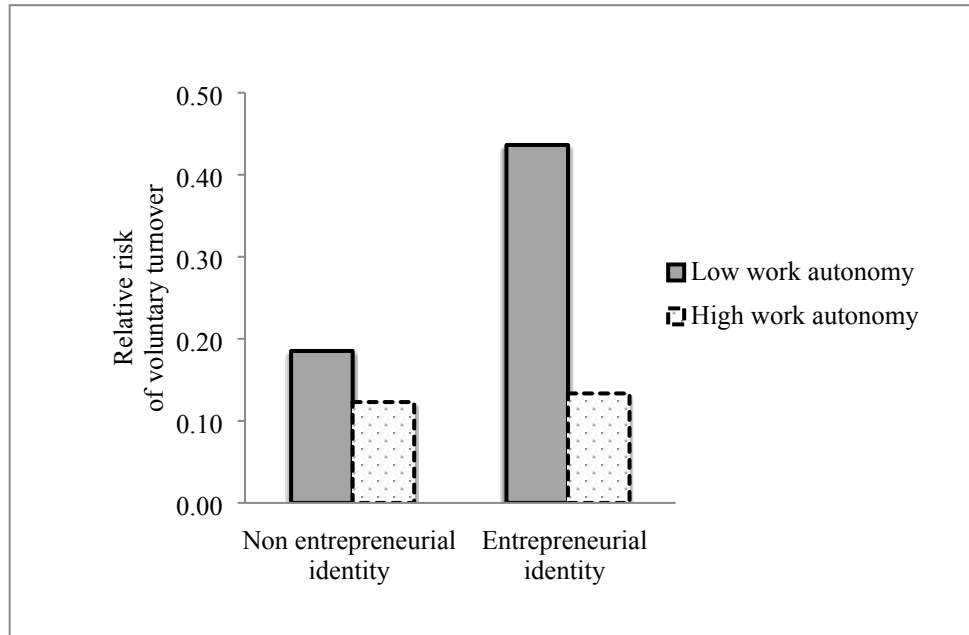
*Study 2: A Comparison of Timing of Voluntary Turnover between Employees with Entrepreneurial Identity and Others*





**Figure 2A**

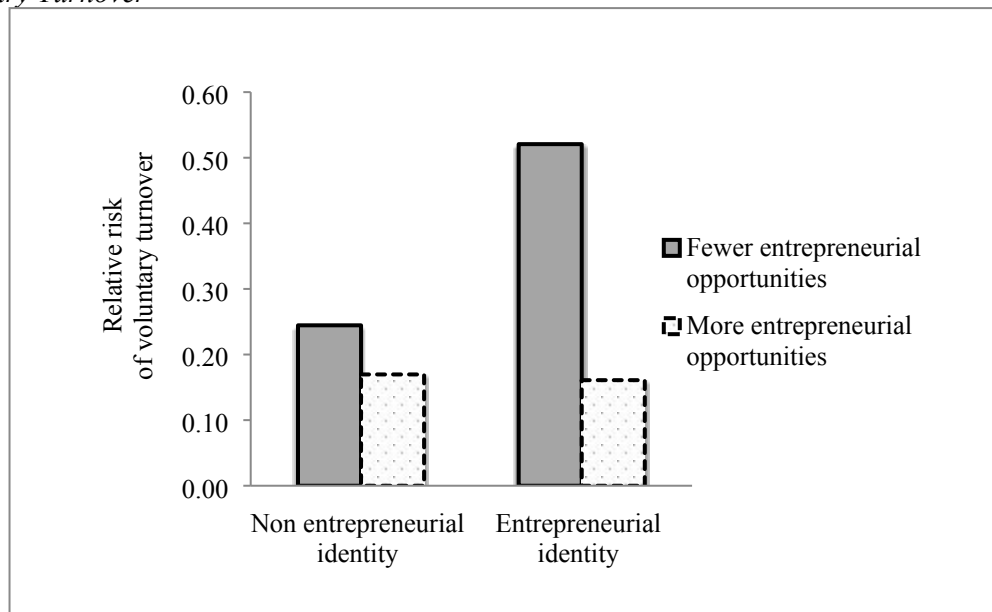
*Study 2: Interaction Effects of Work Autonomy and Entrepreneurial Identity on Voluntary Turnover*



*Note:* The figure is based on a two-year baseline survival probability. Low (high) levels of *work autonomy* = one standard deviation below (above) the mean score of *work autonomy*

**Figure 2B**

*Study 2: Interaction Effects of Entrepreneurial Opportunity and Entrepreneurial Identity on Voluntary Turnover*



*Note:* The figure is based on a two-year baseline survival probability. Fewer (more) *entrepreneurial opportunities* = one standard deviation below (above) the mean score of *entrepreneurial opportunity*