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
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\(^1\) 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.

\(^1\) 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); the statistics from recent years show a similar trend (https://www.bls.gov/bdm/us_age_naics_00_table7.txt).
Given the potential value associated with hiring former entrepreneurs as well as the costs of their turnover, it is unfortunate that little is known about those who leave entrepreneurship and take on paid employment. Moreover, scholars have paid far less attention to what the hiring firms can do, proactively, to prolong the retention of former entrepreneurs.

In this study, we adopt a careers perspective (Burton et al., 2016) to examine how entrepreneurial experience in an earlier career period shapes the turnover behavior of the individual in a subsequent career period. We use identity theory (Ashforth, 2001) and, in particular, recent theoretical work on role transitions and lingering role identities (Wittman, 2019) to explain the relatively high rates of turnover among former entrepreneurs in paid employment. According to our theory, individuals are likely to acquire or reinforce an entrepreneurial identity during their time working as entrepreneurs. Entrepreneurs who subsequently enter paid employment are likely, to varying extents, to retain a lingering entrepreneurial identity due to the uncertainty surrounding the challenge of their new role in paid employment and the ongoing possibility of reactivating their previous work role as an entrepreneur (Wittman, 2019). As such, we propose a theoretical model that includes the mediating role of entrepreneurial identity as an explanation of the difference in turnover likelihood between former entrepreneurs and others in paid employment. We then posit that after entering paid employment, former entrepreneurs continue to seek feedback to confirm their valued identity (Burke, 1991, 2004). To the extent the job feedback or characteristics fail to confirm the identity that is carried over from previous work experiences (Ashforth & Kreiner, 1999; Ashforth & Mael, 1989), those individuals will be motivated to quit. Thus,
we propose that entrepreneurial job characteristics (i.e., work autonomy, job complexity, and entrepreneurial opportunity) will moderate the relationship between entrepreneurial identity and voluntary turnover because they indicate the extent to which paid employment provides cues consistent with an entrepreneurial identity.

Our examination of the theoretical model draws on survival analysis using two studies with unique samples. In Study 1, using a combination of personnel data and firsthand survey data from multiple firms in 2015-2018, we examine the entrepreneurial identity as the potential mechanism linking entrepreneurial experience to voluntary turnover in paid employment. In Study 2, we match two public datasets, the 1979 cohort of the National Longitudinal Survey of Youth (NLSY79) and the Occupational Information Network (O*Net), across a 30-year time period to replicate and extend the findings in Study 1. In addition to demonstrating the mediating role of entrepreneurial identity, we investigate the moderating role of job characteristics in mitigating the influence of entrepreneurial identity on subsequent quitting. Together, these two studies provide a stronger test of our theory because they examine the extent to which faster turnover among former entrepreneurs is mediated by entrepreneurial identity (Study 1) but is moderated by contextual job characteristics that may confirm the individual’s identity as an entrepreneur (Study 2). Moreover, the richness of our data in Study 2, which includes individuals’ full employment history, allows us to explore turnover destinations and examine whether entrepreneurial experience and identity drive employees to re-enter entrepreneurship after turnover, as our theory suggests.

This study contributes to the literature on voluntary turnover, entrepreneurial identity, and the careers perspective on entrepreneurship. First, although employee
turnover has intrigued researchers for over a century (Hom et al., 2017), employee turnover among former entrepreneurs raises unique issues for turnover models. This is partly because identity constructs have not been systematically integrated into models of turnover (Hom et al., 2017). Despite important work on identity processes during role transitions (Ashforth, 2001; Nicholson, 1984), no research we are aware of has examined the influence of lingering identities (Wittman, 2019) from a previous work role on subsequent turnover in a new job. Our work is the first to demonstrate that we need to think differently about turnover of former entrepreneurs because of the strong likelihood that entrepreneurial identity can persist significantly beyond role change to influence the likelihood of quitting paid employment. It is also worth noting that we investigate not only whether former entrepreneurs are more likely to quit than others in the workforce, but also when they quit and where they end up going, contributing to a burgeoning line of research in turnover studies.

Second, this study extends the emerging research on entrepreneurial identity (Mmbaga et al., 2020) that has been increasingly central in the entrepreneurship literature. Previous empirical work has shown that identity aspirations (e.g., a possible role identity, Farmer et al., 2011; Seibert et al., 2020) are associated with nascent entrepreneurial activities and that different types of entrepreneurial identity can shape the behavior of individuals as entrepreneurs (e.g., Cardon et al., 2013; Fauchart & Gruber, 2011; Mathias & Williams, 2017; Murnieks et al., 2014). A unique contribution of this study is the focus on entrepreneurial identity as a lingering identity shaping behavior in a new context, that of paid employment. Our investigation of the moderating effects of job characteristics further deepens the understanding of how proactive consideration of work
design may provide a constructive way to shape the influence of an identity (Parker et al., 2017). In this way, our study also contributes more broadly to the literature on work role transitions (Ashforth, 2001) by exploring the conditions under which the influences of any pre-existing/lingering identities (Wittman, 2019) persist after role change.

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

Theory and Hypotheses

When ventures end (for reasons such as bankruptcy, liquidation, acquisitions, and an initial public offering), entrepreneurs may join established firms rather than immediately starting a new firm. Some entrepreneurs join paid jobs simply to cover expenses or to remain active in the labor market. Some entrepreneurs may intend to build their skill sets, accumulate domain knowledge, and develop social networks, whereas
others may not have clear motives when joining paid jobs (e.g., the “undecideds”, Shipp et al., 2014), but were hoping to gradually clarify their career aspirations over time while employed. Therefore, either as an easy employment option, a proactive job choice, or a reactive gravitation, it is likely that many entrepreneurs will have careers in which they also experience periods of traditional paid employment (Dillon & Stanton, 2017). For these (former) entrepreneurs, despite the motives of joining established firms, their career path and work experience in business venturing may largely differentiate them from other employees without such experience (Koellinger et al., 2015). To better understand the career consequences of this entrepreneurial past, we draw upon a careers perspective and define entrepreneurial experience as the cumulative exposures and observations to a wide array of events surrounding individuals’ entrepreneurial past.²

Next, we illustrate that, when entering paid employment, former entrepreneurs with experience in business venturing tend to retain and reinforce their entrepreneurial identity as a lingering identity and are therefore more likely to quit and do so sooner than the others without entrepreneurial experience.

**Entrepreneurial Identity**

As with other salient identities that are shaped by work experience and social relationships, entrepreneurial identity is likely to be internalized into cognitive self-schemas during business venturing and entrepreneurial activities. The process of creating, founding, and actually running a new venture is likely to enable individuals to develop a focused, realistic, and detailed understanding of being an entrepreneur and fully

---

² We acknowledge that entrepreneurial experience has been conceptualized and/or examined in different ways by scholars from diverse research perspectives (e.g., Baron & Ensley, 2006; Cope, 2005). We consider a definition of entrepreneurial experience from a careers perspective to be more appropriate than the alternatives given the context in this study.
internalize such identity as a salient aspect of the self (Hoang & Gimeno, 2010; Murnieks et al., 2014; Shepherd & Haynie, 2009).

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

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

Finally, as a socially distinctive group (and oftentimes the minority group) in a workforce, former entrepreneurs may experience a heightened psychological need to remain distinct (Forehand et al., 2002). Thus, they are more likely to demonstrate higher
levels of identity salience of being entrepreneurs to differentiate themselves from others with little entrepreneurial experience.\(^3\) We therefore hypothesize the following:

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

While in paid employment, however, it is usually challenging to sustain and confirm the entrepreneurial identity that demands high levels of personal initiative, work autonomy, risk taking, and achievement motivation. Burke (1991, 2004) suggests that individuals continually regulate their behaviors by monitoring external feedback from the immediate context. When feedback fails to match identity, self-verification is not achieved, and varying levels of psychological distress are experienced. Compared to others in a workforce, former entrepreneurs make sense of their workplace through the entrepreneurial identity that lingers on their mind; with such mindset, they are likely to find different and even constrasting feedback in paid jobs (e.g., to follow instructions instead of take initiative) that likely disconfirms their entrepreneurial identity. Such identity disconfirmation is likely to motivate individuals to reassess how readily they fit in the current context and may reduce individual support to the institution that is considered incongruent with their identity (Ashforth & Mael, 1989; Walsh & Gordon, 2008). Thus, an entrepreneurial identity may exacerbate employee perceptions of a lack of person-job fit (Kristof-Brown et al., 2005), amplify the already demanding process of work transition (Nicholson, 1984), and ultimately lead to voluntary turnover.

---

\(^3\) We acknowledge that it is possible that individuals with little enterpenreurial experience may still develop some general and unsophisticated understanding of entrepreneurial identity through, for example, socialization (Falck et al., 2012), education (Donnellon et al., 2014), and/or self-perceived fit with the entrepreneurial role (Farmer et al., 2011).
Taken together, we expect entrepreneurial identity to be a key mediator transmitting the influence of entrepreneurial experience on voluntary turnover, such that former entrepreneurs are more likely to retain or reinforce their entrepreneurial identity and are therefore more likely to quit than employees with little entrepreneurial experience. Thus, we hypothesize the following relationships:

**Hypothesis 2 (H2):** Entrepreneurial identity will be positively associated with the likelihood of voluntary turnover in paid employment, such that individuals with entrepreneurial identity will quit sooner than others.

**Hypothesis 3 (H3):** Entrepreneurial identity will mediate the relationship between entrepreneurial experience and voluntary turnover in paid employment.

### Study 1

**Method and Study Design**

Our data were collected from two high-tech research park zones in Northern China between November 2015 and March 2018. We collected both firm-level personnel data and employee-level survey data to examine our research questions about voluntary turnover. The surveyed firms constitute a particularly appropriate setting to test our theoretical arguments because all firms are from high-tech and knowledge-intensive industries (e.g., software development, information technologies, new materials, biopharmaceutical, and photo-machinery-electronic), where moves between paid work and self-employment are common. The significant incidences of entrepreneurs switching

---

4 This data collection was initiated in China where IRB approval is neither required nor common. However, we strictly followed the American Psychological Association ethical guidelines and IRB standards during the data collection process.
careers between ventures and paid employment provided opportunities to investigate our research questions.

Using official records of the firm registration in these two park zones, we excluded firms with fewer than 50 paid employees and firms established less than five years ago because employment in small, newly established firms entails features similar to entrepreneurship, which is beyond our research scope on solid, established firms. Of the 96 firms that our research team spoke with to clarify the goals of our research and data collection, thirty-three firms were willing to participate and provide data. Beginning in November 2015, all newly hired employees in these firms were surveyed upon their employment. None of the new employees in our sample was hired from Mergers and Acquisitions. The questions in the onboarding survey measured entrepreneurial experience (if any), personalities, and entrepreneurial identity. In March 2018, using personnel data provided by the firm, we collected each new hire’s annual pay range, employee level, job start date, and job stop date and reason for leaving (if exit).

Because 11 participating firms did not hire any former entrepreneurs during our observation period, we excluded them from our sample. Inclusion of those firms with no new hires of former entrepreneurs did not change our findings. We compared the size, sector, and tenure of the firms that hired former entrepreneurs and the firms that did not and no significant differences were found. Following Meade and Craig’s (2012) recommendations, we removed 7 likely careless respondents who used response patterns (e.g., selecting the same response option for every item on consecutive pages).

The final data comprised 603 employees (49% female, average age = 36 years) who were hired within 22 firms, with a median firm size of 279 employees. The
employees included in this sample were either still employed as of March 2018 (n = 485), were laid off by the employer (n = 23) or had left voluntarily prior to that date (n = 95).

Variables

**Voluntary Turnover.** The voluntary turnover data was retrieved from company records and coded to identify those who had quit (1 = voluntary turnover, 0 = otherwise) from the surveyed organizations from the date of entry later than November 2015 until March 2018. This variable solely represents voluntary turnover that was initiated by the employees and was used as a censoring variable in our survival analysis.

**Entrepreneurial Experience.** Upon their employment, employees in our sample were asked whether they had worked as a founder/co-founder. Following prior research (e.g., Dencker & Gruber, 2015; Farmer et al., 2011), we coded the answer to this dummy variable as 1 if the individual had any entrepreneurial experience, and 0 if otherwise.

**Entrepreneurial Identity.** We used two approaches to measure entrepreneurial identity. First, upon their employment, employees were asked “Do you identify yourself as an entrepreneur?” We coded the answer to this question, entrepreneurial identity, as 1 if the employee answered yes and as 0 if the employee answered no. Second, to emphasize the subjective importance of the founder role identity within an individual’s overall self-concept relative to other identities (such as an employee identity), we followed the example of prior research (e.g., Murnieks et al., 2014) and modified Callero’s (1985) five-item scale of identity centrality to assess entrepreneurial identity. The respondents indicated the extent to which they agreed (1 = strongly disagree, 5 = strongly agree) with statements such as “being an entrepreneur is something I frequently think about” and “entrepreneurship is an important part of who I am.” We then used the
average score of these five questions. This scale produced a Cronbach’s coefficient alpha \( (\alpha) \) of .76.

**Control Variables.** We included two sets of control variables: entrepreneurship-related personality and other control variables. First, given the evidence that some individuals may be more likely to self-select into entrepreneurship (e.g., Rauch & Frese, 2007; Zhao et al., 2010), we believe that controlling for entrepreneurship-related personality helps disentangle the influence of entrepreneurial experience on identity and turnover, the focus of our study, from that of the relatively stable traits and personalities on likelihood of quitting paid jobs. Specifically, we controlled for *locus of control*, *self-esteem*, and *risk preference*, using modified scales of Rotter Locus of Control Scale (Rotter, 1966) \( (\alpha = .83) \), Rosenberg Self-Esteem Scale (Rosenberg, 1965) \( (\alpha = .89) \), and the Gomez-Mejia and Balkin’s (1989) risk scale \( (\alpha = .80) \). Higher scores indicate external locus of control, higher self-esteem, and greater risk-taking propensity. Again, all of these variables were measured upon employees’ employment.

Second, to further eliminate the possibility of alternative explanations in our model, we controlled *pay range*, *hiring year*, and *industry tenure* in all models. If there were any entrepreneurs who returned to paid employment but quit in a short time because of underemployment (e.g., reduced income) or lack of industrial knowledge, we would have captured them using these control variables. We also controlled for the *hiring year* to account for external labor market conditions. Finally, we included a number of controls that have been shown to influence the likelihood of voluntary turnover (Griffeth

---

5 We converted RMB to USD to calculate pay range. Pay range of 1 represents a monthly salary below 893 USD, pay range of 2 starts from 893 to 1,489 USD, pay range of 3 starts from 1,489 to 2,978 USD, and pay range of 4 represents a monthly salary above 2,978 USD.
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 \texttt{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:

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

where \( h_i(t; x) \) = 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
subject-specific or firm-specific random effects to account for unmeasured subject characteristics or within-firm homogeneity. To examine the influence of entrepreneurial experience on the dummy variable and the continuous variable of entrepreneurial identity, we constructed multilevel *probit* and multilevel regression models, respectively, that taken account for the nested structure of the data in firms.

**Results**

The means, standard deviations, and intercorrelations for study variables are presented in Table 1.

Insert Table 1 about here

Table 2 presents the results of the Multilevel *probit/regression* analyses used to test Hypotheses 1 and the Cox models with shared frailty used to test Hypotheses 2 and 3. As noted, we used two measures of entrepreneurial identity. We first tested our hypotheses using the dummy variable of entrepreneurial identity. Column 3 and 4 of Table 2 show that entrepreneurial experience was significantly related to entrepreneurial identity ($\beta = 1.54, SE_\beta = .32, p < .001$) and entrepreneurial identity had a significant effect on likelihood of voluntary turnover in the subsequent paid job ($\beta = 1.21, SE_\beta = .37, p = .001$), supporting Hypotheses 1 and 2. As shown in Column 2 of Table 2, entrepreneurial experience was positively related to one’s subsequent likelihood of voluntary turnover ($\beta = 1.08, SE_\beta = .35, p = .002$). Combining these results, our data also provide support to Hypothesis 3 that entrepreneurial identity transmitted the influence of entrepreneurial experience to voluntary turnover.

In paid employment, individuals with entrepreneurial identity (experience) have $3.35 \times (2.94)$ times the hazard of voluntary turnover (using the formula: $e^\beta$) compared to
employees without entrepreneurial identity (experience). As shown in Figure 1A, the plots of survival curve indicate that employees without entrepreneurial identity demonstrated a much higher likelihood of retention than those former entrepreneurs (at mean values for all other covariates in the model). The retention possibility of those with entrepreneurial identity started to decline in about 20 weeks after they joined paid jobs.

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

We calculated the effect sizes of mediation using $P_M$, the proportion of the total effect mediated ($P_M = \frac{\text{Indirect effect}}{\text{Total effect}}$, Wen & Fan, 2015). The results suggest both entrepreneurial identity (44.4% of total effect mediated) and entrepreneurial identity_centrality (13.0% of total effect mediated) mediated the relationship between entrepreneurial experience and voluntary turnover, thus providing further evidence to our hypothesized mediation model. We also replicated our findings using alternative, multilevel probit models to predict voluntary turnover and the results were robust.

Discussion of Study 1

The results supported our hypotheses that former entrepreneurs quit sooner than employees without entrepreneurial experience and that entrepreneurial identity partially transmitted this effect. It is worth noting that our findings were robust when controlling for the effects of personality that might associate with entry into entrepreneurship.
However, we acknowledge that the jobs in Study 1 are relatively homogenous and note that the findings might be specific to the high-tech, high growth context, limiting the generalizability of our findings. Therefore, in Study 2, we intend to replicate and extend the findings of Study 1 using a large, longitudinal nationally representative sample of respondents and jobs in the U.S. This dataset in Study 2 has a number of advantages. First, it allows us to generalize our findings to a much broader range of occupations and industries and to a second national context. Second, it provides a longer timeframe over which to examine turnover events. Third, this longitudinal dataset provides detailed information on previous entrepreneurial experience, allowing us to test the robustness of alternative operationalizations. Fourth, and most importantly, it allows us to match jobs with established job characteristics and conduct a direct test of our theoretical proposition that former entrepreneurs turn over when their jobs provide cues and feedback that contradicts their lingering role identities.

**Study 2**

Although entrepreneurs who enter paid employment are likely to hold a lingering entrepreneurial identity that may be challenged in paid employment, these individuals are also open to ongoing possibilities of reactivating their valued work role as an entrepreneur (Wittman, 2019). Applying Burke’s (1991, 2004) identity model to an entrepreneurial context, we argue that employees with entrepreneurial identity are likely to view certain job characteristics and/or working conditions as opportunities to reactivate their entrepreneurial role, reveal who they were, and recognize their value. Therefore, former entrepreneurs are less likely to experience psychological strain in paid jobs with favorable, entrepreneurial characteristics and stay longer.
Given the scant research on whether some jobs are more entrepreneurial than others (Baron, 2010), we start by seeking for the defining features of entrepreneurship (Dobrev & Barnett, 2005; Sørensen, 2007) that are inherent in characteristics of paid jobs (Hackman & Oldham, 1976; Humphrey et al., 2007; Morgeson & Humphrey, 2006). As we explain below, our examination of these two streams of literature leads us to propose that entrepreneurial features can be best found in jobs with more decision-making authority, tasks to utilize their unique skill sets, and opportunities to initiate and create new ideas and projects, in other words, in jobs with high levels of work autonomy and job complexity, and more entrepreneurial opportunities.

Work autonomy, which refers to the individual’s discretion to decide what, where, when, and with whom to work (Hackman & Oldham, 1976) generally increases employees’ intrinsic motivation, psychological empowerment, and subsequent retention (Morgeson & Campion, 2003). However, work autonomy can be particularly important to individuals holding entrepreneurial identity because autonomy is one of the key factors motivating individual pursuit of novel ideas (Thompson, 1965) and entrepreneurial activities (Hamilton, 2000; Kolvereid, 1996). Thus, jobs with high levels of autonomy may resemble a well-fitting context that provides confirmative identity feedback (Burke, 1991, 2004) to individuals with a lingering entrepreneurial identity, further prolonging their retention in paid employment. Conversely, given that low autonomy (e.g., in rigid and closely monitored jobs) discourages the exercise of discretion and the taking of initiative (Den Hartog & Belschak, 2012), individuals with entrepreneurial identity may find little positive feedback to confirm their identity and derive little benefit from taking initiative (Glaser et al., 2016). Quitting is more likely in such a poor-fitting context.
Another defining feature of entrepreneurship, which also varies inherently in traditional workplaces, is job complexity. Complex jobs are multifaceted and complicated to perform, and thus often require processing ambiguous and divergent information that tends to be mentally demanding and overwhelming for many employees (Humphrey et al., 2007; Van Der Vegt et al., 2000). However, in contrast to the typical requirements of employees, the process of business venturing is often complex (Wortman, 1987), containing multifunctional tasks and demanding a jack-of-all-trades skill set (Lazear, 2005; Lumpkin & Dess, 1996). Thus, employees who view themselves as entrepreneurs tend to find complex jobs as opportunities to bring their strong points into play, utilize their unique skills, and sustain their distinctive identity, all of which may help prolong their retention in paid jobs. However, employees with entrepreneurial identity may feel overqualified in simple jobs (Erdogan & Bauer, 2009), finding simple and repetitive jobs boring, demotivating, and in misalignment with their broad range of skills and entrepreneurial identity, and consequently quit sooner.

The third job characteristic we propose to moderate the focal relationship is entrepreneurial opportunity within jobs, which we define as the degree to which a job provides opportunities for employees to act like an entrepreneur, such as initiating projects, leading people, and utilizing creativity and alternative thinking to develop new ideas, processes, products, and businesses within organizations. Jobs with more entrepreneurial opportunities are likely to provide confirmative feedback to individuals with a lingering entrepreneurial identity because these jobs allow individuals to, for example, continuously create and introduce novel ideas, initiate projects, and lead others, in the way entrepreneurs typically see themselves perform. Thus, in jobs with more
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.
Another advantage of NLSY79 data in studying our research questions is that the
data include adequate representation across hundreds of occupations. We matched
information on job characteristics from O*Net to NLSY79 using the Standard
Occupational Classification (SOC) codes. O*Net is a modern computerized occupational
database that contains approximately 1,000 distinct occupations representing most job
titles within the U.S. labor force and allows for individual occupation matching in
NLSY79. Where there were a small number of cases for which the O*Net divided a
single job into several subcategories, we averaged the scores of the job characteristics for
the subgroups. We ended up with a final sample that consists of 14,339 job spells.

**Variables**

**Voluntary Turnover.** We followed prior studies (e.g., Lee et al., 2008) and
created a dichotomous outcome variable that identified, for all paid job spells across
survey years, instances of voluntary turnover (1 = voluntary turnover, 0 = otherwise). All
exits explicitly identified as a quit or employee-initiated separation (e.g., “quit to look for
another job” or “moved to another geographic area”) were coded as voluntary turnover.
Retirements were not included as voluntary turnover. Responses indicating an employer-
initiated separation (e.g., “layoff,” “discharged or fired,” or “end of temporary/seasonal
job”) were coded 0. This turnover variable was used as a censoring variable in our
survival analysis.

**Entrepreneurial Experience.** Consistent with Study 1, we coded entrepreneurial
experience, using a variable in NLSY79, indicating whether an individual had ever
owned at least 50 percent of a business or were principal managing partner of a business.
We discuss the coding and the analysis using alternative measures of entrepreneurial experience in the supplementary analysis section.

**Entrepreneurial Identity.** *Entrepreneurial identity* is measured in NLSY79 using the question of “Do you consider yourself to be an entrepreneur,” which was asked when respondents answered questions about prior venture(s) regardless of their ownership status of that year (e.g., 2010). We coded this dummy variable as 1 if the respondents had considered themselves as entrepreneurs and as 0 if not.

**Job Characteristics.** Consistent with prior studies (e.g., Glomb et al., 2004; Liu et al., 2005; Shaw & Gupta, 2004), we selected and extracted variables from the Work Context and Work Values files of the O*Net database to code our job characteristic variables. We assessed *work autonomy* of the paid job using the job information of how much decision-making freedom, without supervision, the job offered. We operationalized *job complexity* as the average score of 41 items of work activities from O*NET (e.g., Glomb et al., 2004; Shaw & Gupta, 2004). Sample items are the level of “updating and using relevant knowledge,” “analyzing data or information,” and “monitoring and controlling resources” ($\alpha = .95$). Both of these measures are based on a 5-point scale. 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
enterprising score in Holland’s (1958, 1997) theoretical job interest types. According to O*Net, the enterprising item measured the extent to which a job involves “starting up and carrying out projects, leading people and making many decisions, and risk taking and dealing with business,” thus we consider it as a representative measure to capture entrepreneurial opportunity in jobs. For both measures, higher scores indicate more entrepreneurial opportunities. We collected additional data to investigate the validity of these measures and the results demonstrate acceptable construct validity.  

Control Variables. Similar to Study 1, we included two sets of control variables in NLSY79—personality related variables and other control variables—to account for alternative explanations and confounding factors. Specifically, we controlled for self-esteem (measured in 1980) ($\alpha = .76$), locus of control (measured in 1979) ($\alpha = .31$), and self-mastery (measured in 1992) ($\alpha = .78$), using the measures of the Rosenberg Self-Esteem Scale (Rosenberg, 1965), the Rotter Locus of Control Scale (Rotter, 1966), and the Pearlin Mastery Scale (Pearlin et al., 1981). We also controlled and measured risk-taking propensity using the respondents’ answers to the question in 2010, “Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?”

---

6 We invited 185 MBA students to complete an online survey to validate the measures we used. During the data collection process, we strictly followed the American Psychological Association ethical guidelines and IRB standards. We informed the participants that they would be qualified for a “lottery draw” to be rewarded with a $20 gift card. A total of 122 participants (average age was 35; 52% were male) completed the questionnaire and passed the attention check question (i.e., “select strongly disagree for this item”, Meade & Craig, 2012). The survey included two entrepreneurial opportunity scores we used and two distinctive but relevant constructs—i.e., adapted measures of the corporate entrepreneurship scale (Zahra, 1991) and the intrapreneurship scale (Antoncic & Hisrich, 2001). Results show that the entrepreneurial opportunity measures in our study correlated highly with the corresponding measures (max $r = .75$, $p < .001$; min $r = .61$, $p < .001$), suggesting acceptable construct validity of the measures we used.

7 In NLSY79, the internal consistency of the locus of control scale is low for the whole cohort ($\alpha = .36$).
We controlled for age and gender (0 = female, 1 = male) that were both measured in 1979, and cognitive ability, using the Armed Forces Qualifications Test score in 1981. We also controlled for marital status (yearly) and race (measured in 1979). We included yearly job history as the total number of past jobs to account for opportunity costs and labor market experience (Shane, 2003; Trevor, 2001). We collected information on hourly pay (measured yearly) to account for the influence of possibly lowered income on employee turnover (Griffeth et al., 2000; Kaiser & Malchow-Møller, 2011). In doing so, we also accounted for those arguably lower-paid, necessity entrepreneurs—those who were forced into states of self-employment (Sørensen & Sharkey, 2014) but rejected the entrepreneurial identity. Furthermore, we controlled measures of firm size, two-digit U.S. Census Industry Codes, industry change, and year fixed effects.

Results

Table 3 displays the bivariate correlations among variables, means, and standard deviations.

We used the same analytical strategy in Study 1 to analyze the data in Study 2. The results in Column 3 of Table 4 suggest that entrepreneurial experience was positively associated with entrepreneurial identity ($\beta = 1.18, SE_{\beta} = .03, p < .001$), again supporting Hypothesis 1. As expected, the estimate in Column 4 of Table 4 further suggests that when controlling for entrepreneurial history and other individual characteristics that were shown to affect entrepreneurial choices, entrepreneurial identity was positively related to voluntary turnover ($\beta = .12, SE_{\beta} = .05, p = .033$). This result indicates that the expected
hazard of voluntary turnover is 1.13 times higher for those with entrepreneurial identity as compared to others, supporting Hypothesis 2.

The survival curves presented in Figure 1B indicate that, at mean values for all other covariates in the model, employees with entrepreneurial identity left at a greater rate and sooner than the workforce without entrepreneurial identity. The difference in retention probability between the two groups grew larger in approximately 30 weeks after they joined paid jobs and continued in the next decades. As shown in Column 2 of Table 4, the coefficient for entrepreneurial experience predicting voluntary turnover was positive and statistically significant ($\beta = .15, SE_\beta = .06, p = .008$). The expected hazard of quitting is 1.16 times higher for former entrepreneurs than other employees.

Combining these results, we found a significant mediation effect or $P_M = \frac{\text{Indirect effect}}{\text{Total effect}}$, Wen & Fan, 2015): a 26.7% of total effect of the relationship between entrepreneurial identity and voluntary turnover was mediated by entrepreneurial identity, supporting Hypothesis 3.

Insert Table 4 about here

To further test the moderators proposed in H4a-H4c, we included the interaction terms of entrepreneurial identity and the proposed job characteristics respectively in survival models. The results are presented in Columns 5-10 of Table 4. The coefficient of our hypothesized interaction effect of work autonomy ($\beta = -.34, SE_\beta = .11, p = .002$) and entrepreneurial opportunity ($\beta = -.30, SE_\beta = .09, p = .001$) were significant. Therefore, H4a and H4c were supported. However, our data did not support H4b, the moderating role of job complexity ($\beta = -.16, SE_\beta = .15, p = .279$). We also included all the moderators and their interaction terms with entrepreneurial identity simultaneously in the
same model (see Column 9 of Table 4) to predict voluntary turnover. The moderating role of work autonomy \((\beta = -0.27, SE_{\beta} = 0.12, p = 0.026)\) and entrepreneurial opportunity \((\beta = -0.23, SE_{\beta} = 0.10, p = 0.026)\) again received statistical support. However, the moderating role of entrepreneurial opportunity using the alternative measure was not significant \((\beta = -0.02, SE_{\beta} = 0.03, p = 0.516; \text{see Column 8 of Table 4})\), even when including all the moderators and their interaction terms with entrepreneurial identity in the same model \((\beta = -0.00, SE_{\beta} = 0.03, p = 0.958; \text{see Column 10 of Table 4})\).

We followed Trevor’s (2001) approach to calculate and plot fixed timeframe (i.e., two years) turnover probabilities to interpret the moderation effects in Figure 2A and 2B. The bar charts verified the proposed interaction effects of job characteristics on subsequent voluntary turnover. As shown in Figure 2A, employees with entrepreneurial identity were more likely to quit in paid jobs with low levels of work autonomy (i.e., one SD below the mean score of work autonomy; see the right solid bar in Figure 2A) than in jobs with high levels of work autonomy (i.e., one SD above the mean score of work autonomy; see the right dotted bar in Figure 2A); the predicted log hazard ratio for low vs. high levels of work autonomy for employees with entrepreneurial identity was .41 \((SE = 0.09, p < 0.001)\). However, employees without entrepreneurial identity demonstrated a smaller difference in likelihood of turnover between low (see the left solid bar in Figure 2A) vs. high levels of work autonomy (see the left dotted bar in Figure 2A); the predicted log hazard ratio was .11 \((SE = 0.05, p = 0.020)\).

We then plotted the moderation effect of entrepreneurial opportunity in Figure 2B. Employees with entrepreneurial identity were more likely to quit in conditions of less entrepreneurial opportunities (i.e., one SD below the mean; see the right solid bar in
RETENTION OF ENTREPRENEURS IN PAID EMPLOYMENT

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

Insert Figure 2 about here

Supplementary Analysis

We measured *entrepreneurial experience* using alternative variables that included
a dummy variable, *recent job as a founder*, and three continuous variables, *length of the
recent venture*, *number of prior ventures*, and *total length of prior ventures*. Results in
Columns 1-4 of Table 5 show that the coefficients for *number of prior ventures* (β = .17,
SE_β = .01, p < .001), *length of the recent venture* (β = .09, SE_β = .01, p < .001), *recent
job as a founder* (β = .61, SE_β = .07, p < .001), and *total length of prior ventures* (β
= .02, SE_β = .00, p < .001) were all statistically significant, providing additional support
for our hypothesis that entrepreneurial experience was associated with entrepreneurial
identity.

Insert Table 5 about here

We also tested alternative models for robustness check. First, we empirically
examined a first-stage moderation model (i.e., job characteristics moderated the
relationship between entrepreneurial experience and identity) and an alternative model in
which entrepreneurial identity functioned as a moderator instead of a mediator, but the results of these moderation effects were not significant. Second, we reran all models using employing firm size and voluntary vs. involuntary exits from prior ventures as moderators (to distinguish different types of former entrepreneurs) but failed to find significant results for these moderators. Third, to account for nonindependence of repeated individual events, we followed prior study (e.g., Trevor, 2001) and used the robust variance estimator (Lin & Wei, 1989) to rerun all Cox models. The results are robust. Last, we reran our Cox models with shared frailties (Gutierrez, 2002) on work autonomy, entrepreneurial opportunity, and job complexity and reran all probit models with individuals nested in jobs of varying degrees of these characteristics to account for the potential selection concern that former entrepreneur might favor certain jobs.\footnote{We wish to acknowledge and thank an anonymous reviewer for pointing out this issue.} The results are robust, again supporting our main findings.

**Post-hoc Analysis: Turnover Destinations or “Where People Go”**

The richness of the data in Study 2 provides an alternative way in testing how entrepreneurial identity leads former entrepreneurs to depart paid jobs with different turnover destinations. Consistent with the identity arguments, we expect former entrepreneurs to quit paid jobs and restart another venture business to sustain their lingering, entrepreneurial identity. Thus, we conducted a post-hoc analysis using a competing-risks framework where individuals were assumed to be at risk of either starting business ventures (i.e., enter serial entrepreneurship) or entering another paid job; the occurrence of one event makes impossible the occurrence of the other. Results of Column 6 and 7 of Table 5 suggest that compared to employees without entrepreneurial
experience, those employees who were once founders were more likely to quit in general but were also more likely to quit and start a venture ($\beta = 1.24, SE_{\beta} = .02, p < .001$) instead of joining another paid job ($\beta = .07, SE = .06, p = .237$) after quitting. Similarly, we also found that, compared to others, those with an entrepreneurial identity were more likely to quit and start a venture ($\beta = 1.18, SE_{\beta} = .19, p < .001$) instead of joining another paid job ($\beta = .08, SE = .05, p = .123$).

**Discussion of Study 2**

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

**General Discussion**

Although it is common for individuals to transcend many types of organizational and occupational boundaries throughout their careers (Arthur et al., 2005), very little research has studied the behavior of entrepreneurs who choose to join paid employment, either as temporary transitions or permanent destinations. Recent evidence shows that this transition is quite frequent (Dillon & Stanton, 2017) and may be motivated for reasons such as purposeful knowledge accumulation and network building, unexpected work and life shocks (Lee & Mitchell, 1994), or to research the labor market for a better fit. Entrepreneurship scholars may overlook former entrepreneurs in paid employment partly due to data limitation in capturing the heterogeneity of entrepreneurial experience among
employees and partly due to a commonly shared assumption that “for learning benefits from prior entrepreneurship to materialize, entrepreneurs who founded the failed business must deploy the resultant new knowledge—for example, by embarking on another entrepreneurial venture”; if entrepreneurs choose to completely exit from entrepreneurship, “both the entrepreneur and society may lose out” (Ucbasaran et al., 2013, p. 164).

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

Theoretical Implications

This study contributes to the turnover literature by demonstrating that we need to include identity-related process as a key driver of quitting, especially when studying entrepreneurs. Classical models of turnover are based on the concept of job attitudes and needs fulfillment (Hom et al., 2012). More recent approaches have modeled less gradual decision processes triggered by “shocks” (Lee et al., 1999) and a broader range of social
and psychological forces that lead people to stay with their current organization (Mitchell et al., 2001). Although role identity theory has been used extensively in the literature on role transitions (Ashforth, 2001; Nicholson, 1984), it has not been systematically integrated into models of turnover (Hom et al., 2017). In particular, our work is the first to demonstrate the influence of a lingering identity (Wittman, 2019), in this case entrepreneurial identity, on employee turnover.

The lingering identity construct may be an important addition to turnover models in a range of populations and circumstances. For example, previous research by Kraimer et al. (2012) found that expatriates who had returned to their home organization continued to hold a strong identity as an international employee and were therefore more likely to turn over when they experienced career deprivation. A lingering identity may also influence turnover in other situations where role transition involves ongoing anxiety and uncertainty appraised as an identity threat (Wittman, 2019). These could include any occupational change, but especially those that involve a perceived drop in occupational prestige: lawyers moving from private practice to corporate employment; medical doctors, researchers, or consultants moving to a management position; any occupational retraining necessitated by long-term employment declines.

The lingering identity construct used in this paper links to an emerging area in turnover research by improving our understanding of the factors that determine “when and where people go” when they turn over. Classical and modern turnover models have helped us understand why employees go (e.g., dissatisfaction, shocks) and why they stay (e.g., commitment, embeddedness), but only limited insight into when they go (i.e., some unfolding paths are faster than others) and even less insight into where they go. Our
results in Study 2 indicate that, on average, the tenure of those with an entrepreneurial experience (identity) was approximately one fourth (sixth) the length of the tenure of the others without entrepreneurial experience (identity). We believe that evidence on “timing of turnover” not only holds the key to better understanding the causal relationships, but also offers important theoretical implications in its own right. Our results in supplementary analysis also show that former entrepreneurs and employees with an entrepreneurial identity were more likely to leave paid employment and to start a new venture. Along with research that shows future-oriented entrepreneurial identity aspirations can lead employees toward entrepreneurship after the experience of certain career shocks (Seibert et al., 2020), identity constructs offer considerable promise into the question of when employees leave and where they go after turnover.

Second, this paper also contributes to the literature on entrepreneurial identity, an area that continues to grow in importance (Mmbaga et al., 2020). Research on entrepreneurial identity has most frequently focused on the different role identities an entrepreneur might hold (e.g., inventor, founder, manager) and the effects of those identities on subsequent motivations, behaviors, decisions, strategic moves, and venturing outcomes (e.g., Cardon et al., 2013; Fauchart & Gruber, 2011; Mathias & Williams, 2017; Murnieks et al., 2014). Other research has focused on entrepreneurial identity aspirations, a positively valued possible self-identity (Markus & Nurius, 1986) and its impact on efforts to become an entrepreneur (Farmer et al., 2011; Seibert et al., 2020). Ours is one of the few studies that considers how entrepreneurial identity influences behavior in a new, non-entrepreneurial context. Our findings in both studies support the argument that a salient identity that is intimately intertwined with the founding of
previous ventures is not easy to give up. Instead, it is relatively enduring to transcend organizations (Ashforth & Kreiner, 1999) and is likely to become a lingering role identity (Wittman, 2019) in influencing behaviors outside the entrepreneurial territory.

This study also heeds the call to address under what conditions entrepreneurial identity reduces the negative influences of entrepreneurs exit (Rouse, 2016). The role transition literature explores how individuals alter the way they see themselves to adapt to the new external reality, sometimes amalgamating previous identities to craft an identity appropriate to the new role (Ibarra, 1999) and sometimes substituting a new identity for an old identity to enact a more complete break with the past (Pratt, 2000). Less explored are the conditions under which former work role identities persist after role change and the potential positive or negative consequences of such lingering identities for the individual and organization. Entrepreneurs entering paid employment provides an opportune setting because the ongoing possibility of reactivating the entrepreneurial role and the challenge of enacting entrepreneurial role behaviors within a traditional employment context are likely to create demands for cognitive continuity rather than cognitive restructuring (Wittman, 2019). This is the first study we are aware of that provides a quantitative test of the influence of a lingering entrepreneurial identity and explores the conditions under which such influences persist after role changes. Thereby, we also contribute to the promising area suggested by Parker and colleagues (2017) regarding the role that work design plays in “shaping, or protecting, personal and occupational identity” (p. 415).

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

**Practical Implications**

Our study offers timely implications for firms that are interested in hiring former entrepreneurs. Although hiring firms may want to give considerable weight to entrepreneurial experience in hiring decisions, they should also be aware that entrepreneurs, particularly those who retain an entrepreneurial identity, are likely to feel stifled by the organizational norms, daily routines, and bureaucratic controls of a traditional work environment in paid jobs. These entrepreneurial employees may indeed quit sooner than others and may incur extraordinary costs of turnover.
This study also offers intriguing avenues for firms to retain former entrepreneurs. Across both studies, our results suggest that the retention rates of former entrepreneurs begin to meaningfully diverge several months into employment and to continue to widen over time. This may suggest a period of time early in their tenure when organizations have a grace period to retain those with a strong entrepreneurial identity. We speculate based on theorizing about the nature of organizational entry and early socialization experiences that distinct socialization and rites of passage as the entrepreneur role ends and the employee role begins can help the former entrepreneurs process the loss of the former identity which is the prerequisite to cognitive restructuring and identity adaptation (Wittman, 2019). Quickly seeking to embed the former entrepreneur into the new organization (Mitchell et al., 2001), by emphasizing shared values, establishing links to important insiders, and offering benefits and perks of membership, should also help the new employee deidentify from their previous role. Recent work on socialization tactics suggests benefits to personalizing early experiences based on newcomer individual differences (Peltokorpi et al., in press). Future research should consider the efficacy of tailoring socialization programs to keep former entrepreneurs engaged over time.

Another approach is to allow former entrepreneurs opportunities to express their entrepreneurial identities in constructive, rather than counter-productive ways in the organization. For example, firms who hire former entrepreneurs should recognize the importance of deliberately redesigning jobs and/or cultivating venturing opportunities from within, providing these employees with an alternative option to adapt their entrepreneurial identity and to keep learning, initiating, and creating, and be entrepreneurial without leaving the firms (e.g., Google’s 20 percent time initiative
encouraging employees to allocate 20 percent of their work time to their own projects is credited with the creation of Gmail, among other innovations). Our analysis suggests such initiatives empowering individuals to develop new work processes or innovative product or service extensions could be powerful tools for retaining former entrepreneurs. It is worth noting, however, that broadly providing such opportunities could backfire as some employees with little entrepreneurial interest may view this as a burden (D’Onfro, 2015). Also, internal venturing opportunities and resources may stimulate thoughts and actions to become actual entrepreneurs (Farmer et al., 2011) and therefore encourage employees (even those who did not previously embrace an entrepreneurial identity!) to quit and exploit their ideas in an independent start-up. Thus, one strategy could be to allow former entrepreneurs significant latitude to craft their own work design.

**Limitations and Future Research**

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

---

9 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.
temporary stepping-stones to build social networks or identify new markets may hold an
entrepreneurial identity), it would be useful for future research to explicitly measure the
motives of joining paid employment and examine the influence of these motives on
lingering identity and subsequent likelihood of quitting.

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

Third, the snapshot identity measure in our study fails to address the possible
change in entrepreneurial identity during individuals’ employment in paid jobs.
Alternative measures (e.g., multi-dimensional and repeated measures) of entrepreneurial
identity (e.g., Cardon et al., 2009; Fauchart & Gruber, 2011) might offer more than our
crude measures were able to reveal and further crystallize individual behaviors when exit
entrepreneurship. Future research can also benefit from conceptualizing and developing
more fine-grained dimensions of entrepreneurial experience.
Fourth, in this study, we were only able to discuss voluntary turnover as one of the many consequences of entrepreneurs returning to paid employment. Although former entrepreneurs might eventually choose to leave, it should be recognized that they could still make excellent hires, especially in roles that involve risks and ambiguity and roles that demand innovation and creativity. The rewards of attracting, hiring, and utilizing former entrepreneurs—including the complementarity engendered, potential revenue generated, and/or entrepreneurial orientation formed—may still outweigh the costs of their turnover. An important future direction, then, lies in understanding how entrepreneurs contribute to firms, which can be largely enriched from exploring alternative outcomes such as financial returns and innovation.

Finally, we have developed data and methods for understanding the patterns of transition back and forth between paid employment and business venturing. This is an important first step to understand how different patterns of career progression or advancement that involves entrepreneurship may influence individual subsequent employment and career consequences. We encourage future study to adopt such a dynamic view and devote more attention to understanding the patterns of career transitions to make further contributions to a careers perspective on entrepreneurship. We also encourage future research to incorporate alternative approach (e.g., inductive theory development and/or mixed methods) and advanced research design to replicate our study and further extend our theory.
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.
References


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

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

*Note.* N = 603. a Voluntary turnover was measured as whether the respondents end up quitting the job (0/1). b Female = 0, male = 1. All correlations greater than the absolute value of .09 are significant at .05 level.
<table>
<thead>
<tr>
<th>D.V. = Voluntary Turnover</th>
<th>Cox model With shared frailty</th>
<th>Cox model With shared frailty</th>
<th>Multilevel Probit model</th>
<th>Cox model With shared frailty</th>
<th>Multilevel regression model</th>
<th>Cox model With shared frailty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender *</td>
<td>-1.27***</td>
<td>-1.45***</td>
<td>.09</td>
<td>-1.51***</td>
<td>.01</td>
<td>-1.49***</td>
</tr>
<tr>
<td>Age</td>
<td>(.24)</td>
<td>(.25)</td>
<td>(.19)</td>
<td>(.26)</td>
<td>(.04)</td>
<td>(.26)</td>
</tr>
<tr>
<td>Marital status</td>
<td>-.21</td>
<td>-.21</td>
<td>-.54**</td>
<td>-.10</td>
<td>-.03</td>
<td>-.21</td>
</tr>
<tr>
<td>Education</td>
<td>.10</td>
<td>.07</td>
<td>-.20</td>
<td>.10</td>
<td>.01</td>
<td>.11</td>
</tr>
<tr>
<td>Job history</td>
<td>.14</td>
<td>.09</td>
<td>-.08</td>
<td>.13</td>
<td>-.02</td>
<td>.09</td>
</tr>
<tr>
<td>Employee level b</td>
<td>.46**</td>
<td>.44**</td>
<td>.21</td>
<td>.43**</td>
<td>-.01</td>
<td>.41**</td>
</tr>
<tr>
<td>Industry tenure</td>
<td>(.15)</td>
<td>(.16)</td>
<td>(.13)</td>
<td>(.16)</td>
<td>(.03)</td>
<td>(.16)</td>
</tr>
<tr>
<td>Risk preference</td>
<td>.32**</td>
<td>.40***</td>
<td>-.05</td>
<td>.45***</td>
<td>-.01</td>
<td>.41***</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.33*</td>
<td>.31*</td>
<td>-.02</td>
<td>.30*</td>
<td>-.04</td>
<td>.32*</td>
</tr>
<tr>
<td>Locus of control</td>
<td>.17</td>
<td>.25</td>
<td>-.15</td>
<td>.32*</td>
<td>-.06</td>
<td>.26</td>
</tr>
<tr>
<td>Entrepreneurial experience</td>
<td><strong>1.08</strong></td>
<td><strong>1.54</strong></td>
<td>(.60)</td>
<td>(.20)</td>
<td>.94**</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial identity</td>
<td>1.21**</td>
<td></td>
<td>(.35)</td>
<td></td>
<td>.54*</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial identity _centrality</td>
<td></td>
<td></td>
<td>(.32)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIC</td>
<td>1011.83</td>
<td>1010.40</td>
<td>392.89</td>
<td>1007.21</td>
<td>1053.31</td>
<td>1011.27</td>
</tr>
<tr>
<td>Chi-squared</td>
<td>110.89</td>
<td>111.03</td>
<td>53.07</td>
<td>115.75</td>
<td>32.83</td>
<td>112.32</td>
</tr>
<tr>
<td>Pseudo-R2</td>
<td>.453</td>
<td>.482</td>
<td>.503</td>
<td>.503</td>
<td>.503</td>
<td>.503</td>
</tr>
<tr>
<td>Δ Pseudo-R2</td>
<td>.29</td>
<td></td>
<td>.050</td>
<td></td>
<td></td>
<td>.047</td>
</tr>
</tbody>
</table>

Note. N = 603. * Female = 0, male = 1. ** Lowest = 1, highest = 3. Pseudo-R² values were calculated using Royston & Sauerbrei's (2004) recommended R² statistic based on the index of discrimination (D) for proportional hazard models of censored survival data. Δ Pseudo-R² 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.
### 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                               | 0.18    | 0.39    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 2 Entrepreneurial experience                      | 0.15    | 0.35    | 0.00    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 3 Entrepreneurial identity                        | 0.19    | 0.40    | 0.01    | 0.36    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 4 Work autonomy                                   | 4.05    | 0.44    | -0.05   | 0.06    | 0.03    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 5 Job complexity                                  | 3.04    | 0.33    | -0.04   | 0.04    | 0.01    | 0.36    |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 6 Entrepreneurial opportunity (EO)                | 3.47    | 0.52    | -0.03   | 0.05    | 0.02    | 0.35    | 0.40    |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 7 Entrepreneurial opportunity_alternative (EO_alt)| 3.89    | 1.87    | -0.03   | 0.06    | 0.27    | 0.31    | 0.23    |         |         |         |         |         |         |         |         |         |         |         |         |         |
| 8 Gender                                          | 0.52    | 0.50    | -0.10   | 0.06    | 0.03    | -0.06   | -0.10   | 0.02    | 0.02    | 0.00    | 0.02    | 0.02    | 0.00    | 0.02    | 0.02    | 0.02    | 0.00    | 0.02    | 0.02    |
| 9 Age                                             | 38.28   | 10.51   | -0.07   | -0.04   | -0.05   | -0.05   | -0.09   | 0.09    | 0.02    | 0.00    | 0.04    | 0.05    | 0.02    | 0.00    | 0.04    | 0.05    | 0.02    | 0.00    | 0.04    |
| 10 Job history                                    | 2.75    | 0.59    | -0.02   | -0.04   | -0.03   | -0.03   | -0.08   | 0.06    | 0.01    | 0.83    | 0.01    | 0.02    | 0.01    | 0.02    | 0.01    | 0.02    | 0.01    | 0.02    | 0.01    |
| 11 Pay                                            | 6.98    | 0.75    | -0.18   | 0.05    | 0.03    | 0.15    | 0.12    | 0.09    | 0.19    | 0.16    | 0.57    | 0.53    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    |
| 12 Firm size                                      | 3.93    | 2.06    | -0.07   | -0.05   | -0.04   | -0.03   | 0.07    | 0.02    | 0.01    | 0.00    | 0.02    | 0.07    | 0.06    | 0.21    | 0.02    | 0.00    | 0.02    | 0.00    | 0.02    |
| 13 Cognitive ability                              | 0.38    | 0.28    | -0.08   | 0.12    | -0.02   | 0.21    | 0.19    | 0.24    | 0.25    | -0.01   | -0.01   | -0.08   | 0.28    | 0.07    | 0.02    | 0.00    | 0.02    | 0.00    | 0.02    |
| 14 Risk preference                                | 4.89    | 2.94    | -0.01   | 0.14    | 0.19    | 0.05    | 0.02    | 0.04    | 0.05    | 0.09    | 0.00    | 0.01    | 0.07    | 0.00    | 0.05    | 0.05    | 0.03    | 0.05    | 0.05    |
| 15 Self-esteem                                    | 3.21    | 0.40    | -0.03   | 0.05    | 0.04    | 0.09    | 0.11    | 0.13    | 0.04    | 0.00    | -0.05   | 0.14    | 0.05    | 0.33    | 0.05    | 0.05    | 0.03    | 0.05    | 0.05    |
| 16 Locus of control                               | 2.41    | 0.92    | -0.02   | 0.07    | 0.06    | 0.07    | 0.01    | 0.00    | -0.04   | 0.08    | 0.02    | 0.21    | 0.02    | 0.16    | 0.02    | 0.02    | 0.02    | 0.02    | 0.02    |
| 17 Individual mastery                             | 3.15    | 0.46    | -0.05   | 0.08    | 0.08    | 0.09    | 0.10    | 0.11    | 0.02    | 0.03    | -0.02   | 0.14    | 0.02    | 0.22    | 0.08    | 0.28    | 0.11    | 0.02    | 0.02    |
| 18 Industry change                                | 0.36    | 0.48    | -0.02   | -0.05   | -0.02   | 0.00    | 0.01    | -0.02   | 0.02    | -0.20   | -0.10   | -0.17   | 0.04    | 0.03    | 0.02    | 0.01    | 0.01    | 0.01    | 0.00    |

**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. *Voluntary turnover was measured as whether the respondents ended up quitting the job (0/1). † Female = 0, male = 1. ‡ Variable that is natural logged. All correlations greater than the absolute value of .02 are significant at .05 level.
TABLE 4

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

<table>
<thead>
<tr>
<th>D.V. =</th>
<th>Voluntary Turnover</th>
<th>Voluntary Turnover</th>
<th>Entrepreneurial Identity</th>
<th>Multilevel probit</th>
<th>Voluntary Turnover</th>
<th>Voluntary Turnover</th>
<th>Entrepreneurial Identity</th>
<th>Multilevel probit</th>
<th>Voluntary Turnover</th>
<th>Voluntary Turnover</th>
<th>Entrepreneurial Identity</th>
<th>Multilevel probit</th>
<th>Voluntary Turnover</th>
<th>Voluntary Turnover</th>
<th>Entrepreneurial Identity</th>
<th>Multilevel probit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-24***</td>
<td>.35***</td>
<td>-31***</td>
<td>.34***</td>
<td>-37***</td>
<td>-37***</td>
<td>-37***</td>
<td>.34***</td>
<td>-38***</td>
<td>.38***</td>
<td>.38***</td>
<td>.31***</td>
<td>.31***</td>
<td>.31***</td>
<td>.31***</td>
<td>.38***</td>
</tr>
<tr>
<td>Job history</td>
<td>1.07***</td>
<td>1.08***</td>
<td>-37***</td>
<td>1.08***</td>
<td>1.08***</td>
<td>1.08***</td>
<td>1.08***</td>
<td>1.08***</td>
<td>1.09***</td>
<td>.10***</td>
<td>.10***</td>
<td>.10***</td>
<td>.10***</td>
<td>.10***</td>
<td>.10***</td>
<td>.10***</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay</td>
<td>-66***</td>
<td>-68***</td>
<td>-13***</td>
<td>-68***</td>
<td>-68***</td>
<td>-68***</td>
<td>-68***</td>
<td>-68***</td>
<td>.68***</td>
<td>.68***</td>
<td>-68***</td>
<td>.68***</td>
<td>.68***</td>
<td>.68***</td>
<td>.68***</td>
<td>.68***</td>
</tr>
<tr>
<td>Firm size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk preference</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locus of control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual mastery</td>
<td>-16***</td>
<td>-16***</td>
<td>-17***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
<td>-16***</td>
</tr>
<tr>
<td>Industry change</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
<td>.53***</td>
</tr>
<tr>
<td>Entrepreneurial experience</td>
<td>.15***</td>
<td>.18***</td>
<td>.12***</td>
<td>.12***</td>
<td>.11**</td>
<td>.11*</td>
<td>.11**</td>
<td>.11*</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
<td>.11**</td>
</tr>
<tr>
<td>Entrepreneurial identity × Work autonomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job complexity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial identity × Job complexity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
<td>-2.7***</td>
</tr>
<tr>
<td>EO_alt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial identity × EO_alt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: N=14,339. EO refers to entrepreneurial opportunity; EO_alt refers to the alternative measure of entrepreneurial opportunity. * Female = 0, male = 1. ** Variable that is natural logged. *** Hispanic is the omitted group. # Single is the omitted group. Pseudo-R² values were calculated using Royston & Sauerbrei’s (2004) recommended R² statistic for proportional hazard models. ΔPseudo-R² 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 < .1.

***p < .01.

Two-tailed tests.
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

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV:</td>
<td>Multilevel</td>
<td>Multilevel</td>
<td>Multilevel</td>
<td>Multilevel</td>
<td>Competing-risks Cox models</td>
<td>Competing-risks Cox models</td>
</tr>
<tr>
<td></td>
<td>probit</td>
<td>probit</td>
<td>probit</td>
<td>probit</td>
<td>models</td>
<td>models</td>
</tr>
<tr>
<td></td>
<td>models</td>
<td>models</td>
<td>models</td>
<td>models</td>
<td>Predicting</td>
<td>Predicting</td>
</tr>
<tr>
<td></td>
<td>Quit,</td>
<td>Quit,</td>
<td>Quit,</td>
<td>Quit,</td>
<td>to start a</td>
<td>to enter a</td>
</tr>
<tr>
<td></td>
<td>to start a</td>
<td>to enter a</td>
<td>to start a</td>
<td>to enter a</td>
<td>business</td>
<td>paid job</td>
</tr>
<tr>
<td></td>
<td>business</td>
<td>paid job</td>
<td>business</td>
<td>paid job</td>
<td>ventures</td>
<td>job</td>
</tr>
<tr>
<td>Gender *</td>
<td>.29***</td>
<td>.32***</td>
<td>.32***</td>
<td>.29***</td>
<td>-.41*</td>
<td>-.35***</td>
</tr>
<tr>
<td></td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.19)</td>
<td>(.05)</td>
</tr>
<tr>
<td>Age</td>
<td>.01</td>
<td>.02**</td>
<td>.02**</td>
<td>.02**</td>
<td>-.02</td>
<td>-.07***</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.04)</td>
<td>(.01)</td>
</tr>
<tr>
<td>Job history</td>
<td>-.23*</td>
<td>-.30***</td>
<td>-.38***</td>
<td>-.27**</td>
<td>.84</td>
<td>1.12***</td>
</tr>
<tr>
<td></td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.09)</td>
<td>(.94)</td>
<td>(.15)</td>
</tr>
<tr>
<td>Race #:</td>
<td>Black</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.35***</td>
<td>.31***</td>
<td>.31***</td>
<td>.33***</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.28)</td>
<td>(.06)</td>
</tr>
<tr>
<td></td>
<td>Caucasians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.03</td>
<td>.08*</td>
<td>.07*</td>
<td>.04</td>
<td>-.06</td>
<td>-.12*</td>
</tr>
<tr>
<td></td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.25)</td>
<td>(.06)</td>
</tr>
<tr>
<td>Marital Status #:</td>
<td>Married</td>
<td>.12***</td>
<td>.10**</td>
<td>.12***</td>
<td>.29</td>
<td>-.01</td>
</tr>
<tr>
<td></td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.25)</td>
<td>(.05)</td>
</tr>
<tr>
<td></td>
<td>Separated</td>
<td>.24***</td>
<td>.23***</td>
<td>.22***</td>
<td>.25***</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.43)</td>
<td>(.08)</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>.12***</td>
<td>.12**</td>
<td>.11**</td>
<td>.14***</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.04)</td>
<td>(.33)</td>
<td>(.07)</td>
</tr>
<tr>
<td>Pay #:</td>
<td>.14***</td>
<td>.13***</td>
<td>.14***</td>
<td>.12***</td>
<td>-.44***</td>
<td>-.70***</td>
</tr>
<tr>
<td></td>
<td>(.02)</td>
<td>(.02)</td>
<td>(.02)</td>
<td>(.02)</td>
<td>(.13)</td>
<td>(.03)</td>
</tr>
<tr>
<td>Firm size #:</td>
<td>-.02**</td>
<td>-.04***</td>
<td>-.04***</td>
<td>-.03***</td>
<td>-.13*</td>
<td>-.08***</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.05)</td>
<td>(.01)</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>-.35***</td>
<td>-.28***</td>
<td>-.26***</td>
<td>-.31***</td>
<td>.15</td>
<td>-.09</td>
</tr>
<tr>
<td></td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.42)</td>
<td>(.10)</td>
</tr>
<tr>
<td>Risk preference</td>
<td>-.08***</td>
<td>-.06***</td>
<td>-.09***</td>
<td>.08***</td>
<td>.04</td>
<td>.01*</td>
</tr>
<tr>
<td></td>
<td>(.00)</td>
<td>(.00)</td>
<td>(.00)</td>
<td>(.00)</td>
<td>(.03)</td>
<td>(.01)</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.02</td>
<td>-.28</td>
<td>.07</td>
</tr>
<tr>
<td></td>
<td>(.04)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.04)</td>
<td>(.25)</td>
<td>(.06)</td>
</tr>
<tr>
<td>Locus of control</td>
<td>.07****</td>
<td>.09***</td>
<td>.09***</td>
<td>.08***</td>
<td>-.08</td>
<td>-.09</td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.10)</td>
<td>(.02)</td>
</tr>
<tr>
<td>Individual mastery</td>
<td>.22***</td>
<td>.20***</td>
<td>.20***</td>
<td>.21***</td>
<td>-.27</td>
<td>-.16***</td>
</tr>
<tr>
<td></td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.21)</td>
<td>(.05)</td>
</tr>
<tr>
<td>Industry change</td>
<td>.09**</td>
<td>.11***</td>
<td>.09**</td>
<td>.11***</td>
<td>.67**</td>
<td>.52***</td>
</tr>
<tr>
<td></td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.03)</td>
<td>(.21)</td>
<td>(.05)</td>
</tr>
<tr>
<td>Number of prior ventures</td>
<td>.17***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(.01)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of the recent venture</td>
<td>.00***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent job as a founder</td>
<td></td>
<td></td>
<td>.61***</td>
<td>(.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total length of prior ventures</td>
<td></td>
<td></td>
<td>.02***</td>
<td>(.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial experience</td>
<td></td>
<td>.1,24***</td>
<td></td>
<td>(.07)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(20)</td>
<td>(.06)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIC</td>
<td>12287.32</td>
<td>13349.51</td>
<td>13320.76</td>
<td>12782.22</td>
<td>1425.93</td>
<td>42951.04</td>
</tr>
<tr>
<td>Chi-squared</td>
<td>1852.08</td>
<td>1008.59</td>
<td>1035.70</td>
<td>1425.15</td>
<td>2199.40</td>
<td>1847.12</td>
</tr>
<tr>
<td>Pseudo-R²</td>
<td>.379</td>
<td>.338</td>
<td>.338</td>
<td>.338</td>
<td>.379</td>
<td>.338</td>
</tr>
<tr>
<td>Δ Pseudo-R²</td>
<td>.046</td>
<td>.005</td>
<td>.005</td>
<td>.005</td>
<td>.046</td>
<td>.005</td>
</tr>
</tbody>
</table>

Note. N=14,339. *Female = 0, male = 1. # Variable that is natural logged. † Variable is the omitted group. ‡ Single is the omitted group. Standard errors are based on standardized coefficients. Pseudo-R² values were calculated using Royston & Sauerbrei’s (2004) recommended R² statistic for proportional hazard models. Δ Pseudo-R² 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.
**Figure 1A**

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

![Graph showing survival probability over time for employees with and without entrepreneurial identity.]

**Figure 1B**

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

![Graph showing survival probability over time for employees with and without entrepreneurial identity.]

**Figure 2A**

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

![Graph showing the interaction effects of work autonomy and entrepreneurial identity on voluntary turnover.](image)

*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*

![Graph showing the interaction effects of entrepreneurial opportunity and entrepreneurial identity on voluntary turnover.](image)

*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.