Precarious Versus Entrepreneurial Origins of the Recently Self-Employed: Work and Family Determinants of Canadians' Self-Employment Transitions

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ABSTRACT

We investigate the wagework and family determinants of self-employment entry using a panel study of Canadian workers (Canadian Work Stress and Health study). Rather than treating the self-employed as a homogenous group—a characterization that conflates entrepreneurial ventures with lower quality and more precarious self-employment-we disaggregate selfemployment entrants by occupational class. Descriptive analyses show that the nonprofessional self-employed-the most common form of self-employment observed in the study- are considerably more likely to report low income (<\$25,000) and insufficient work hours compared to wageworkers and the professional self-employed. Event history analyses based on a multinomial logistic model also reveal that poor wagework quality-including low income, job insecurity, and unchallenging work—increases the likelihood of a transition from wagework into nonprofessional self-employment. In contrast, job autonomy and human capital predict an increased likelihood of a transition into professional self-employment. Our results suggest that both *classic entrepreneurial* and *forced* motivations explain self-employment entry when the self-employed's occupational class is distinguished; however, findings are mixed regarding the salience of work-family factors in predicting self-employment entry. We discuss the value of using a 'good jobs, bad jobs' perspective to disaggregate the pathways from wagework into lower versus higher quality self-employment.

INTRODUCTION

While an extensive literature documents the determinants of self-employment entry, much of this research relies on interviews with the existing self-employed to reveal the factors and motivations behind entrepreneurship (Parker 2018). Retrospective accounts, however, are prone to self-justification biases that may obscure the self-employed's original intentions and circumstances that led them to choose self-employment (Cassar and Craig 2009). Longitudinal designs capturing the pre-transition work and nonwork lives of the self-employed can help address this issue, but nationally representative panel studies measuring self-employment behaviors are relatively rare and generally examine only a narrow range of wagework and family conditions that may predict self-employment entry. Thus, while the self-employed frequently cite the desire for independence, greater challenge, and work-family balance as reasons behind their decision to work for themselves (Dawson and Henley 2012), surprisingly few studies have assessed whether these factors are evident in the self-employed's work and family lives prior to their entry into self-employment. This omission is important, since an investigation into the origins of those who subsequently become self-employed could sharpen existing knowledge about the self-employment entry process, and shed light on the extent that contemporary self-employment trends reflect opportunity versus necessity forms of entrepreneurship (Carsrud and Brannback 2011).

In the current study, we use Canadian panel data (*Canadian Work Stress and Health study* CAN-WSH), to examine the influence of a broad array of work and family factors on an individual's propensity for future self-employment. The panel nature of our data allows us to focus on the *recently* self-employed (i.e. those entering self-employment within the last 24 months). In contrast to cross-sectional studies of the self-employed, which tend to be disproportionately focused on established business owners and independent contractors, examining recent entrants allows us to assess the conditions and entry dynamics of the self-

employed more generally—those successful ventures, along with those that subsequently fail. This is advantageous since the entry dynamics of the established self-employed may be unique and different from the self-employed more broadly (Parker 2018).

Leveraging the CAN-WSH study's detailed measurement of participants' wagework conditions, we test for a variety of entry dynamic possibilities, including whether those who recently became self-employed are more likely to originate from autonomous and challenging work contexts—work conditions that may signal or cultivate a mindset conducive for entrepreneurial self-employment (Sorgner and Fritsch 2018). Since self-employment may alternatively represent a reaction from workers with insufficient wagework options, we also examine if the employment origins of the self-employed are more likely to be characterized as insecure or inadequate (Serviere 2010). Finally, given that the flexibility of self-employment is often raised as a solution to the challenge of juggling work and nonwork responsibilities (Hughes 2006), we investigate whether the recently self-employed were especially prone to work-family conflict in their prior wagework lives—conflict that may have precipitated their transition into self-employment. Our access to rich panel data on the origins of those entering self-employment allows us to probe each of these possibilities.

Our analyses, based on a representative sample of workers interviewed every two years between 2011 and 2017, employ discrete-time event history methods to investigate the influence of wageworkers' paid work and family role conditions on their propensity to transition into self-employment. Rather than treating the self-employed as a homogenous group—a characterization that conflates entrepreneurial ventures with lower quality, precarious self-employment (Vosko and Zukewich 2006)—we also examine self-employment entry by occupational class. Following the efforts of Budig (2006) we assess these as professional versus nonprofessional self-employment arrangements. The following section reviews empirical research and theory on the determinants of self-employment entry.

LITERATURE REVIEW

The self-employed represent a key component of the Canadian economy, with 1 in 6 of the workforce working for themselves as small business owners, independent contractors or temporary freelancers (Statistics Canada 2017). Self-employment began to grow sharply in Canada in the 1980s, outpacing employment growth from wagework over the next two decades (Lin, Picot, and Compton 2000). While levels have remained relatively stable since the early 2000s, the proliferation of jobs in the emerging 'on-demand' economy, which is the source of short-term and unpredictable freelance work (e.g. uber drivers), have led labor market analysts to project further increases over the next decade (Block and Hennessy 2016). Similar predictions regarding the growth of freelance self-employment have been made elsewhere in North America (Katz and Krueger 2016; MBO Partners 2015).

Early assessments of increasing self-employment levels in North America and Europe highlighted the potential benefits of a "entrepreneurial economy" (Loscosso 1997; OECD 1998), a portrayal that was challenged by others who instead pointed to the growing number of poorly paid and insecure solo-account and unincorporated ventures that were contributing to a broader trend of increasing employment precariousness (Vosko and Zukewich 2006). These diverging views underscore the fact that there is considerable heterogeneity within the selfemployed, with substantial variation by income, job quality and turnover rates (Kalleberg 2011; Parker 2018). Understanding of the determinants of high and low quality selfemployment—inside and outside of Canada—remains underdeveloped, however, constrained by an absence of appropriate data and research designs (Parker 2018).

The debate over the job quality of the self-employed in Canada is mirrored in a number of developed economies that have also witnessed self-employment growth in recent decades (Baumberg and Meager 2015; Moulton and Scott 2016; Teichgraber 2013). A central issue of interest in this debate concerns the extent that self-employment trends are driven by the voluntary actions of those seeking entrepreneurial opportunity—versus the involuntary behaviors of wageworkers with inadequate labor market options (Hughes 2003). Self-employment researchers use a variety of conceptual labels to contrast these possibilities, framing them respectively as *pull* and *push entrepreneurship* (Amit and Muller 1995), or *opportunity* and *necessity entrepreneurship* (Hessels et al. 2008); however, a commonality across these frameworks is the distinction between those seeking self-employment to satisfy some intrinsic desire—versus the reactionary responses of those pushed into self-employment by external conditions not of their choosing (Parker 2018). Based on pooled 2001-2005 GEM data, Poschke (2013) found that approximately 20 percent of entrepreneurs in OECD countries reported that they were necessity-based entrepreneurs; however, one should interpret this statistic cautiously, given the possibility for hindsight bias and the cross-sectional nature of the analyzed data that may overestimate successful, established ventures (Cassar and Craig 2009).

A particularly important issue associated with the *push-pull* and *opportunity-necessity* frameworks is that they invite a binary and mutually exclusive perspective of the decision to enter self-employment—one represented as either voluntary or involuntary. This issue is evident in survey questionnaires that require the self-employed to provide forced-choice responses regarding their motivation to enter self-employment (Parker 2018). Measurement strategies of this nature fail to fully capture the complexity of the self-employment process, especially in light of qualitative research that demonstrates that multiple factors often figure in transition decisions, making entry motivations difficult to frame within a simple 'voluntary' or 'involuntary' narrative (Dawson and Henley 2012). Relatedly, the categorization of certain factors—such as entering self-employment because of work-family issues—as a voluntary or involuntary decision may be ambiguous, since some individuals may do so either out of necessity, or alternatively, out of a proactive desire for balance and life improvement. Thus,

rather than viewing self-employment transitions narrowly as reflecting opportunity or necessity entrepreneurship, we draw from the work of Hughes (2006) to test three different explanatory motivational models of self-employment entry.

Self-employment motivations: classic, forced and work-family

Based on the survey responses of a large sample of Canadian self-employed individuals, Hughes (2006) outlines three classifications of motivation useful for capturing self-employment decisions, referring to them as 'classic,' 'forced,' and 'work-family'. Classic motivations entail those desires, typically held by entrepreneurs, for independence, financial gain, and meaningful work; as such, classic motivations generally represent voluntary selfemployment decisions. Research demonstrates that these motivations are some of the most commonly reported by the self-employed (Bosma and Harding 2006; Robichaud, LeBrasseur and Nagaragan 2010; Hughes 2006). In contrast, forced motivations—those reporting that they entered self-employment because of financial necessity, job loss, or a lack of adequate wagework options—emphasize decisions that are made because of an absence of better alternatives. These factors appear to figure less prominently in surveys of the self-employed (Bosma and Harding 2006; Poschke 2013). Finally, self-employment as a strategy to better balance work and family life is common among women, but only among a small minority of men (Hughes 2006; Hurst and Pugsley 2011).

Beyond interviews with the existing self-employed, aggregate analyses of selfemployment and labor market trends reveal evidence that forced motivations drive at least some self-employment entry. Transitions into self-employment in Canada were higher, for example, during the weaker labor market conditions of the 1980s, and lower in the stronger conditions of the late 1990s (Bahar and Liu 2015)—trends that have been observed in several European countries (Bogenhold and Staber 1991; Saridakis, Marlow and Storey 2014; Smeaton

2003). Yet, other researchers find either no evidence that deteriorating labor market conditions encourage self-employment entry (Lin, Picot, and Compton 2000), or at best, mixed evidence of a relationship between structural insecurity and self-employment (Kuhn and Schuetze 1998; Parker 2018; Simpson and Sproule 1998).

With econometric analyses suggesting some support for involuntary or forced selfemployment, and interviews with the self-employed indicating more evidence for either classic or work-family explanations, a growing body of research leverages longitudinal 'before' and 'after' designs to better model the transition process (Budig 2006; Moutlon and Scott 2016; Sorgner and Fritsch 2018). Panel designs allow researchers to assess the pre-transition conditions of the self-employed, enabling a more objective investigation of the potential antecedents of self-employment entry. While longitudinal research is largely silent on the role of work-family issues in triggering a self-employment transition, there is evidence that both classic and forced motivations shape self-employment decisions (Parker 2018). As evidence of involuntary or forced self-employment entry, for example, job loss and joblessness are typically associated with an increased chance of a self-employment transition (Moulton and Scott 2016; Sorgner and Fritsch 2018). At the same time, however, there is a fairly robust positive association between self-employment entry and those with more human capital and personality traits, such as a low aversion to risk, that are typically associated with 'opportunity' (i.e. voluntary) entrepreneurs (Moore and Mueller 2002; Sorgner and Fritsch 2018; Xavier, Laplume and Pathak 2015).

These contradictory patterns hint at the possibility that distinct classic, forced and workfamily determinants may exist for different types of self-employment that vary in terms of their quality and their desirability. Recognizing the considerable heterogeneity within the selfemployed, some researchers have subsequently adopted more refined indicators designed to reflect this variation—such as distinguishing between the self-employed who operate solo-

account ventures from the employer-based self-employed who hire other workers and that tend to be more profitable and secure (Moulton and Scott 2016). Other approaches include distinguishing between unincorporated and incorporated businesses (Halvarsson, Korpi and Wennberg 2018; Levine and Rubinstein 2017), or separating the professional and knowledgebased self-employed from the non-professional self-employed (Budig 2006). When these distinctions are made, several notable determinant-entry patterns emerge. Budig (2006), for example, finds that entry into professional self-employment is more common among those with more education and job skill, but detected no association between human capital and entry into nonprofessional self-employment; instead those experiencing job loss and undesirable work conditions, including irregular shift work, were more likely to enter nonprofessional selfemployment. Relatedly, Moulton and Scott (2016), find that openness to risk—considered to represent an entrepreneurial trait—is only associated with entry into knowledge-based entrepreneurial ventures.

Adopting a measurement strategy that is sensitive to entry into different types of selfemployment may therefore reveal otherwise hidden contributory factors that are wiped out by a homogenous operationalization of self-employment (Glaeser 2007). Consequently, we use a similar strategy as Budig (2006), and examine the entry dynamics of the self-employed broadly, and also the dynamics of self-employment based on occupational class; to do this we distinguish between the professional and the nonprofessional self-employed.

The wagework and work-family origins of the self-employed

Panel studies that capture the pre-transition conditions of those entering distinct forms of self-employment are relatively uncommon (Parker 2018). Furthermore, studies that leverage longitudinal data generally examine only a limited range of potential wagework and family factors that may precipitate a transition. Most research to-date captures only narrow indicators of unsatisfactory work conditions, for example, including job loss, shift work, or low wages conditions that may trigger an involuntary transition (Budig 2006; Moulton and Scott 2016). The influence of other undesirable wagework experiences, such as job insecurity or insufficient work hours—despite their plausible links to self-employment entry—are rarely examined. Similarly, the psychosocial wagework origins of future entrepreneurs have generally not been considered, with most research focusing instead on personality traits or human capital (Parker 2018). Finally, despite the desire for work-family balance figuring heavily in interviews with self-employed women (Hughes 2006), no research to our knowledge has examined whether pre-transition work-family experiences are associated with a greater propensity for selfemployment entry.

Using detailed work and family information for a sample of Canadian self-employeds' prior wagework and family lives, we consider the ways in which psychosocial work characteristics and work-family issues are linked to transitions from wagework into self-employment. Following the three motivational explanations outlined by Hughes (2006), we use prior wagework and family conditions to provide a more comprehensive examination and comparison of these motivational models for predicting self-employment broadly, and specific self-employment types (e.g. professional versus nonprofessional self-employment). We discuss the specific predictions for each model in turn.

The *classic entrepreneurial model* assumes that self-employment transitions are driven by the attraction of being one's own boss, pursuing a business opportunity, or attaining meaningful and challenging work. Accordingly, since those with entrepreneurial aspirations are already likely to have self-selected into occupations that entail some level of freedom and challenge, we expect that individuals in *autonomous, challenging* and *high-pressure wagework* should be more likely to enter self-employment. These work conditions should also be useful for preparing individuals for the pressure, uncertainty and personal responsibility associated with starting a business (Koellinger 2008). Additionally, since those with more education are generally more likely to hold entrepreneurial aspirations (Parker 2018), we expect that wageworkers with *higher levels of education* should be more likely to make a self-employment transition. Finally, regarding specific self-employment destinations, we expect that autonomous, challenging and demanding wagework conditions, along with higher human capital, should be associated with a transition into professional self-employment; their association with entry into nonprofessional self-employment, in contrast, should be null or negative.

In contrast to the *classic model's* focus on entrepreneurial ambitions and conditions, the *forced model* predicts an increased likelihood of self-employment entry for wageworkers with limited labor market options and inadequate employment. Self-employment transitions, in this light, reflect the involuntary behaviors of individuals with few good employment alternatives, falling squarely within the 'pushed' or 'necessity' categories in existing self-employment theories (Amit and Muller 1994). We assess these conditions by considering the influence of *low income, insecure employment, insufficient work hours* and *local labor market insecurity.* Additionally, while we expect each of these factors should be associated with entry into nonprofessional self-employment, their association with entry into professional self-employment should be null or negative.

The *work-family model* emphasizes the importance of work-family issues in wageworkers' decisions to pursue self-employment. Informed by interviews with the selfemployed, many of who list flexibility as a key motivating factor (Dawson and Henley 2012; Hughes 2006) we expect that difficulties juggling work and family roles should be associated with an increased desire for flexibility in the paid work role, and consequently an increased likelihood of self-employment entry. Other *nonpaid care responsibilities* should also be similarly associated with flexibility aspirations and subsequent self-employment entry. We

expect that these conditions should more strongly predict entry into nonprofessional selfemployment compared to entry into professional self-employment, the latter of which tends to be marked by longer work hours and more career-focused aspirations (Budig 2006; Parker 2018).

Gendered pathways into self-employment?

As a broader trend and also as an indicator of polarizing job quality, self-employment is a highly gendered labor market phenomenon. Women continue to enter self-employment in lower numbers than men—although the gender gap that is decreasing in Canada and elsewhere (Hammond and Gurley-Calvez 2014; Moyser 2017)—and they remain overwhelmingly more likely to be solo-account self-employed and concentrated in low profitability industries (Thébaud 2010; Vosko and Zukewhich 2006; Rispoli 2009). Thus, mirroring other nonstandard work trends, self-employed women tend to be more precarious than their male counterparts (Cranford, Vosko, and Zukewich 2003). As a result, we expect that women will be less likely to transition into self-employment than men, but the gender gap in self-employment entry should be smallest for transitions into nonprofessional self-employment, which tend to be of lower quality (Budig 2006).

While women are more likely to occupy low quality self-employment, there is mixed evidence regarding gender differences in the salience of classic versus forced motivations for explaining self-employment entry (Parker 2018). Both Hughes (2006) and Dawson and Henley (2012), for example, find a 'lack of suitable alternative employment' was equally reported by self-employed men and women as a factor explaining entry. Additionally, while there is some evidence that the desire for independence is a more important factor among men (Hughes 2006), other studies on female entrepreneurship suggest that the demographic characteristics and the business desires and practices of women entrepreneurs resemble those of their male

counterparts (Hughes 2006; Dawson and Henley 2012; Minniti and Nardone 2007). As such, we make no predictions about gender and the efficacy of *classic* and *forced* factors in explaining self-employment transitions. In contrast, we expect to find evidence that *work-family* factors should be more salient for women than men—given substantial qualitative evidence of women emphasizing work-family balance as a reason for becoming self-employed (Parker 2018). Specifically, then, we expect that work-family difficulties should be more strongly associated with entry into self-employment for women than men, and this gender difference should be strongest for those entering into nonprofessional forms of self-employment.

METHODS

Sample

To test our focal hypotheses we use panel data from the *Canadian Work Stress and Health* (CAN-WSH) study, a national longitudinal study of Canadian workers. Up to four waves of interviews with the same participants were conducted by telephone in 2011, 2013, 2015 and 2017. To be eligible at the baseline in 2011, individuals had to be: (1) residing in Canada; (2) at least 18 years of age; (3) currently in a paid job or operating an income-producing business; (4) employed in the civilian labor force; and 5) living in a non-institutional residence. In households with more than one eligible person, the "next birthday" method was used to randomly select a participant. Calls were made to a regionally stratified unclustered random probability sample generated by random-digit-dial methods. Interviews were conducted in English or French and averaged 30 - 35 minutes. A \$20 (Canadian) gift card was offered to encourage participation. The final full baseline sample was 6004, with a response rate of approximately 40%. ¹ Follow-up interviews with participants in 2013 yielded a sample of 4,403 in 2013, 3,685 in 2015; and 3,378 in 2017.

Plan of Analyses

Our goal is to examine the efficacy of three motivational models (i.e. classic, forced and work-family) of self-employment entry for CAN-WSH wageworkers. To this end, we retain an analytical sample (N=3,492) that includes participants who 1) were wage workers (i.e. not self-employed) at the baseline interview in 2011, and 2) who participated in at least one of the follow-up interviews in 2013, 2015 or 2017. For these individuals, we track whether they remained in wagework over the course of the study, transitioned into self-employment, or left paid employment entirely. Since we have information only about participants' employment status at the time of interview and not the precise date of the transition, we use a discrete-time survival analysis method to estimate the hazard of entering a self-employment status, along with the covariates associated with this transition. A discrete model assumes that 1) the event occurs in continuous time between the discrete intervals of observations, and 2) the hazard rate for the event does not change within these intervals (Allison 1982). We use a multinomial logit model with competing risks to estimate simultaneously the likelihood of entering one of the employment statuses, in contrast to the reference group of 'remaining in wagework.'

Our analytical strategy, which closely adheres to that of Moulton and Scott (2016), estimates CAN-WSH participants' likelihood of leaving wagework for self-employment after the baseline interview in 2011. Every subsequent interview in which participants participate represents a risk period *t*, spanning approximately two years, for a possible self-employment transition to occur. Observations of individuals who enter self-employment are subsequently dropped, since our goal is to estimate initial transitions out of wagework only. Our model therefore estimates a series of *t*-1 predictors for a potential transition at period t. This leads to a minimum of one risk period (i.e. those who either transitioned out of wagework by the time of their second interview, or dropped out of the study after their second interview), and a maximum of three risk periods (i.e. those who participated in all four waves and had not

transitioned out of wagework by the third interview in 2015. This produces a total of 7,590 observations for 3,492 individuals across the course of the study. Our formal equation is shown below.

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Hazard of (EmploymentStatus_{it}) =
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 \begin{split} &\alpha + \beta(TimeInvariantControls_{i}) + \delta(TimeVariantControls_{it}) + \\ &\nu(ClassicPredictors_{it-1}) + \gamma(ForcedPredictors_{it-1}) + \\ &\eta(WorkFamilyPredictors_{it-1}) + \lambda(BaselineUnemployment_{i}) + X_{it} + \\ &\zeta(Duration_{it}) + \varepsilon_{it} \end{split}
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TimeInvariantControls include respondent gender, race, age and education in 2011. We estimate the following time-variant lagged covariates measured in the t-1 period: *classic*, *forced* and *work-family predictors*. These three focal groups of measures are lagged insomuch that the hazard of transitioning into self-employment at a particular time period *t* is regressed on participants' reports of these conditions in the previous time period (*t*-1). We discuss these focal measures in more detail in the following section. Xit includes the following time-variant lagged controls: work hours, marital status and parental status. We also include a baseline measure (time-invariant) of regional unemployment for respondents' location of residence in 2011. All models include a control for participants' duration in the analytical sample.

Measures

Employment status. Employment status is modeled as a polychotomous variable with the following states: 'remaining in wagework,' ' transitioned into self-employment' and 'no longer working.' Adopting a similar strategy as Budig (2006), we include a second employment status measure that distinguishes between the self-employed in a professional occupation (including those in management occupations) versus those in all other occupations, which we label 'nonprofessionals.' To assess occupation, we asked, "What kind of work do

you do? That is, what is your occupation?" Using the open-ended information provided, occupations were coded into 33 categories using the 2006 Canadian National Occupation Classification. We then collapsed these to indicate professionals versus nonprofessionals.

Focal predictors of self-employment transitions

'Classic' predictors

Job autonomy. To assess job autonomy, participants were asked the extent that they agree or disagree with the following statements: "I have the freedom to decide what I do on my job," "It is basically my own responsibility to decide how my job gets done," and "I have a lot of say about what happens on my job." Response choices are coded "strongly disagree" (1), "somewhat disagree" (2), "somewhat agree" (3), and "strongly agree" (4). We averaged responses to create the index; higher scores reflect more autonomy ($\alpha = .78$). These items are similar to those of other studies (Grotto and Lyness 2010).

Challenging work: In addition to assessing job autonomy, we consider another psychosocial work condition familiar to entrepreneurs: the extent that an individual has challenging work. Those with challenging work have the opportunity to use skills, learn new things, and generally engage in nonroutine work. While it is typically correlated with autonomous work conditions it is nevertheless distinct from autonomy, tapping into other psychosocial work conditions that may foster entrepreneurship, including creative work, task diversity and complexity (Schieman and Young 2013). To assess challenging work, participants were asked the extent that they agree or disagree with the following statements: "My job requires that I keep learning new things", "My job requires that I be creative", "My job lets me use my skills and abilities", "The work I do on my job is meaningful to me" and "I get to do a lot of different things on my job". Response choices were coded "strongly disagree" (1), "somewhat disagree" (2), "somewhat agree" (3) and "strongly agree" (4). We averaged the responses to create the index; higher scores reflect more challenging work (α = .78).

Excessive job pressures. We use three items that assess excessive pressures in the work role (see Schieman 2013). The items ask about the frequency of the following in the past three months: "Felt overwhelmed by how much you had to do at work?" "Had to work on too many tasks at the same time?" "The demands of your job exceeded the time you have to do the work?" Response choices are coded: "never" (1), "rarely" (2), "sometimes" (3), "often" (4), and "very often" (5). We averaged the items; higher scores indicate more job pressure ($\alpha = .85$).

Human capital. We use highest level of education achieved as a proxy of human capital. Education was dummy-coded as participants (in 2011) with a college degree or higher (1) versus all other participants (0).

'Forced' predictors

Perceived job insecurity. Job insecurity is assessed with the following question: "How likely is it that during the next couple of years will you lose your present job and have to look for a job with another employer?" Response choices include: "not at all likely" (1), "not too likely" (2) "somewhat likely" (3), and "very likely" (4). This question has been used in several well-respected surveys including the General Social Survey and the National Study of the Changing Workforce. We combine and contrast participants in the latter two categories, "somewhat likely" and "very likely" (1), to participants who answered "not at all likely" or "not too likely" (0).

Insufficient work hours. Participants were asked: "Would you prefer to have more hours, fewer hours, or the current hours you work at your job?" We contrast participants indicating a preference for 'more hours' (1) with a reference category combining those who were satisfied with their current hours and those preferring 'less hours' (0).

Low income. We contrast participants earning less than \$25,000 (1) to those earning \$25,000 or more (0) for the entire year prior to the interview period. We consider low income (<\$25,000) as an indicator of precariousness in the labor market. The cut-off point of \$25,000 was computed as less than one-half the median income for participants in the study.²

Regional Unemployment. We use unemployment data from the 2011 Canadian Census divisions to measure the unemployment rate for each respondent's region of residence at the baseline interview (2011). Census divisions reflect the second-level of geographic designation or unit in Canada, and are set depending on provincial or territorial regulation, typically comprising a county, municipality or regional district.

'Work-family' predictors

Work-to-family conflict. We used four items to measure work-to-family conflict. These are standard items that have been used in several recent surveys, including the National Study of the Changing Workforce and are widely published (Schieman and Glavin 2011; Schieman and Young 2010; Voydanoff 2007). The items assessed the following experiences in the last three months: "How often did you not have enough time for the important people in your life because of your job?" "How often did you not have the energy to do things with the important people in your life because of your job?" "How often did your work keep you from doing as good a job at home as you could?" and "How often did your job keep you from concentrating on important things in your family or personal life?" Response choices were: "Very Often" (1), "Often" (2), "Sometimes" (3), "Rarely" (4) and "Never" (5). We reverse-coded and averaged items such that higher scores indicate more work-to-family conflict ($\alpha = .90$).

Non-paid care responsibilities. Participants were asked: "How often in the last 3 months have you provided help or assistance to a relative or family member because of their health problems or disability?" Response choices were coded "Very Often" (1), "Often" (2),

"Sometimes" (3), "Rarely" (4) and "Never" (5). We collapse "Very Often" and "Often" responses to represent "frequent" caregiving, and contrast with "Sometimes", "Rarely" and "Never" responses, which we used as the reference category in all analyses (Glavin and Peters 2015).

Controls

Age is modeled as a continuous variable. *Marital status*. We used a dummy-code to contrast "married" (1) to those who are not married (0). Race/Ethnicity. *Parent* was coded (1) as the presence of children under 18 living in the household, and (0) for no children in the household. We used dummy-codes to contrast "White" (1) with "Other Race/Ethnicity" (0). *Work hours*. We used a continuous measure of work hours; participants were asked: "How many hours do you work in a typical week at your main job?"

Analyses

We first report 2011 baseline descriptives for the entire study sample and the analytical sample in Table 1. We then compare select descriptives for each of the employment statuses across the entire analytical sample (Table 2). In Table 3, we present the results from a series of multinomial logit hazard regression models designed to test our focal hypotheses regarding the various antecedents of self-employment transitions. In the first column of Table 3, the dependent variable is modelled as a polychotomous variable, comparing 'remaining in wagework' (the reference category) to the following employment transitions: 'became self-employed' and 'no longer working.' For sake of space, we do not present the results for those in the latter category. Entry into self-employment' is regressed on a series of lagged work and family conditions that capture the three motivational models (classic, forced and work-family) of self-employment behaviors, adjusting for sociodemographic and paid work controls. We then present the results from a second set of multinomial logit hazard regression analyses that

distinguish self-employment transitions by occupational status, comparing entry into 'professional' and 'nonprofessional' self-employment (with 'remaining in wagework' the reference category). For all analyses, we tested for gender contingencies in the antecedents of self-employment transitions; we report only those statistically significant contingencies in separate models (labeled model 2). Finally, all regression analyses are weighted according to the 2011 Canadian Census information on the gender, age, marital status and education profile of the population.

[TABLE 1 ABOUT HERE]

RESULTS

Characteristics and Previous Work Conditions of the Newly Self-Employed

Table 1 presents baseline descriptive statistics (unweighted) for the entire study sample (i.e. both wageworkers and the self-employed), and the analytical sample (i.e. those in wagework at the baseline and who participated in at least one subsequent interview). Compared to 2011 population estimates from Statistics Canada (16%), the self-employed are overestimated in the unweighted CAN-WSH study sample at the baseline (23%). The majority of the CAN-WSH self-employed are nonprofessionals (60%). With the exception of a slightly higher proportion of women in the analytical sample, there are few differences with the full study sample.

Table 2 presents a comparison of select unweighted descriptives for wageworkers and the self-employed observed over the course of the study. Several patterns are noteworthy. The self-employed are on average older than wageworkers, and slightly less likely to have children under 18 in the household. Regarding work characteristics, the professional self-employed report having more autonomy and challenging work than wageworkers and the nonprofessional self-employed. Wageworkers report more job pressures and are more likely to have a college degree than the nonprofessional self-employed, while the latter are more likely to report insufficient work hours and low earnings. In contrast, the professional self-employed report the longest work hours. The higher prevalence of low earners among the nonprofessional self-employed has been documented elsewhere, reinforcing the view that they represent a more precarious and less entrepreneurial economic arrangement (Budig 2006; Mouton and Scott 2016). Regarding work-family differences, the nonprofessional self-employed report lower work-family conflict than wageworkers, while both groups of self-employed are slightly more likely than wageworkers to have nonpaid caregiving responsibilities.

[TABLE 2 ABOUT HERE]

Multivariate Analyses

We now examine potential antecedents of self-employment transitions based on multinomial logit hazard regression models in which CAN-WSH participants' employment status is regressed on their wagework and family conditions (Table 3). We do not present results for those transitioning out of paid work, limiting our focus to wageworkers that transitioned into a self-employment status, in comparison to the reference group—those that remained in wagework. Within the analytical sample there were 396 participants who transitioned into self-employment over the course of the study—representing 11 percent of participants and constituting an average transition rate of 5 percent (of 7,590 person-interview observations). The majority of these transitions (two-thirds) were into nonprofessional selfemployment.

We first report the antecedents of entry into any form of self-employment. As a reminder, these results are derived from analyses in which the hazard of transitioning from wagework into self-employment at a particular interview period is regressed on a series of work, family and demographics that are measured either in the previous interview or baseline interview. When we examine self-employment transitions broadly, our results indicate some support for the 'forced' and 'work-family' motivations of self-employment behaviors, but no

support for the 'classic' model. While none of the classic predictors—including job autonomy, challenging work, excessive pressures and human capital—are associated with a self-employment transition, two forced predictors are associated with an increased likelihood of self-employment: wageworkers perceiving their job to be at risk and those earning less than \$25,000 are 1.7 and 1.9 times more likely to become self-employed respectively. Neither insufficient work hours nor regional unemployment at the baseline interview are associated with a self-employment transition. Among the work-family predictors, wageworkers reporting frequent nonpaid caregiving duties are 1.5 times more likely to enter self-employment than those with infrequent or no care duties. We find no evidence that higher levels of work-family conflict are associated with a self-employment transition, however.

Among the controls, men are 1.7 times more likely to enter self-employment than women. We also observe a curvilinear age association with self-employment entry, such that younger workers are most likely to become self-employed. The likelihood of entry declines with age until approximately 45, before subsequently increasing for those in middle age and later life. Among the remaining controls, marital status, race and work hours are not associated with self-employment entry.

[TABLE 3 ABOUT HERE]

We now examine the antecedents of transitions into particular types of selfemployment. Results from the second set of analyses in Table 3, displayed in the second and third columns, are based a multinomial logit model that distinguishes between transitions into professional and nonprofessional self-employment, with the reference category 'remaining in wagework.' As expected, these results show that forced predictors best capture transitions into nonprofessional self-employment, while transitions into professional self-employment are more closely tied to the classic predictors of entrepreneurship. Insecure work and low income predict an increased chance of entry into nonprofessional self-employment—individuals reporting these conditions are 1.9 and 2.3 times more likely respectively to enter nonprofessional self-employment. However, insufficient work hours is unexpectedly associated with a reduced likelihood of nonprofessional self-employment: wageworkers desiring more hours are half as likely to enter nonprofessional self-employment than those who are either satisfied with their hours or would prefer fewer hours. We also observe a negative association between challenging work conditions and entry into nonprofessional selfemployment, with wageworkers reporting the least challenging wagework conditions being the most likely to enter nonprofessional self-employment.

In contrast, we find no evidence that forced predictors are associated with entry into professional self-employment. Instead, as we expected, autonomous work conditions and having a college degree or higher increase the likelihood of professional self-employment. Finally, while nonpaid care responsibilities predict an increased likelihood of entry into nonprofessional self-employment, no statistically significant association is observed for professional self-employment. As with overall self-employment, we find no evidence of a significant association between work-family conflict and entry into either form of selfemployment.

Among the controls, women are less likely than men to enter nonprofessional and professional self-employment, although the gender gap is greatest for transitions into the latter, with men more than twice as likely as women to leave wagework for professional selfemployment. Marital status, race and work hours are not associated with a transition into either form of self-employment.

For all analyses we examined whether the antecedents of self-employment entry differed for men and women. These analyses revealed two statistically significant gender contingencies, presented in models 2 of Table 3. The significant 'women \times low income' interaction reveals that while low personal earnings slightly increases the likelihood of

nonprofessional self-employment among women (by a factor of 1.2), men are considerably more likely to enter nonprofessional self-employment (almost three times more likely) if they report low personal earnings. Predicting entry into professional self-employment, we also find evidence of a significant interaction between gender and parental status: having a child under 18 in the household doubles the chance of a women entering professional self-employment, while children slightly reduce the likelihood of professional self-employment for men.

To briefly summarize our findings: our descriptive analyses reveal socio-economic differences not only between the self-employed and wageworkers, but also within the self-employed. Compared to their professional counterparts, the nonprofessional self-employed are considerably more likely to report annual incomes lower than \$25,000, and are also more to report insufficient work hours. Our descriptive analyses therefore lend support to the view of self-employment as an increasingly polarized an economic arrangement (Kalleberg 2011). Our multivariate longitudinal analyses further probe these differences, demonstrating that the antecedents of CAN-WSH wageworkers' transitions into self-employment clearly vary by self-employment type. Indicators that best capture 'forced' or involuntary transitions, including insecure work and low income (among men) predict entry for the nonprofessional self-employed, while job conditions indicative of entrepreneurialism, including job autonomy and human capital, predicted entry into professional self-employment. While conflict between work and family did not increase the likelihood of a transition into self-employment, nonpaid caregiving responsibilities were associated with entry into nonprofessional self-employment.

DISCUSSION

To what extent does self-employment reflect an entrepreneurial 'choice' versus a reaction to poor wagework or labor market precariousness? The self-employment literature has to-date struggled to fully address this question, hampered by methodological challenges that make it difficult to 'get inside the head' of those considering self-employment as an alternative

to wagework. Econometric analyses that take a 'birds-eye' view of the economy, on the one hand, allow researchers to examine how favourable or unfavourable labor market conditions are linked to self-employment trends—links that may hint at the motives of the self-employed. Inferring individual decisions from macro-level trends, however, can be misleading, and is at best, speculative. Qualitative and survey interviews with the self-employed, on the other hand, provide direct accounts of the circumstances involving their transition out of wagework, but such accounts may fall prey to retrospective bias. An alternative strategy tracks and compares the lives of those who will and will not enter self-employment, uncovering differences that reveal the conditions under which transitions are most common. Following workers over time is expensive, however, and cost-limitations often reduce the information that can be collected from panel participants. Our analyses are therefore relatively rare within North American selfemployment research, insomuch that we track a panel of workers over the course of six years, documenting the personal, work and nonwork conditions associated with self-employment entry. What do these analyses tell us about the origins of the self-employed in Canada? Our findings, which show that the most common nonprofessional self-employment transitions are best explained by low income and wagework insecurity, suggests precariousness as a central motivating factor for the Canadian self-employed. Entrepreneurial factors, in contrast, did not predict entry into nonprofessional self-employment, but instead transitions into the more desirable (and less common) professional self-employment status.

Our efforts to understand wageworkers' paths into self-employment are informed by the literature on job quality and nonstandard work that has documented a growing polarization in North American and European workers' job conditions (Kalleberg 2011; Standing 2011). This increasing divide in job quality reflects, in part, the growth of nonstandard work arrangements that are polarized in the extent that they offer job security, good pay, and predictable or flexible work hours. As a form of nonstandard work, self-employment also

resists the easy categorization as a 'good' or 'bad' type of employment, which makes it wiser to talk about specific self-employed groups—an approach that we take in this paper. With this in mind, despite popular portrayals of the self-employed as well-compensated small-business owners and entrepreneurs who enjoy employment security due to their in-demand skills, most of the self-employed do not fit with this characterization—and we see evidence of this among the self-employed in the CAN-WSH study.

There are several strategies to separate the entrepreneurial self-employed from other less desirable forms of self-employment. Our approach, which distinguishes the self-employed by occupational status, is common in the literature, and one that also finds support in our descriptive analyses. While we were unable to assess differences within the self-employed for key dimensions of job quality, such as job security (it was asked only of wageworkers in our study), we do find notable differences on other measures that serve as proxies for job quality, including income and education. The nonprofessional self-employed in the CAN-WSH study are less likely to be college educated and more than twice as likely as wageworkers and the professional self-employed to be low earners. This is not to say that we do not see high earners among the nonprofessional self-employed; however, on average they are unmistakably different from both wageworkers and the professional self-employed—a finding that is consistent with other studies (Budig 2006; Vosko and Zukewich 2006). Collectively, then, we believe we show convincing evidence for distinguishing between the self-employed, rather than treating them as a homogenous group.

Beyond investigating the different destinations and conditions of the self-employed, a primary contribution of this paper is the detailed examination of the work and family origins of the recently self-employed. Surprisingly little research has documented the typical wagework conditions—precarious or entrepreneurial—that precipitate wageworkers' transitions into selfemployment. Our findings, based on longitudinal observations of workers therefore contribute

to a literature that is too often reliant on retrospective reports from the established selfemployed. Informed by Hughes' (2006) three motivational models of self-employment transitions, we examine a wide array of conditions that predict self-employment entry. As we expected, conditions best classified as 'push' or 'forced' factors (e.g. low income and insecurity) more closely predict entry into less desirable nonprofessional self-employment, while conditions that capture the classic future entrepreneur (e.g. autonomy and human capital) are associated with professional self-employment. Perhaps more surprising is our finding that wageworkers with insufficient work hours were *less* likely to enter nonprofessional selfemployment—the opposite pattern that we predicted. This is a somewhat confusing finding, given that our descriptive analyses reveal that the nonprofessional self-employed are the most likely to report that their current work hours are insufficient. It may be that the wagework conditions that motivated the nonprofessional self-employed to leave wagework were not grounded in the need to work more, but rather out of the need to *earn more*—something that is apparent in the low income origins of this group. Nevertheless, this represents an unexpected finding that deserves future inquiry.

We were also surprised to find no evidence of an association between wageworkers' work-family conflict and the likelihood of becoming self-employed. A substantial number of qualitative studies find that women, in particular, are motivated by work-family reasons to choose self-employment over wagework. To our knowledge, our study is the first of its kind that does not rely on retrospective reporting by the existing self-employed, and instead uses their pre-transition work-family reports. What might explain these discrepant findings? It is possible that individuals who pursue self-employment due to work-family conflict do not come from observably worse or untenable wagework (family-related) circumstances, but are simply those that place a greater premium on having more flexibility and work-family balance. In this light, the decision to leave wagework to reduce conflict and better balance work and family is

perhaps best framed as a voluntary choice by those who value the flexibility that comes with working for oneself. Nevertheless, our results also suggest that some self-employment transitions may be motivated by less-than-voluntary family circumstances—evident in the increased likelihood of nonprofessional self-employment entry for those with frequent caregiving responsibilities.

We expected to find that work-family factors would more strongly predict selfemployment entry for women, a gender contingency that was not borne out in our findings; however, we did find that children in the household predicted entry into professional selfemployment for women, while parenthood suppressed entry for men. This finding corroborates some qualitative studies with self-employed women, many of whom highlight the flexibility of working for oneself as key to meeting domestic care responsibilities (Hughes 2003), but contradicts our prediction that family factors would more strongly impact women's nonprofessional self-employment transitions. Our analyses revealed only one other gender contingency: low income increased the likelihood of nonprofessional self-employment entry among men, but had the opposite effect among women—suggesting that financial factors may weigh more heavily for men's transitions into more precarious forms of self-employment.

Several limitations associated with our study and additional avenues for inquiry deserve brief mention. First, given the nature of our panel design, we are unable to determine the precise time of the transition to self-employment. This is a common issue with discrete-time event history analyses, but not one that is necessarily problematic, since the gap between interviews is not excessively long (2 years). A potentially more problematic issue concerns our lack of access to respondents' full work histories—before and after the first and last interview periods of the study respectively. We lack information on how many wageworkers in the study will eventually become self-employed—an example of right-censored data. Right-censored data can be dealt with using event history methods; however left-censoring (i.e., insufficient

information on those who entered self-employment prior to the study) may be more problematic for model estimates. Given that there is no consensus on a solution to fully mitigate the effects of this issue, we chose the most common approach and truncated the sample to participants who began the study as wageworkers (Wooldridge 2010). Finally, while we are confident that the revealed associations between self-employment entry and prior wagework and family conditions are robust to issues of spuriousness and temporal order, we can only use them to make inferences about the entry process and individual's motivations. Nevertheless, in many cases at least, our findings appear to correspond quite closely to qualitative accounts from the self-employed.

CONCLUSION

While our analyses suggest entrepreneurial pathways into self-employment for some of the CAN-WSH participants, we find that the path into the most common nonprofessional selfemployment is more likely to begin with insecure, low paying and unchallenging wagework. These patterns mirror the findings from studies of independent contractors and freelancers in the fledgling 'on-demand' industry, which reveal that a primary reason workers pursue these 'gig' arrangements is in order to supplement insufficient wagework (Block and Hennessy 2017; Farrell and Greig 2016). Our results suggest that many of the self-employed may be in a similar position, leaving wagework more out of necessity rather than choice. While it may not be wise to describe such transitions as purely 'involuntary', we believe our findings paint an unmistakeably precarious dimension to Canadian self-employment—making it worthwhile for more studies to investigate whether contemporary self-employment trends reflect growing labor market opportunity or increasing problems in the adequacy of wagework.

ENDNOTES

1. Some readers might have concerns about our response rate of 40% and the possibility of nonresponse bias in our estimates (Babbie 2007). While recent research questions the link between nonresponse bias and response rates (Curtin, Presser, and Singer 2000; Merkle and Edelman 2002), we nevertheless investigated the possibility that results were unduly influenced by nonresponse bias by comparing results from unweighted and weighted analyses in which we weighted the sample based on a key set of demographic statuses (e.g., gender, age, marital status, education) from the 2006 Canadian Census. Focal associations remained generally consistent across weighed and unweighted samples.

2. In additional analyses (not shown) we included the following income categories in all models: \$25,000 or less; \$25001-49,999; \$50,000-99,999; \$100,000 and higher. These analyses revealed a relatively linear negative income pattern with the hazard of a professional self-employment transition—higher incomes were progressively associated with a reduced likelihood of entering this form of self-employment. The opposite pattern was revealed for professional self-employment transitions, with higher earners more likely to make this transition. Since we are primary interested in the potential impact of low income self-employment transitions, and for the sake of model parsimony we decided to use the binary indicator of low income.

REFERENCES

- Allison, Paul D. 1982. "Discrete-Time Methods for the Analysis of Event Histories." Sociological Methodology 13:61-98.
- Amit, Raphael, and Eitan Muller. ""Push" and "Pull" entrepreneurship. *Journal of Small Business and Entrepreneurship* 12(4):64-80.
- Babbie, Earl R. 2007. *The Practice of Social Research*. 11th ed. Belmont, CA: Thomson/Wadsworth.
- Bahar, Sumaya, and Huju Liu. 2015. Unincorporated Self-employment in Canada, 1989-2010.
 The Canadian Economy in Transition Series, Statistics Canada, Catalogue No. 11-622M-No. 031.
- Baumberg, Ben, and Nigel Meager. 2015. "Job Quality and the Self-employed: Is it Still Better to Work for Yourself?" Pp. 105-129 in *Unequal Britain at Work*, edited by Alan Felstead, Duncan Gallie, and Francis Green. Oxford: Oxford University Press.
- Block, Sheila, and Trish Hennessy. 2017. "Sharing Economy" or On-demand Service Economy? A Survey of the Workers and Consumers in the Greater Toronto Area.
 - Canadian Centre for Policy Alternatives, Document No. ISBN 978-1-77125-337-6.
- Bogenhold, Dieter, and Udo Staber. 1991. "The Decline and Rise in Self-employment." *Work, Employment and Society* 5(2):223-239.
- Bosma, Niels, and Rebecca Harding. 2006. "Global Entrepreneurship Monitor: GEM 2006 Summary Results." Babson College London Business School.
- Budig, Michelle J. 2006. "Intersections on the Road to Self-employment: Gender, Family and Occupational Class." *Social Forces* 84(4):2223-2239.
- Carsrud, Alan, and Malin Brännback. 2011. Entrepreneurial Motivations: What Do We Still Need to Know?" *Journal of Small Business Management* 49(1):9–26.

- Cassar, Gavin, and Justin Craig. 2009. "An Investigation of Hindsight Bias in Recently Venture Activity." *Journal of Business Venturing* 24(2):149-164.
- Cranford, Cynthia J., Leah F. Vosko, and Nancy Zukewich. 2003. "Precarious Employment in the Canadian Labor Market: A Statistical Portrait." *Just Labor: A Canadian Journal of Work and Society* 3:6-22.
- Curtin, Richard, Stanley Presser, and Eleanor Singer. 2000. "The Effects of Response Rate Changes on the Index of Consumer Sentiment." *Public Opinion Quarterly* 64(4):413-428.
- Dawson, Christopher, and Andrew Henley. 2012. ""Push" Versus "Pull" Entrepreneurship: An Ambiguous Distinction?" *International Journal of Entrepreneurial Behavior & Research* 18(6):697-719.
- Farrell, Diana, and Fiona Greig. 2016. "The Online Platform Economy: What is the growth trajectory?" https://www.jpmorganchase.com/corporate/institute/institute-insights.html.
- Glaeser, Edward L. 2007. *Entrepreneurship and the City*. No. w13551. National Bureau of Economic Research.
- Glavin, Paul, and Amanda Peters. 2015. "The Costs of Caring: Caregiver Strain and Work-Family Conflict Among Canadian Workers." *Journal of Family and Economic Issues* 36(1): 5-20.
- Grotto, Angela R., and Karen S. Lyness. 2010. "The Cost of Today's Jobs: Job Characteristics and Organizational Supports as Antecedents of Negative Spillover." *Journal of Vocational Behavior* 76(3):395-405.
- Halvarsson, Daniel, Martin Korpi, and Karl Wennberg. 2018. "Entrepreneurship and Income Inequality." *Journal of Economic Behavior & Organization* 145:275-293.

- Hammond, George W., and Tami Gurley-Calvez. 2014. "Heterogeneity in the Determinants of Local Self-Employment Growth by Gender, Age and Selected Industry." *Regional Studies* 48(2):339-349.
- Hessels, Jolanda, Marco Van Gelderen, and Roy Thurik. 2008. "Entrepreneurial Aspirations, Motivations, and Their Drivers." *Small Business Economics* 31:(3)323-339.
- Hughes, Karen D. 2003. "Pushed or Pulled? Women's Entry into Self-employment and Small Business Ownership." *Gender, Work and Organization* 10(4):433-454.
- Hughes, Karen D. 2006. "Exploring Motivation and Success Among Canadian Women Entrepreneurs." *Journal of Small Business and Entrepreneurship* 19(2):107-120.
- Hurst, Erik, and Benjamin Wild Pugsley. 2011. "What do Small Businesses do?" No. w17041. National Bureau of Economic Research.
- Katz, Lawrence F., and Alan B. Krueger. 2016. The Rise And Nature Of Alternative Work Arrangements In The United States, 1995-2015 (No. w22667). National Bureau of Economic Research.
- Kalleberg, Arne L. 2011. Good Jobs, Bad Jobs: The Rise of Polarized and Precarious
 Employment Systems in the United States, 1970's to 2000's. New York, NY: Russell Sage
 Foundation.
- Koellinger Philipp. 2008. "Why are Some Entrepreneurs More Innovative than Others?" *Small Business Economics* 31(1):1-21.
- Kuhn, Peter J., and Herb J. Schuetze. 2001. "Self-employment Dynamics and Self-employment Trends: A Study of Canadian Men and Women, 1982-1998." *Canadian Journal of Economics* 34(3):760-784.
- Levine, Ross, and Yona Rubinstein. 2017. "Smart And Illicit: Who Becomes an Entrepreneur and Do They Earn More?" *The Quarterly Journal of Economics* 132(2):963-1018.

- Lin, Zhengxi, Garnett Picot, and Janice Compton. 2000. "The Entry and Exit Dynamics of Self-employment in Canada." *Small Business Economics* 15(2):105-125.
- Loscocco, Karyn A. 1997. "Work-family Linkages among Self-employed Women and Men." Journal of Vocational Behavior 50(2):204-226.
- MBO Partners. 2015. "State Of Independence In America 2015: Five Years Of Insight On The Growth Of The Independent Workforce." Herndon, VA.
- Merkle, Daniel, and Murray Edelman. 2002. "Nonresponse in Exit Polls: A Comprehensive Analysis." Pp. 243-258 in *Survey Nonresponse*, edited by Robert M. Groves, Don A. Dillman, John L. Eltinge, and Roderick J. A. Little. New York: Wiley.
- Minniti, Maria, and Carlo Nardone. 2007. "Being in Someone Else's Shoes: The Role Of Gender In Nascent Entrepreneurship." *Small Business Economics* 28:223-238.
- Moore, Carol S., and Richard E. Mueller. 2002. "The Transition from Paid to Self-employment in Canada: The Importance of Push Factors." *Applied Economics* 34(6):791-801.
- Moulton, Jeremy G., and John C. Scott. 2016. "Opportunity or Necessity? Disaggregating Selfemployment and Entry at Older Ages." *Social Forces* 94(4):1539-1566.
- Moyser Melissa. 2017. "Women and Paid Work." Ottawa, ON: Statistics Canada. http://www.statcan.gc.ca/pub/89-503-x/2015001/article/14694-eng.htm (accessed June 1, 2018).
- OECD. 1998. Fostering Entrepreneurship. Paris: OECD.
- Parker, Simon C. 2018. The Economics of Entrepreneurship. Cambridge University Press.
- Poschke, Markus. 2013. "Entrepreneurs Out of Necessity': A Snapshot." *Applied Economics Letters* 20(7):658-663.
- Rispoli, Luke. 2009. Trends in the Gross Domestic Product and Self-employment of Unincorporated Enterprises in the Canadian Economy, 1987 to 2005. Insights on the Canadian Economy, Statistics Canada, Catalogue No. 11-624-M-No.024.

- Robichaud, Yves, Rolland LeBrasseur, and Karathotuvu V. Nagarajan. 2010. "Necessity and Opportunity-driven Entrepreneurs in Canada: An Investigation into their Characteristics and an Appraisal of the Role of Gender." *Journal of Applied Business and Economics* 11(1):59-79.
- Saridakis, George, Susan Marlow, and David J. Storey. 2014. "Do Different Factors Explain Male and Female Self-employment Rates?" *Journal of Business Venturing* 29(3):345-362.
- Schieman, Scott, and Marisa Young. 2010. "Is there a Downside to Schedule Control for the Work-family Interface?" *Journal of Family Issues* 31(10):1391-1414.
- Schieman, Scott, and Marisa Young. 2013. "Are Communications About Work Outside Regular Working Hours Associated With Work-To-Family Conflict, Psychological Distress and Sleep Problems?" *Work & Stress* 27(3):244-261.
- Schieman, Scott, and Paul Glavin. 2011. "Education and Work-family Conflict: Explanations, Contingencies, and Mental Health Consequences." *Social Forces* 89(4):1341-1362.
- Schieman, Scott. 2013. "Job-related Resources and the Pressures of Working Life." *Social Science Research* 42(2):271-282.
- Serviere, Laura. 2010 "Forced to Entrepreneurship: Modeling the Factors behind Necessity Entrepreneurship." *Journal of Business and Entrepreneurship* 22(1):37.
- Simpson, Wayne, and Robert Sproule. 1998. *Econometric Analysis of Canadian Selfemployment using SLID*. Income and Labor Dynamics Working Paper, Statistics Canada, Catalogue No. 98-16.
- Smeaton, Deborah. 2003. "Self-employed Workers: Calling the Shots or Hesitant Independents? A Consideration of the Trends." *Work, Employment and Society* 17(2):379-391.

Sorgner, Alina, and Michael Fritsch. 2018. "Entrepreneurial Career Paths: Occupational Context and the Propensity to Become Self-Employed." *Small Business Economics* 51(1):129-152.

Standing, Guy. 2011. *The Precariat: The Dangerous New Class*. Bloomsbury Academic. Statistics Canada. 2017. *CANSIM, table 282-0012*. Catalogue No. 89F0133XIE.

- Teichgraber, Martin. 2013. "European Union Labour Force Survey Annual Results 2012, Statistics in Focus, 14/2013" http://ec.europa.eu/eurostat/statisticsexplained/index.php/Archive:Labour_force_survey_overview_2012 (accessed July 2nd 2018).
- Thébaud, Sarah. 2010. "Gender and Entrepreneurship as a Career Choice: Do Self-assessments of Ability Matter." *Social Psychology Quarterly* 73(3):288-304.
- Vosko, Leah F., and Nancy Zukewich. 2006. "Precarious by Choice? Gender and Selfemployment." Pp. 67-89 in *Precarious Employment: Understanding Labor Market Insecurity in Canada*, edited by Leah F. Vosko. Montreal and Kingston: McGill-Queen's University Press.
- Voydanoff, Patricia. 2007. Work, Family, and Community: Exploring Interconnections. Mahweh, NJ: Lawrence Erlbaum Associates.
- Wooldridge, Jeffrey. M. 2010. Econometric Analysis of Cross Section and Panel Data. MIT press.
- Xavier-Oliveira, Emanuel, André O. Laplume, and Saurav Pathak. 2015. "What Motivates Entrepreneurial Entry Under Economic Inequality? The Role Of Human and Financial Capital." *Human Relations* 68(7):1183-1207.

	Entire sample	Analytical sample		
	at baseline (N=6,004)	at baseline (N=3,492)		
Wageworker	.771	1.00		
Self-employed	.228			
Nonprofessional	.139			
Professional	.089			
Job autonomy	2.942	2.807		
Challenging work	3.361	3.333		
Excessive job pressures	3.034	3.096		
College degree holder	.514	.539		
Job insecurity	.225	.215		
Insufficient work hours	.126	.111		
Personal income <\$25,000	.181	.170		
Regional unemployment	7.768	7.745		
Work-to-family conflict	2.512	2.532		
Nonpaid care responsibilities	.216	.212		
Women	.593	.627		
Children under 18 in household	.424	.438		
Married	.513	.530		
Age	44.918	44.851		
White	.870	.882		
Work hours	39.012	38.783		

TABLE 1. Means and Proportions for all Study Variables (unweighted)

	Wageworker	Nonprofessional	Professional
		Self-Employed	Self-Employed
Job autonomy	2.820	3.354***	3.531***
Challenging work	3.312	3.413***	3.572***
Excessive job pressures	3.087	2.690^{***}	2.952^{***}
College degree holder	.546	.382***	.691***
Insufficient work hours	.093	.153***	.096
Personal income < \$25,000	.125	.305***	.127
Median income	56,000	39,000**	65,006
Work-to-family conflict	2.516	2.311***	2.485
Nonpaid care responsibilities	.201	.239**	.238**
Women	.619	.556***	$.440^{***}$
Children under 18 in household	.429	.369**	.368***
Married	.534	.523	.534
Age	44.038	47.085***	49.676***
White	.878	.912**	.906*
Work hours	38.809	37.542*	40.801**
N	12,156	1,896	1,462

TABLE 2. Means and Proportions for Select Measures by Employment Status Across Entire Study Sample (unweighted)

Summary statistics are compared for those in wagework relative nonprofessional and professional self-employment using t-tests. Includes observations over time on same individuals. The t-statistics are calculated using cluster-robust standard errors (clustered on the individual).

	Self- employment	Nonprofessional Self-employment		Professional Self-employment	
	employment	Model 1	Model 2 ^a	Model 1	Model 2 ^a
<i>Classic predictors</i> Job autonomy	1.215	.114		1.438*	
Challenging work	.814	.749*		1.265	
Excessive job pressures	1.091	1.022		1.291	
College degree or higher	1.212	.885		2.575**	
<i>Forced predictors</i> Job insecurity (ref: secure)	1.672**	1.892**		1.174	
Insufficient work hours	.640	.504*		1.584	
Low personal income (<\$25,000)	1.934**	2.252***	3.787***	.388	
Women × Low personal income			.367*		
Regional unemployment (2011)	.998	.974		1.038	
<i>Work-family predictors</i> Work-to-family conflict	.885	.844		.981	
Nonpaid care responsibilities	1.466*	1.592*		1.146	
Controls					
Women	.548***	.644*	.912	.456**	.280***
Children under 18 in household	.973	.903		1.017	.758
Women × Children under 18					2.331*
Married	1.112	.865		1.711	
Age	.848***	.861**		.860*	
Age-squared	1.002***	1.001**		1.002*	
White	1.697	1.639		1.845	
Work hours	.992	.986		1.007	
Pseudo R-square	.088	.107	.113	.107	.113

TABLE 3. Antecedents of Self-Employment Transitions from Event History Models, bySelf-Employment Type (N=7,590; 3,492 unique observations)

Note: Relative risk ratios are reported for a multinomial logistic regression (discrete-time event history model with competing risks). Comparison group is 'remained in wage work'. Results for 'left paid work' are omitted for sake of space. Robust standard errors clustered on the individual are available on request. ***p < .001 * p < .01 * p < .05. a Model adjusts for all measures included in model 1; only significant gender interactions are presented.