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01 Jan 2023

## Jump To Platform Faster? Gender, Institutional Change, And Pre-entrant Entrepreneurial Attempt

Lei Xu

K. Praveen Parboteeah

Chevy-Hanqing Fang

Missouri University of Science and Technology, fangha@mst.edu

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### Recommended Citation

Xu, L., Parboteeah, K. P., & Fang, C. (2023). Jump To Platform Faster? Gender, Institutional Change, And Pre-entrant Entrepreneurial Attempt. *New England Journal of Entrepreneurship* Emerald.

The definitive version is available at <https://doi.org/10.1108/NEJE-06-2022-0040>



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# Jump to platform faster? Gender, institutional change, and pre-entrant entrepreneurial attempt

Gendered  
pre-entrant  
entrepreneurial  
attempt

Lei Xu and K. Praveen Parboteeah

*Department of Management, University of Wisconsin Whitewater,  
Whitewater, Wisconsin, USA, and*

Hanqing Fang

*Department of Business and Information Technology,  
Missouri University of Science and Technology, Rolla, Missouri, USA*

Received 18 June 2022  
Revised 18 September 2022  
19 February 2023  
14 April 2023  
Accepted 14 April 2023

## Abstract

**Purpose** – The authors enrich and extend the existing institutional anomie theory (IAT) in the hope of sharpening the understanding of the joint effects of selected cultural values and social institutional changes on women's pre-entrant entrepreneurial attempts. The authors theorize that women are culturally discouraged to pursue pre-entrant entrepreneurial attempts or wealth accumulation in a specific culture. This discouragement creates an anomic strain that motivates women to deviate from cultural prescriptions by engaging in pre-entrant entrepreneurial attempts at a faster speed. Building on this premise, the authors hypothesize that changes in social institutions facilitate the means of achievement for women due to the potential opportunities inherent in such institutional changes.

**Design/methodology/approach** – Using a randomly selected sample of 1,431 registered active individual users with a minimum of 10,000 followers on a leading entertainment live-streaming platform in the People's Republic of China, the authors examined a unique mix of cultural and institutional changes and their effects on the speed of women's engagement in live-streaming platform activity.

**Findings** – The authors find support for the impact of the interaction between changes in social institution conditions and cultural values. Unexpectedly, the authors also find a negative impact of cultural values on women's speed of engaging in pre-entrant entrepreneurial attempts.

**Originality/value** – The authors add institutional change to the IAT framework and provide a novel account for the variation in the pre-entrant entrepreneurial attempts by women on the platform.

**Keywords** Institutional anomie theory, Pre-entrant entrepreneurial attempt, Women entrepreneurship, Social unrest, Platform, Live-streaming activity

**Paper type** Research paper

## Introduction

Understanding the unique situations that women entrepreneurs confront remains critical (Javadian and Modarresi, 2020; Kim *et al.*, Forthcoming), as evidenced by numerous special issues

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The authors are grateful to the editor, Golshan Javadian, and to the anonymous reviewers for their constructive guidance and support throughout the revision process. This paper also benefited from the earlier constructive comments by Professor Dennis Park at the University of Texas at Dallas. All errors accrue to the authors.

Since acceptance of this article, the following author(s) have updated their affiliations: Lei Xu is now in Marketing and Entrepreneurship Department, University of Missouri-St. Louis, St. Louis, MO, USA.



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on the subject (e.g. Bruin *et al.*, 2007; Yousafzai *et al.*, 2019). Such interest is not surprising given the potential of entrepreneurship to not only create financial and personal gains for women, but also to “provide ‘freedom’, ‘autonomy’ and ‘empowerment’ for women entrepreneurs as they break away from male domination in work and society” (Alkhaled and Berglund, 2018, p. 878). Despite a growing body of literature, Yousafzai *et al.* (2019) lamented that scholars have been primarily interested in conditions that have led to enhanced entrepreneurship rather than understanding the embedded context in which such entrepreneurship occurs.

To address this issue, we draw on institutional anomie theory (IAT) to examine how selected factors shape women’s pre-entrant entrepreneurial attempt, defined as an entrepreneurial effort in “the period between an initial trigger event and the first instance of product commercialization” (Agarwal *et al.*, 2017, p. 288). In the language of IAT, such opportunity-driven entrepreneurial behavior is a type of “creative deviance” (Cullen *et al.*, 2014, p. 776). The IAT core concept is anomic strain (Cullen *et al.*, 2004; Martin *et al.*, 2007; Parboteeah and Cullen, 2003)—i.e. the incongruence between cultural values that motivate entrepreneurial behavior and institutional conditions that promote or block the realization of goals underpinned by these values. IAT explains deviant behavior in social units on the basis of specific social institutions (e.g. city socio-political systems) and cultural values (Messner and Rosenfeld, 1997, 2012). Thus far, the concept of anomie or anomic strain has been linked to a variety of outcomes, such as new venture creation across nations (Cullen *et al.*, 2014) and women entrepreneurs’ ethical decisions (Kim *et al.*, Forthcoming).

Despite these merits, there is an implicit assumption in IAT that social institutions remain unchanged or very stable. However, a sizable portion of people, including potential entrepreneurs (e.g. Hiatt and Sine, 2014; Mallon and Fainshmidt, 2020), live in societies that experience extreme social disruption and turmoil. As such, the question of how changes in social institutions, such as the possibility of wealth accumulation and social status climbing, and cultural values in contemporary societies are related to entrepreneurial activities becomes more meaningful and worthy. Furthermore, as a disproportionate percentage of entrepreneurial activities occur before formal market entry (Moeen and Mitchell, 2020), examining pre-entrant entrepreneurial attempts can generate greater insights into entrepreneurial behaviors *ex ante*—that is, before the establishment of the business entity (Moeen and Agarwal, 2017). Therefore, guided by IAT, we propose a dynamic framework to examine how changes in social institutions and cultural values influence women’s pre-entrant entrepreneurial attempts.

To effectively capture changes in social institutions in theory, we integrate the social movements literature with IAT to provide arguments to justify our expectations of how cultural values and changes in social institutions affect women’s pre-entrant entrepreneurial attempts. Social movements are defined as “networks of informal interactions between a plurality of individuals, groups and/or organizations, engaged in political or cultural contentious conflicts, on the basis of shared collective identities” (Diani, 1992, p. 1). Social movement scholars view markets as politically and culturally contentious in which an ongoing interaction between challenging agents and defending incumbents leads to the formation of new markets and the decline of old markets. As such, in the social movement literature, one of the critical triggers of institutional changes is social unrest, referring to an expression of collective dissatisfaction with the political and social system, which manifests itself in “unconventional forms of protest, social venting, demonstrations, violent, and organized crime behavior” (Jovanovic *et al.*, 2014, p. 126). Although prior studies have examined how entrepreneurs develop different strategies in response to social unrest events (e.g. Hiatt and Sine, 2014; Mallon and Fainshmidt, 2020), we still lack societal-level evidence in entrepreneurship research. Thus, we seek to understand why women’s pre-entrant entrepreneurial attempts are either enabled or constrained by national cultural values, and how changes in urban social institutions resulting from social unrest could affect such a cultural impact.

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Given this discussion, we first build a theory based on comparing the speed of pre-entrant entrepreneurial attempts between female and male entrepreneurs. We theorize that women are quicker than men to engage in pre-entrant entrepreneurial attempts. Following the IAT, we then posit how social movements create contextual conditions that relate to higher levels of pre-entrant entrepreneurial attempts among female entrepreneurs. We test our hypotheses using a pooled time-series sample of 1,431 registered active individual users in 215 cities from a leading entertainment live-streaming platform in the People's Republic of China from 2017 to 2020. Our findings, which support our moderating hypothesis, make several important contributions to IAT, including developing a dynamic perspective of IAT. First, our study is arguably the first to adopt a dynamic perspective of IAT to explain and predict how and why urban institutional changes, rather than current or past social institutional conditions, could shape the influence of national cultural values on women's entrepreneurship. Second, with our empirical method, we theorize and develop hypotheses about the "duration" of pre-entrant entrepreneurial attempts. Third, our research contributes to the extant entrepreneurship literature by suggesting how national cultural values and social institutions could lead to pre-entrant entrepreneurial attempts.

## Theory background and hypotheses development

### *Changes in social institutions in IAT*

IAT was originally developed to explain the crime rate and deviance in contemporary societies due to specific social institutions and cultural values (Messner and Rosenfeld, 1997, 2012). The basic assumption of IAT is that societal members cope with anomic pressures by engaging in crime or other forms of deviance. Anomic pressure refers to the pressure that individuals feel to "depart from established conventions and norms that occurs because of the strain produced by an inconsistency between the culturally prescribed aspirations of a society and the socially structured avenues for accomplishing them" (Cullen *et al.*, 2014, p. 777). In this way, the general logic of IAT is to understand how individuals constrained by cultural values could break cultural constraints by leveraging opportunities provided by social institutions (Cullen *et al.*, 2004).

IAT has been widely applied in various contexts with important and broad social and economic implications. In terms of ethical attitudes and behavior, research has shown that both national cultural values and social institutions could significantly determine managers' willingness to justify ethically suspect behaviors in different countries (Cullen *et al.*, 2004). Other studies have demonstrated that national cultural values and social institutions could jointly influence firms' bribery decisions (Martin *et al.*, 2007). Moreover, evidence also suggests that the IAT framework could well explain the variation in workplace attitudes (Parboteeah and Cullen, 2003) and unethical decisions by women entrepreneurs when external environments become unfavorable to them (Kim *et al.*, Forthcoming).

While the bulk of prior IAT research has focused on what is considered negative deviance, a newer IAT stream has begun to focus on positive forms of deviance such as entrepreneurship (Cullen *et al.*, 2014), innovation (Nam *et al.*, 2014) and disruptive innovation (Kim *et al.*, 2020). For example, Cullen *et al.* (2014) suggested that values of achievement and wealth accumulation inherent to national cultures and social and political systems could either independently or jointly affect societal levels of anomic strain, thus determining national rates of entrepreneurial engagement. The bulk of such streams have argued that anomic pressures can also force societal members to engage in more constructive forms of deviance to cope with such pressures.

One particular challenge for IAT is its implicit assumption that social institution conditions remain stable over time. Although such an assumption is reasonable given that norms and ideologies inherent to social institutions are slow to change (DiMaggio and Powell, 1983), there is also ample evidence that a sizable portion of individuals (e.g. potential entrepreneurs) lives in turbulent societies with social disruptions, and their collective actions

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are dictated by such institutional changes. For example, in an analysis of the independent-power sector of the electricity industry from 1980 to 1992, [Sine et al. \(2005\)](#) found that both the levels and changes in the institutional environment significantly influenced the diversity of entrepreneurship. Therefore, the inclusion of changes in social institutions into the theoretical IAT framework could enrich the accounts of the extant IAT literature by developing a dynamic perspective of the theory.

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#### *Pre-entrant entrepreneurial attempt*

Conceptualizing the incubation stage of a new industry as the starting point of new industry take-offs, defined as the period prior to the first product commercialization ([Agarwal et al., 2017](#); [Moeen and Agarwal, 2017](#)), entrepreneurship scholars have gained deep insights into how an industry emerges, grows and declines ([Agarwal et al., 2004](#)). Nonetheless, a systematic investigation into entrepreneurial activity during the incubation stage is still scant ([Agarwal et al., 2017](#)). Recent studies have observed that there indeed exists active and frequent pre-entrant entrepreneurial activity during this stage, which sets in motion the subsequent new industry take-offs and entrepreneurial growth ([Moeen and Agarwal, 2017](#); [Moeen and Mitchell, 2020](#)). From this perspective, a pre-entrant entrepreneurial attempt, or an entrepreneurial effort in “the period between an initial trigger event and the first instance of product commercialization” ([Agarwal et al., 2017](#), p. 288), deserves scholarly attention. Although there exists immense uncertainty about an industry’s future trajectory during the incubation stage, its promise also attracts individuals to engage in entrepreneurial activities during this stage. Particularly, pre-entrants are found to substantially invest in early technology and product development and hence may harvest considerably from such early investments in the future ([Moeen and Agarwal, 2017](#)). To manage resource scarcity, pre-entrants also strategically employ various tactics such as alliances and acquisitions to access technical capabilities and complementary resources ([Moeen and Mitchell, 2020](#)). In this way, a pre-entrant entrepreneurial attempt is an important entrepreneurial behavior that depicts and determines the scope and features of the post-entry entrepreneurial activity. One important manifestation of pre-entrant entrepreneurial attempt is live-streaming activity on the platform.

#### *Platform-based live-streaming activity*

Women’s entrepreneurial behavior is largely shaped by their immediate environment, as women’s self-perceptions and resultant opportunity recognition “are closely linked to the environment in which entrepreneurship takes place” ([Bruin et al., 2007](#), p. 330). This embeddedness view of women entrepreneurship demands that the application of the dynamic IAT framework on the topic of women entrepreneurship should consider specific cultural values and societal conditions that influence women’s ambitions to pursue opportunities.

The cross-national evidence has documented that family collectivism, or the degree to which people and their families are interdependent and to which pride and loyalty are expressed in and to their families ([House et al., 2004](#)), serves as a salient cultural value that is positively associated with entrepreneurship ([Cullen et al., 2014](#)). One particular culture that largely stresses both the family and collectivism is Confucian culture ([Zapalska and Edwards, 2001](#)). Because of the relative importance of Confucian cultural values in Chinese society, our study focuses on China’s context as the illustrative case to address our research question in the hope of enhancing the generalizability of our theoretical framework for other countries that share similar cultural core values. Equally important, the literature on Chinese entrepreneurship suggests that Chinese entrepreneurship is Schumpeterian type or opportunity-driven entrepreneurship ([Nee and Opper, 2012](#); [Yang, 2007](#)). In this way,

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grounding our analysis in China is consistent with the inherent logic of an opportunity-driven IAT (Cullen *et al.*, 2014) upon which we develop our dynamic perspective.

The first step in applying IAT is to analyze and evaluate the specific contexts in which creative deviance occurs. For several reasons, we argue that platform-based live-streaming activity is particularly appropriate for studying women's pre-entrant entrepreneurial attempts as a creative deviance. First, before engaging in live-streaming activity for monetary rewards, individual users must deliver creative content to elicit a large number of followers. Persistent efforts in developing creative content for attracting followers constitute the entrepreneurial nature of individuals' live-streaming activities (Shane and Venkataraman, 2000). Second, making profits on the platform does not require the registration of any legal entities. In this way, individual users do not necessarily need to sacrifice their full-time jobs to participate in live-streaming activities. From this perspective, live-streaming is a pre-entrant entrepreneurial attempt by nature (Agarwal *et al.*, 2017; Moeen and Agarwal, 2017). To ensure equal opportunities, the platform also adopts a decentralized computing algorithm (Pandl *et al.*, 2020). Individual users need to only deliver high-quality content to attract followers rather than relying on the platform's central management. In this way, women are likely to enjoy equal opportunities with men as entrepreneurs and hence become motivated to participate in live-streaming activities on the platform. Indeed, according to iiMedia Report 2019–2020 [1], the number of Chinese female online live-streaming users (i.e. 41.1%) was not substantially less than that of male online live-streaming users.

Finally, studying platform-based live-streaming activities offers an opportunity to explore the dynamics of pre-entrant entrepreneurial attempts. In particular, platform users can register their accounts well before the date on which they publish initial content in the hope of reaping profits from the content. Such an early-stage activity might feature an assessment of the emerging opportunity (Autio *et al.*, 2013) in which platform users can apply socially constructed rules to judge the magnitude and the attractiveness of the opportunity (Wood and Williams, 2014). This early-stage activity might also involve an organizing process (Reynolds and White, 1997) that includes obtaining the necessary resources, establishing video productions, and creating a support system of routines and structures in the interface between the entrepreneur and his or her family (Aldrich and Cliff, 2003). Next, we will discuss the gendered difference in such pre-entrant entrepreneurial attempts.

#### *Gendered difference in live-streaming activity in China*

Although Chinese culture endorses entrepreneurship in general (Redding, 1991), men and women are subject to different expectations and constraints. Early Confucian classics inform us that “women's words should not be heard beyond the inner quarters” (Mann and Cheng, 2001, p. 2). Men are expected to venture outside the realm of the family and glorify it, whereas women are often portrayed as those who stay at home, take care of household and family members, and support their husbands behind the scenes. This is also consistent with the extant gender theories in which men exhibit a more masculinity-driven leadership style (i.e. aggressiveness, accomplishment, status-driven) while women are more communal by taking care of others and being a good listener in the group (i.e. caring, listening, consider group members' concerns in final decisions) (Eagly, 1987). These role expectations have been reflected in stakeholders' support of new venture growth. For example, research has demonstrated that female entrepreneur status is negatively related to new venture growth in China (Arregle *et al.*, 2015). An entrepreneur role requires a female to step out of the family, sacrifice her family duties and issue directives to both men and women employees. Meanwhile, men have been portrayed as a role of instructing how women should behave in China's history (Mann and Cheng, 2001), and hence it is not surprising that women



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entrepreneurs have a cultural disadvantage in contemporary China (Ma and Parish, 2006). As a result, the entrepreneur role expectation is incongruent with women's gender role expectations in Chinese culture. In other words, women encounter much higher pressure when engaging in live-streaming activity (Eagly and Karau, 2002), especially when such an activity is opportunity-driven rather than necessity-based.

As China has undergone an impressive economic reform, new generations of entrepreneurs may take different attitudes and approaches from their predecessors (Nee and Opper, 2012; Zapalska and Edwards, 2001). This suggests that the chance of women to become entrepreneurs may be the same as that of men. Nonetheless, we argue that core cultural values are difficult to change over time and hence may still exert a negative influence on women's motivation and ability to engage in live-streaming activity on a platform. Following the IAT tradition in theorizing pre-entrant entrepreneurship as a form of creative deviance (Cullen *et al.*, 2014), we believe that women entrepreneurs might have more hindrances and challenges—that is, they are under heavier anomic strain. As a result, IAT logic would suggest that women would be more willing to pursue entrepreneurial endeavors as creative deviance from cultural prescriptions in order realize their dreams of wealth accumulation or status enhancement. For example, research has demonstrated that under higher pressure, women entrepreneurs tend to take riskier behaviors such as firm bribery to overcome environment-imposed constraints in attaining their goals (Kim *et al.*, Forthcoming).

As Huang *et al.* (2020, p. 356) reported, “the percentage of female 18–64 population who are either a nascent entrepreneur or owner-manager of a new business in China, as divided by the equivalent percentage for their male counterparts, is consistently higher.” Given the prevalence of women entrepreneurship in China, the theoretical prediction using IAT at the faster speed of women's pre-entrant entrepreneurial attempts may not seem to be new or perhaps quite expected. Hence, we only included the cultural impact on women pre-entrant entrepreneurship as a baseline hypothesis. That is, our *baseline hypothesis* predicts that women tend to engage in live-streaming activity at a faster speed compared with their male counterparts.

#### *Contextual effects: institutional change, IAT, and the social movements literature*

Although there are several types of institutions, such as educational or religious institutions, that can potentially affect women's pre-entrant entrepreneurial attempts, the extant entrepreneurship literature largely remains salient about the role of unrest in social institutions. From restaurant owners to high-tech capitalists, entrepreneurs exhibit high responsiveness to social unrest events by developing various coping strategies (Biggs and Andrews, 2015; Hiatt and Sine, 2014; Mallon and Fainshmidt, 2020). From this perspective, social unrest is salient and relevant in the entrepreneurship context. As such, we include social unrest events as opposed to other institutional change triggers in our theoretical framework. Social unrest has produced far-reaching social and economic ramifications (Biggs and Andrews, 2015), and has been shown to considerably affect strategies and business organization performance (Hiatt and Sine, 2014; Mallon and Fainshmidt, 2020). For example, research has shown that local protests toward new store proposals significantly shape the market expansion strategies of supermarkets such as Walmart (Rao *et al.*, 2010) and Target (Yue *et al.*, 2013).

However, the possible implications of perceived social institutional changes resulting from social unrest have not been systematically investigated in the IAT framework, as the literature has not examined how a change in social institution could motivate creative societal deviance by creating anomic strain through its joint effect with cultural values. This is an important gap in IAT as it limits the theory's explanation power of attitudes and behaviors in contexts where social disturbance and changes occur. As Cullen and colleagues assert,

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“future research might extend IATOE model by considering other social institutions not identified specifically by IAT but perhaps having moderating effects similar to those observed here” (Cullen *et al.*, 2014, p. 799).

Social movement studies have become increasingly popular in the management literature and hence garnered substantial scholarly attention. Such perspectives help frame theoretical foundations for explaining and predicting possible consequences of perceived social institutional changes due to social unrest (Giugni, 1998; King and Pearce, 2010). By integrating the social movements literature with IAT and explicating social unrest as the mechanism, our study seeks to partially fill these gaps. We suggest that the impact of national cultural values on opportunity-driven entrepreneurship or creative deviance will be shaped by perceived changes in social institutions that result from social unrest events, thus leading to a dynamic perspective of IAT.

#### *Social unrest as a signal for change in the social stratification system*

The IAT framework suggests that social institutions enable or constrain the impacts of national cultural values (Martin *et al.*, 2007). It has been also demonstrated that social institutional conditions affect the impact of national cultural values on entrepreneurship because those at the lower end of the social status class are disproportionately denied access to opportunities for achieving culturally valued objectives of wealth accumulation and status attainment (Cullen *et al.*, 2014). According to Merton (Merton, 1938, 1968), this block to goal attainment constitutes anomic strain that motivates creative deviance; it also implies that institutional changes that lead to goal achievement may revert constraining cultural forces on pre-entrant entrepreneurial attempts.

Following this logic, we propose that perceived changes in social institutions, signaled by social unrest events, and national cultural values produce a joint effect on women’s pre-entrant entrepreneurial attempts by informing the public the possibility of obtaining fairness, justice, and “freedom” in local institutional environments (Audretsch and Moog, 2020), thus affording a sense of gender equality. As a result, anomic strain is created for women, pressuring them to deviate from the cultural prescription of gender roles. The key arguments that will be subsequently discussed are summarized in Figure 1.

Specifically, social unrest, in and of itself, may lead to disruptive institutional changes that produce both expected and unexpected consequences for entrepreneurial activities (Biggs and Andrews, 2015). Past social unrest events indicate that underlying social tensions in the urban social stratification system had emerged and erupted. More importantly, social unrest signals to people that they may have opportunities to speak out to secure social fairness and justice (Jovanovic *et al.*, 2014). Even if municipal governments temporarily resolve urban social unrest with a variety of political and economic tactics such as repression and political maneuver (Cai, 2020; Lee and Zhang, 2013), political leaders and cadres must take such events seriously and actively seek *ex-post* solutions to avoid a repetition of events. To clarify our theoretical model, we have also included Figure 2. Figure 2 shows that the occurrence of social unrest positively moderates the relationship between gender and speed of engaging in live-streaming activity.

This is particularly true for developing countries such as China, because maintaining social security and stability and promoting economic growth are the two important concerns for the state (Ang, 2016). Meanwhile, China’s central government implemented the “one veto rule” for political leaders and cadres at both province- and city-levels; that is, “failure in one policy area will negate all other accomplishments by the government unit and deprive officials of bonuses, promotion, and the eligibility of the unit to compete for organizational honors” (Lee and Zhang, 2013, p. 1484). Given the relative importance of maintaining social security and stability for city government officials and cadres in China (Ang, 2016), they will

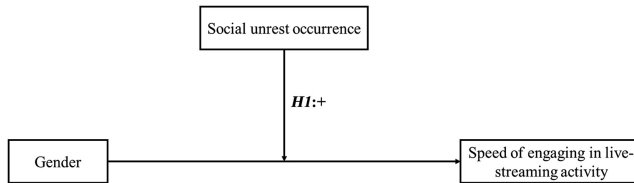


Perception of Social Institutional Change (fairness/justice)

|        |        | Absent  | Present   |
|--------|--------|---|---|
| Gender | Female | <p><b>Creative Deviance</b></p> <ul style="list-style-type: none"> <li>○ Cultural values prescribe women’s role in households and workplace.</li> <li>○ The path leading to high status and wealth accumulation is blocked for women.</li> <li>○ Anomie strain is created for women.</li> <li>○ Women will engage in creative deviance.</li> </ul>      | <p><b>Creative Deviance</b></p> <ul style="list-style-type: none"> <li>○ Social unrest events signal changes in social institutions.</li> <li>○ Perceived changes in social institutions provide the means of obtaining high status and wealth for women, which enables the effect of anomie strain that results from cultural values.</li> <li>○ Women tend to engage in creative deviant entrepreneurial attempts.</li> </ul> |
|        | Male   | <p><b>Cultural Advantage</b></p> <ul style="list-style-type: none"> <li>○ Chinese culture encourages men’s pursuit of honor, status, and achievement for family.</li> <li>○ Men tend to engage in entrepreneurial attempts to realize and demonstrate self-worth.</li> <li>○ No anomie strain is created.</li> <li>○ No deviance is aroused.</li> </ul> | <p><b>Cultural Advantage</b></p> <ul style="list-style-type: none"> <li>○ Social unrest events signal changes in social institutions.</li> <li>○ Perceived changes in social institutions provide the means of obtaining high status and wealth for women.</li> <li>○ Men’s cultural advantage in pursuing entrepreneurial attempts is reduced.</li> </ul>  |

Source(s): Figure by authors

Figure 1. Interaction between gender and social unrest



Source(s): Figure by authors

Figure 2. The conceptual model

be particularly astute and diligent in developing *ex-post* and *ex ante* solutions for social security and stability (Cai, 2020).

Knowing that a collective pursuit for fairness and justice as indicated by social unrest may change local institutional environments due to local governments’ motivation and efforts to effectively manage such unrest, women tend to believe they might enjoy equal opportunities or have the “freedom” (Audretsch and Moog, 2020) to gain social status and respect through their pre-entrant entrepreneurial attempts. Despite the fact that women are culturally discouraged to pursue such attempts, social unrest events, or resultant perceived changes in local social institutional conditions, prolong anomie conditions for women. Indeed, evidence also shows that socio-political unrests particularly matter to female entrepreneurs in developing countries (Jaim, 2022). As a result, women are motivated to engage in creative deviance at a faster speed than their male counterparts to cope with such anomie pressures.

In contrast, the occurrence of social unrest likely reduces men’s cultural advantage, as male-status legitimacy in pursuing pre-entrant entrepreneurial attempts is challenged in perceived changing local institutional environments (i.e. cities). Accordingly, the speed of men engaging in live-streaming activity on a platform is slowed. Therefore, we expect:

H1. The occurrence of social unrest events in a city where a female resides increases her speed of engaging in live-streaming activity compared with her male counterpart.

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## Methods

### *The entertainment live-streaming platform*

We study a leading entertainment live-streaming platform in the People's Republic of China that promotes the sharing of everyday lives and stories. According to the iiMedia Report 2019–2020, it was ranked as one of the 12 preeminent entertainment live-streaming platforms in China in 2019. The platform's revenue grows from \$1,234 (¥8,339) mn in 2017 to \$8,523 (¥58,776) mn in 2020 [2]. Meanwhile, the average number of monthly active users also increased from 136mn in 2017 to 481mn in 2020. In particular, the platform successfully went public with a market value of \$5,400mn in 2020. In the platform, individual users can earn monetary rewards by engaging in live-streaming activities.

### *Data and sample*

To construct the sample, we relied on the data from two sources: hand-collected pooled time-series data at the individual-level and city-level economic development data. To ensure that the selected live-streaming activity is entrepreneurial, our dataset consists of daily data on a randomly selected population of 1,431 registered active individual users who have a minimum of 10,000 followers. We limited our search to such users because the 10,000 followers is the threshold from which individual users can be qualified for participating in the entrepreneurship incentive plan launched by the platform. More specifically, the platform launched an entrepreneurship incentive plan in 2016 that invited all users whose followers reached the targeted milestone ( $\geq 10,000$  followers) to participate in and share the platform's advertisement revenues by posting floating ads in their popular videos. Accordingly, reaching this milestone from the perspective of the platform demonstrates that individual users' persistent live-streaming activities are entrepreneurial by nature. Our window of observation is from January 1st, 2017 to December 31st, 2020 [3], and we are only interested in those users who registered and opened their accounts on the platform during this period. We selected January 1st, 2017 as our starting date because the platform launched its live-streaming service at the very end of the year 2016. Given the ambiguity of the date, we set January 1st, 2017 as the beginning date of time window. Finally, our sample does not include users from Hong Kong and Macau because of their distinct social, political, and economic systems as China's special administrative regions. The exclusion of such observations may not affect our interpretations of the results because there are only five observations from Macau and one observation from Hong Kong. In terms of geographical distribution, individual users in our sample were located in 215 cities from 30 provinces in China.

Second, we collected data about social unrest events from multiple sources, such as Bloomberg Chinese, New York Times Chinese, the Epoch Times, and Voice of America Chinese. We further verified these events using both *sina.com* [4] and *Wisearch* databases. We were only interested in those salient media covering social unrest events because they are highly visible and likely to lead to changes in social institutions (King and Soule, 2007). After the removal of the observations that could not be verified in either *sina.com* or *Wisearch* database, we finally identified 16 cities in our sample that experienced social unrest. To complement the hand-collected pooled time series data, we also collected economic development data on the 215 cities from *China City Statistical Yearbook 2016–2020*.

### *Dependent variable*

Time to Pre-Entrant Entrepreneurial Attempt (TFPEEA). We used survival analysis as our primary empirical method. Survival analysis employs both a binary variable capturing whether an event occurs as the risk set and the elapsed time from time zero to the date on which the event occurs or the ending date of the time window to calculate a hazard rate or a

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speed. In particular, we regarded the very first live-streaming activity as the specific event in this study.

Accordingly, to estimate the effects of independent variables on the instantaneous rate of engaging in the very first live-streaming activity, we measured *TFPEEA* in two parts. First, we believe that individual users are “at-risk” of experiencing their very first live-streaming activity on the platform. In this way, we measured engagement in live-streaming activity with a dichotomous variable, which takes a value of one if an individual user posted his or her very first live-streaming video during our time window and zero otherwise (no = 0; yes = 1). Second, we calculated the elapsed time since the individual user account registration date. We counted the number of days between the date on which an individual user registered his or her account on the platform and the date on which his or her very first live-streaming video was posted. Note that the elapsed time captures the duration of the incubation stage, in which more elapsed time implies a slower pace in initiating the very first pre-entrant entrepreneurial attempt.

#### *Independent variables*

**Gender.** To capture how national cultural values determine an individual’s deviant pre-entrant entrepreneurial attempt in the platform because of gender status, we created a dummy variable, which is equal to one if the user is a female and zero otherwise (no = 0; yes = 1).

**Social unrest.** Research has shown that “social unrest can be seen as an extreme expression of social mobilization with major impacts for society, with the proviso that the extent of the term ‘major’ is subject to wide cultural, social and individual interpretations” (Jovanovic *et al.*, 2014, p. 126). Prior studies have systematically examined such collective events in the Chinese context, including their origins, micro-strategies, and social ramifications (Cai, 2020; Lee and Zhang, 2013; Yu, 2009). Officially, the Chinese government defined social unrest events (*Qun Ti Xing Shi Jian*) as the ones that satisfy the following criteria: 1) are caused by social conflicts among targeted groups or temporally organized groups but limited to contradictions among people, and 2) break out through sizable illegal social gathering (Ye, 2009). Accordingly, we created a dummy variable, indicating whether in the year preceding an individual account registration, there were any of those social unrest events as defined above that occurred in the city where the individual user account was registered in the platform (no = 0; yes = 1). For example, if an individual user was registered in the platform in 2017 in the city of Qingdao, then the variable was equal to one if there were any social unrest events that occurred in Qingdao in 2016 and zero otherwise. Such a deed further ensures the direction of causality, as the moderator (social unrest) is coded according to social events one year prior to the registration date of each individual user.

#### *Control variables*

We included a series of controls to rule out alternative accounts that relevant city-level factors may contribute to the variations in *TFPEEA*. First, during China’s reform and opening up, the central authority tolerated and accepted temporal regional inequality of economic development as part of national development strategy (Ang, 2016), thus resulting in the establishment of special economic zone (*SEZ*) or coastal open city (*coastal\_open\_city*) that were designed to support and promote entrepreneurial endeavors (Ang, 2016; Huang, 2008; Nee and Oppen, 2012). In particular, China’s central government designated nine *SEZs* and 16 coastal open cities before 2017. As a result, we created two city-level dummies *SEZ* and *Coastal\_open\_city* to indicate the status of the focal city one year preceding the time when the individual user registered in the platform and zero otherwise (no = 0; yes = 1). Moreover, to rule out the possibility that pre-entrant entrepreneurial attempts in the platform were

triggered by sustained economic growth in the focal cities (Huang, 2008; Nee and Opper, 2012; Yang, 2007), we controlled for the city-level *GDP Growth Rate*.

Prior studies have demonstrated that regional economic and development factors may considerably influence regional entrepreneurship in China (Huang, 2008). Following the earlier studies (Huang, 2008; Yang, 2007), we controlled those factors, such as city-level unemployment, healthcare infrastructure, and transportation, to rule out the possibility that regional entrepreneurship was promoted by them. Specifically, we included number of unemployed people in a city (*Num\_unemployed*) (Conti and Roche, 2021), number of hospitals in a city (*Num\_hosp*) (Huang, 2008), and the number of buses and trolley buses under operation at year-end in a city (*Num\_bus*) (Ang, 2016). Information about regional economic and development control variables was collected from *China City Statistical Yearbook 2016–2020*. To make the coefficients of these three variables more interpretable, we divided the original values of these three variables by 10,000. Finally, to consider unobservable influences of economic and social factors, we also included year dummies (year 2017–2019), which are the starting years in which individual users registered in the platform. To ensure causal inference, we lagged all city-level control variables by one year from the time zero and clustered all observations within province IDs.

### Estimation procedures

Because our observation window is finite (from the date on which individuals registered in the platform to December 31st, 2020), our dependent variable is right-censored by nature (Allison, 1999), considering both the event and the elapsed time from the registration date on the platform to the event date. In this way, our dependent variable well captures the concept of speed, as stated in our theory. Moreover, according to the iiMedia report 2019–2020, the number of active live-streaming users in China has steadily grown from 2016 to 504mn in 2019 and is expected to keep up the same trend in the future. From this perspective, the legitimacy of the platform seems to be accentuated in China over time. Accordingly, the *TFPEEA* was expected to become higher over time. Considering these issues, we followed the suggestions of a previous study (Jiang *et al.*, 2017) and adopted maximum likelihood estimation for parametric regression survival-time models (i.e. Weibull survival analysis), an event-history approach, to test our hypotheses. Particularly, we specified the models with Weibull distribution and frailty within province IDs (STATA 14.2 command *streg . . . . distribution(weibull) shared ( )*) (Cleves *et al.*, 2008). Our estimates are all derived from the following hazard function:

$$h(t_i) = h_0(t) \times \exp \left[ \sum \beta_k \times x_{ik}(t) \right],$$

where  $h_0(t)$  refers to the baseline hazard function for Weibull regression,  $x_{ik}(t)$  denotes the value of the  $k$ th independent variable for the individual user  $i$  at time  $t$  when he or she registered in the platform, and  $\beta_k$  is the vector of parameters of  $x_{ik}(t)$ .

A central assumption in a proportional hazards model is proportionality (Fine and Gray, 1999), suggesting that the hazard for one individual observation should be a fixed proportion of the hazard for any other individuals in the sample. To test whether our results hold for this assumption, we employed the *stphtest* command in STATA 14.2. We did not find any evidence of significant violation of the proportionality assumption. Moreover, because STATA 14.2 does not allow us to include both robust estimator and frailty simultaneously, we re-ran the analyses in Models 1–3 of Table 2 by including only a robust estimator (STATA 14.2 command *streg . . . . distribution(weibull) vce(robust)*). The results remain consistent with our main findings.

To enhance causal inference in interpreting the results for our baseline hypothesis, or to exclude the endogeneity issue driven by gender-related selection bias, we implemented

propensity-score matching (PSM) using gender as a treatment (Abadie and Imbens, 2008). More specifically, we tested the same analysis in Model 2 of Table 2 using PSM along with all control variables and specified the model with a robust estimator (*STATA 14.2 command teffects psmatch . . . . vce(robust)*).

## Results

Table 1 presents the descriptive statistics and correlations for the variables used in our analyses. The variance inflation factor (VIF) values are consistently less than 4 across all models (the maximum VIF = 1.81), and all condition indices (CI) values are below 30 (maximum CI = 10.85). Thus, multicollinearity appears to have a minimal effect on our interpretations of the results (Belsley *et al.*, 1980; Greene, 2012; Nachtsheim *et al.*, 2004).

Table 2 reports the results of the Weibull survival analysis. In Model 1 of Table 2, we provide the baseline model by including only control variables. As shown in Model 1, the odds ratio of SEZ is larger than one (odds ratio = 2.30,  $p = 0.017$ ). There is statistical evidence to suggest that individual users who reside in special economic zones are more likely to engage in live-streaming activity as these cities are generally associated with munificent entrepreneurial environments (Ang, 2016; Nee and Opper, 2012; Yang, 2007).

In Model 2 of Table 2, the odds ratio of gender is 0.58 and reaches the significance threshold of 0.05 ( $SE = 0.12$ ,  $p = 0.006$ ), indicating that female status is associated with 42% (i.e. 1–0.58) decrease in the hazard rate of engaging in live-streaming activity. In other words, our results show that women are slower, rather than faster, to engage in live-streaming activity on the platform, which is opposite to our baseline hypothesis. As mentioned above, we also conducted PSM by taking gender as a treatment. Employing the dichotomous variable of live-streaming activity as our dependent variable (no = 0; yes = 1), we re-ran the same analysis in Model 2 of Table 2 by including all control variables along with a robust estimator. There is statistical evidence that the effect of *gender on TFPEEA* is negative ( $\beta = -0.04$ ,  $p = 0.005$ ), which is consistent with our main findings in this regard. To further ensure the robustness of our methods, we re-analyzed our data with logistic regression by using the dichotomous variable of the very first live-streaming activity as our dependent variable (no = 0; yes = 1). The odds ratio of gender is 0.59 and reaches the significance threshold of 0.05 ( $SE = 0.12$ ,  $p = 0.010$ ), which remains consistent with our main findings in Model 2. Hence, it seems that our results may not be affected by our choice of empirical strategy.

Hypothesis 1 posits that the occurrence of social unrest events in the past increases the speed of women to engage in live-streaming activity. Hypothesis 1 is supported (Model 3,

| Variables           | <i>M</i> | <i>S.D.</i> | 1     | 2     | 3     | 4     | 5     | 6    | 7    | 8    | 9    |
|---------------------|----------|-------------|-------|-------|-------|-------|-------|------|------|------|------|
| 1 TFPEEA            | 0.09     | 0.28        | 1.00  |       |       |       |       |      |      |      |      |
| 2 Gender            | 0.43     | 0.49        | -0.07 | 1.00  |       |       |       |      |      |      |      |
| 3 Social unrest     | 0.18     | 0.38        | 0.03  | -0.01 | 1.00  |       |       |      |      |      |      |
| 4 SEZ               | 0.07     | 0.25        | 0.07  | -0.00 | 0.14  | 1.00  |       |      |      |      |      |
| 5 Coastal_open_city | 0.16     | 0.37        | 0.02  | 0.01  | -0.08 | 0.25  | 1.00  |      |      |      |      |
| 6 GDP Growth Rate   | 6.46     | 1.90        | -0.00 | -0.01 | -0.02 | -0.07 | -0.08 | 1.00 |      |      |      |
| 7 Num_unemployed    | 0.81     | 5.18        | -0.01 | 0.03  | 0.02  | 0.03  | 0.05  | 0.01 | 1.00 |      |      |
| 8 Num_hosp          | 0.03     | 0.18        | 0.00  | -0.09 | 0.18  | -0.02 | -0.06 | 0.07 | 0.01 | 1.00 |      |
| 9 Num_bus           | 0.08     | 0.08        | 0.02  | -0.01 | 0.51  | 0.40  | 0.21  | 0.09 | 0.04 | 0.18 | 1.00 |

**Note(s):** Correlations with absolute value of 0.05 or above reach significance threshold of 0.05

$N = 1,329$

Max VIF = 1.81

**Source(s):** Table by authors

**Table 1.**  
Correlations and  
descriptive statistics

| Variables                    | Model 1<br>Only controls |                 | Model 2<br>Hypothesis 1 |                 | Model 3<br>Hypothesis 2 |                 |
|------------------------------|--------------------------|-----------------|-------------------------|-----------------|-------------------------|-----------------|
|                              | Hazard ratio<br>(SE)     | <i>p</i> -value | Hazard ratio<br>(SE)    | <i>p</i> -value | Hazard ratio<br>(SE)    | <i>p</i> -value |
| Gender                       |                          |                 | 0.58(0.12)              | 0.006**         | 0.47(0.11)              | 0.001**         |
| Social unrest                |                          |                 | 1.38(0.41)              | 0.272           | 1.00(0.35)              | 0.990           |
| Gender × Social<br>unrest    |                          |                 |                         |                 | 2.53(1.19)              | 0.048*          |
| SEZ                          | 2.30(0.81)               | 0.017*          | 2.33(0.83)              | 0.017*          | 2.34(0.83)              | 0.017*          |
| Coastal_open_city            | 1.12(0.32)               | 0.683           | 1.21(0.36)              | 0.508           | 1.22(0.36)              | 0.490           |
| GDP Growth Rate              | 1.02(0.05)               | 0.764           | 1.02(0.06)              | 0.672           | 1.02(0.06)              | 0.677           |
| Num_unemployed               | 0.91(0.17)               | 0.611           | 0.88(0.16)              | 0.477           | 0.88(0.16)              | 0.491           |
| Num_hosp                     | 2.74(1.42)               | 0.053           | 2.35(1.22)              | 0.099           | 2.64(1.38)              | 0.063           |
| Num_bus                      | 0.87(1.10)               | 0.914           | 0.44(0.62)              | 0.562           | 0.44(0.62)              | 0.559           |
| Constant                     | 0.00(0.00)               | 0.000***        | 0.00(0.00)              | 0.000***        | 0.00(0.00)              | 0.000***        |
| Clustered by<br>Province IDs | Yes                      |                 | Yes                     |                 | Yes                     |                 |
| Year dummies                 | Included                 |                 | Included                |                 | Included                |                 |
| Log likelihood               | -417.91                  |                 | -413.24                 |                 | -411.33                 |                 |
| Wald Chi-square              | 117.80                   |                 | 127.13                  |                 | 130.95                  |                 |
| <i>N</i>                     | 1,329                    |                 | 1,329                   |                 | 1,329                   |                 |

**Note(s):** The hazard rate of engaging in the very first live-streaming activity is the dependent variable. We report odds ratios, standard errors (SE), and *p* values. Odds ratios are interpreted as the proportional change in hazard rate from a one-unit increase in the predictor of interest. The value of one indicates no change. The values less than one suggest that increases in predictors of interest decrease the hazard rate, and those greater than one denote that increases in predictors of interest increase the hazard rate

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Source(s):** Table by authors

**Table 2.**  
Weibull survival model  
of live-streaming  
activity

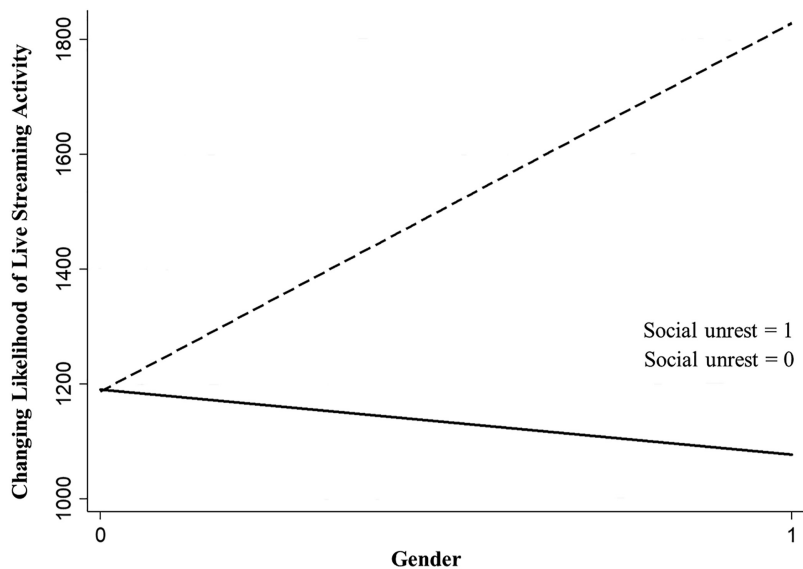
Table 2), as the odds ratio for the interaction between gender and social unrest is 2.53 and reaches a significance threshold of 0.05 ( $SE = 1.19, p = 0.048$ ), indicating that female users who reside in the cities where social unrest events occurred in the past will engage in live-streaming activity in the platform at a faster speed. To visualize the moderating effect of social unrest on the relationship between gender and *TFPEEA*, we also drew Figure 3. According to Figure 3, the effect of gender on *TFPEEA* weakens when social unrest events occurred in the focal city in the past, thus lending further support to Hypothesis 1.

### Post-hoc analysis

Our theory focuses on exogenous social unrest events as an indication of perceived changes in social institutions that constrain the impact of cultural values on economic reasoning. However, women entrepreneurs are not homogeneous. One established line in the entrepreneurship literature claims that when the scale of business is relatively small, entrepreneurs might suffer from “liability of smallness” defined as various risks that might cause the dying of small-sized businesses (Freeman *et al.*, 1983; Strotmann, 2007). In our context, “smallness” indicates a low level of individual influence. Thus, we remain curious about whether our hypothesized gender effect might change when these entrepreneurs grow in their scales of influence. Relevant to the IAT framework, this raises the question of whether heterogeneous attributes of individual agents should be included in the existing IAT models.

Interestingly, there exist two alternative explanations. First, when their influence grows, potential entrepreneurs, especially those with inferior social positions such as women, might





**Figure 3.**  
The moderating effect  
of social unrest

Source(s): Figure by authors

develop stronger protection against prevailing social expectations and the isomorphic pressure aligned with the discrimination. Thus, an inclined level of influence weakens the impact of cultural values. In comparison, it can also be argued that the increasing influence might sharply contrast with the visibility of women entrepreneurs (Fiske and Taylor, 2013). In other words, there is a strengthened incongruence between gender role and influencer role (Eagly and Karau, 2002), thus putting women entrepreneurs in a much more challenging position (Brush *et al.*, 2019). In other words, gender-based social bias strengthens the impact of cultural values.

To examine the relative importance of the two alternative accounts, we split our sample based on the number of followers that each user accumulates to the most recent. Then, we subtracted 10,000 followers from the total number of followers to reflect the additional individual efforts in boosting personal influence in the platform once one is qualified as an entrepreneur in the platform. Next, we re-ran the analysis in Model 2 of Table 2 in the subsamples in which the number of subtracted followers is equal and less than the 25th percentile (invisible users) and the number of subtracted followers is equal and larger than the 75th percentile (key influencers). Table 3 reports the results. As shown in Table 3, in the subsample of invisible users, the odds ratio of gender is 0.35 ( $SE = 0.52$ ,  $p = 0.481$ ), indicating that there is no statistical evidence that invisible users are subject to national cultural impact. However, in the subsample of key influencers, the odds ratio of gender is 0.33 ( $SE = 0.16$ ,  $p = 0.019$ ), suggesting that there is statistical evidence that female key influencers are subject to national cultural impact. Hence, the impact of cultural values is strengthened.

Overall, the evidence in Table 3 suggests that for women entrepreneurs in the platform, the “liability of smallness” cannot be simply neutralized by an inclined level of influence or enhancing visibility in the platform. Visibility in women entrepreneurship seems to result in an increased level of incongruence between gender roles and influencer roles that is, the “liability of smallness” seems to grow stronger when women entrepreneurs become more visible. As a result, the common wisdom that scale growth can endogenously deal with the

| Variables                 | Number of subtracted followers<br>≤25th percentile |                 | Number of subtracted followers<br>≥75th percentile |                 | Gendered<br>pre-entrant<br>entrepreneurial<br>attempt |
|---------------------------|--|-----------------|--|-----------------|---|
|                           | Hazard ratio (SE)                                  | <i>p</i> -value | Hazard ratio (SE)                                  | <i>p</i> -value |   |
| Gender                    | 0.35(0.52)   | 0.481           | 0.33(0.16)   | 0.019*          |   |
| Social unrest             | 27.73(211.75)                                      | 0.664           | 1.02(0.61)   | 0.969           |   |
| SEZ                       | 0.00(230.23)                                       | 1.000           | 1.82(1.46)   | 0.456           |   |
| Coastal_open_city         | 0.00(0.00)   | 1.000           | 1.90(0.96)   | 0.204           |   |
| GDP Growth Rate           | 1.01(0.37)   | 0.976           | 1.04(0.11)   | 0.709           |   |
| Num_unemployed            | 1.00(0.00)   | 0.047*          | 1.00(0.00)   | 0.676           |   |
| Num_hosp                  | 1.00(0.01)   | 0.648           | 1.00(0.00)   | 0.016*          |   |
| Num_bus                   | 1.00(0.00)   | 0.382           | 1.00(0.00)   | 0.690           |   |
| Constant                  | 0.00(0.00)   | 0.011*          | 0.00(0.00)   | 0.000***        |   |
| Clustered by Province IDs | Yes  |                 | Yes  |                 |   |
| Year dummies              | Included   |                 | Included   |                 |   |
| Log likelihood            | -8.51  |                 | -55.47   |                 |   |
| Wald Chi-square           | 20.40  |                 | 71.41  |                 |   |
| <i>N</i>                  | 125  |                 | 137  |                 |   |

**Note(s):** The hazard rate of engaging in the very first live-streaming activity is the dependent variable. We report odds ratios, standard errors (SE), and *p* values. Odds ratios are interpreted as the proportional change in hazard rate from a one-unit increase in the predictor of interest. The value of one indicates no change. The values less than one suggest that increases in predictors of interest decrease the hazard rate, and those greater than one denote that increases in predictors of interest increase the hazard rate

\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

**Source(s):** Table by authors

**Table 3.** Post-hoc analysis: main effect between key influencers and invisible users

“liability of smallness” seems inappropriate, at least for women entrepreneurs in the transitional economy. In sum, our findings imply that influential women entrepreneurs are slower to realize wealth accumulation in the context of the Chinese platform, as they may encounter stronger gender-based social bias.

## Discussion

Integrating the social movements literature with IAT, our study develops a dynamic perspective of IAT that seeks to understand how changes in urban social institutional environments affect the impact of national cultural values on women’s pre-entrant entrepreneurial attempts. In particular, we conceptualize pre-entrant entrepreneurial attempts as creatively deviant behaviors and test our insights in the scenario of women’s live-streaming activity in China. The findings show that although women are slower than their male counterparts to engage in live-streaming activity perhaps due to institutional progress in gender equality in China, perceived changes in urban social institutional environments that result from social unrest events could promote women to pursue their aspirations through signaling opportunities.

However, our baseline hypothesis was not supported. That is, gender was not found to be positively related to the speed of engaging in live-streaming activity. We suspect that the opposite finding to what we theorized is perhaps due to China’s institutional progress in gender equality. For example, on May 16, 1956, in the article “Protecting Health of Rural Women and Children” published by People’s Daily—the largest newspaper group in China—women were compared to “the half sky” in society. Since then, the “women are the half sky” slogan has become the widely known slogan in China. Moreover, the state also made various forms of efforts to advance gender equality in China. In terms of regulations, in 2005, the 17th meeting of the Standing Committee of the 10th National People’s Congress approved the

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*Convention concerning Discrimination in Respect of Employment and Occupation* to officially promote gender equality in employment and workplace practices since then. In 2007, the state passed the *Employment Promotion Law of the People's Republic of China*, which further enforces the workplace practices and rules for gender equality. In terms of advancing female leadership, as of 2008, the percentage of women communist party members was 21% (Switzerland, 2010), indicating that women could exercise their influence in the state's political decisions. In terms of promoting equal education opportunities, the proportion of women with master or above degrees was 45.67% as of 2008 (Switzerland, 2010). In this way, state-dominated institutional progress in gender equality may largely shadow the cultural impacts on women over time. As a result, women may enjoy better opportunities of becoming an entrepreneur in China compared with other regions. Indeed, as Huang *et al.* (2020, p. 356) observe, "as compared to their international counterparts, Chinese women are more entrepreneurial." From this perspective, the opposite finding in our study could be possibly attributed to the institutional progress in advancing gender equality in China or the positive gender stereotype inherent in the institutional environments (Javadian and Modarresi, 2020). Such a conjecture is also consistent with our finding in Hypothesis 1. That is, the perceived changes in social institutions could promote the opportunity-seeking efforts among females. Therefore, our findings yield important theoretical and practical implications.

#### *Theoretical implications to IAT*

Our study is arguably the first to adopt a dynamic perspective of IAT to explain women's pre-entrant entrepreneurial attempts. By leveraging insights from the social movement literature, we have attempted to explain and predict how and why urban institutional changes, rather than current or past social institutional conditions, could shape the influence of national cultural values on women's entrepreneurship. There is an implicit assumption in the extant IAT literature that social institution conditions are stable as they are given. However, most creative deviance such as opportunity-driven entrepreneurship is, more often than not, observed in changing institutional environments (Yang, 2007; Zhang *et al.*, 2005). For example, the observations from China's Delta River and Pearl River Delta have documented that during the country's market transition, opportunity-driven entrepreneurship largely emerged and thrived (Nee and Opper, 2012). In this way, the static assumption substantially constrains our understanding of how and why perceived changes in social institutions may affect entrepreneurship by dynamically shaping institutional anomic strain. This is problematic for the development of any theoretical framework (Locke and Golden-Biddle, 1997). Taking this challenge, we contribute to the extant IAT theory by including changes in social institutions in the existing IAT theoretical framework and hence, develop a dynamic perspective of IAT. To the extent that anomic strain is dynamically experienced in changing environments, our dynamic perspective of IAT will effectively explain and predict how institutions and entrepreneurship coevolve over time.

#### *Theoretical implications to the entrepreneurship literature*

Our study contributes to the extant entrepreneurship literature in three primary ways. First, echoing calls from the women entrepreneurship literature (Bruin *et al.*, 2007; Yousafzai *et al.*, 2019), our study extends the embeddedness view of women entrepreneurship by demonstrating how contextual factors affect women's pre-entrant entrepreneurial attempts. "Entrepreneurial intentions are related to personal perceptions with respect to the supportiveness of a given society, the business environment, and one's own abilities" (Bruin *et al.*, 2007, p. 330). In this way, women's self-perceptions will constrain their possibility of identifying or recognizing opportunities when they are embedded in specific cultural values and institutional environments (Anna *et al.*, 2000; Javadian and Modarresi, 2020),

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which leads to restricted forms of women's entrepreneurship. Our study adds to this stream of research by demonstrating how women's pre-entrant entrepreneurial activity will be shaped by cultural values and institutional changes. Relatedly, our research also highlights the online platform as a novel context in which the relationship between individuals and the environment could be effectively examined and hence, provides promising research opportunities for gender scholars in the field of entrepreneurship.

Additionally, our study also advances the entrepreneurship literature on environmental influence by demonstrating the direct impact of social unrest on entrepreneurship. Prior studies have focused on how individual entrepreneurs strategically respond to social unrest, such as political and civil violence (Hiatt and Sine, 2014) and organized crime (Mallon and Fainshmidt, 2020). Despite some studies that have examined how socio-political unrest affected the experiences of women in small businesses in those developing countries (Jaim, 2022), the field of entrepreneurship still lacks a systematic understanding regarding the importance of social unrest for entrepreneurial endeavors. Indeed, a review of recent research has shown that social unrest has been generally ignored (for an exception, see Oh and Oetzel, 2017). As the world environment continues to experience social upheaval and populism (Devinney and Hartwell, 2020), we believe that it will become increasingly important to understand the impact of social unrest. From this perspective, our study generates some important insights into the influence of social unrest on entrepreneurship.

Second, coupled with the survival analysis, we theorize and develop hypotheses about the "duration" of pre-entrant entrepreneurial attempts. While previous studies often explore whether, how, and to what extent an individual might be motivated and develop the intention to start a new business, we are among the very few to switch the focus to the temporal dimension. One notable exception here is Lévesque and Maccrimmon (1998), who explored the timing of a founder's move from a hybrid mode of entrepreneurship and hobby-venturing to a full-time commitment to the newly created venture and found that the optimal time-allocation policy is driven by the entrepreneur's tolerance for work and the payoff of the time invested in the venture. Similarly, Hansen and Bird (1998) demonstrated that entrepreneurs with prior work experience as business managers tend to pace more rapidly than those who work as scientists and engineers. Also, Chen and Nadkarni (2017) found that CEOs' time urgency (the feeling of being chronically hurried) and pacing style (one's pattern of effort over time in working toward deadlines) might affect how CEOs deal with the temporal aspects of top management teams' activities, which eventually contribute to corporate entrepreneurship at the firm level. Aligned with this literature, our study further highlights that gender might be a missing piece in exploring the pace and duration in the field of entrepreneurship.

Finally, our research adds to the pre-entrant entrepreneurship literature by unraveling how national cultural values and social institutions could determine pre-entrant entrepreneurial attempts (Agarwal *et al.*, 2017; Moeen and Agarwal, 2017). The extant pre-entrant literature has examined technology investment during the incubation period of the agricultural biotechnology industry and developed stylized findings to inform and guide theory-building for pre-entrant entrepreneurial attempts in this stage (Moeen and Agarwal, 2017). Departing from prior studies, our study suggests that exogenous events (i.e. social unrest events) could facilitate entrepreneurial efforts in this early stage, thus illustrating how and why social movements serve as initial triggers for pre-entrant entrepreneurship (Agarwal *et al.*, 2017).

#### *Practical implications*

Our theory and findings yield valuable practical implications for both women entrepreneurs and policy makers. For women entrepreneurs, our findings provide an important lesson:

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location really matters for their pre-entrant entrepreneurial endeavors. To date, academic writings and news media have relentlessly dramatized the challenges for women entrepreneurs in terms of acquiring resources (Brush *et al.*, 2019; Javadian and Modarresi, 2020). However, these stories have lacked the possibility that changing environmental conditions could also produce motivation and opportunities for women to advance in society (Welter, 2011). In this way, women entrepreneurs could benefit from our study by having a comprehensive and balanced view of the importance of social environments. For policymakers who intend to build entrepreneurial ecosystems that promote women entrepreneurship, our study also informs them about the value of injecting a “gendered nature” into institutional elements (Brush *et al.*, 2019). Specifically, our study suggests that policymakers may want to consider promoting a sense of “fairness and justice” into the entrepreneurial ecosystems. Once women perceive that these concepts are institutionalized into rules, norms, entrepreneurial narratives and stories, they will become highly motivated to leverage such institutional capital to undertake entrepreneurial endeavors (Jovanovic *et al.*, 2014; Lounsbury and Glynn, 2001). Additionally, our study also provides insights for policy makers with regard to how to promote economic growth via digital entrepreneurship in the face of natural disasters such as COVID-19. In digital entrepreneurship, how to effectively encourage individuals to engage in digital entrepreneurship is one pressing issue for both policy makers and academia (Nambisan, 2017). This is perhaps more significant in China given its impressive technology infrastructure development and growth of internet users (Huang *et al.*, 2020). In this way, our findings could usefully inform policy making by suggesting that socio-cultural factors should be an effective tool that helps promote this process, which is particularly valuable for China during the current pandemic.

#### *Limitations and future research*

Our study also has several limitations that may provide avenues for future research. First, our study only concentrates on social unrest that triggers perceived changes in social institutions. Our intention is not to examine an exhausted list of variables representing institutional changes, but rather to investigate whether perceived social institutional changes, in and of itself, could affect cultural impacts on entrepreneurship. However, we acknowledge that such an effort in enlisting different proxies could fruitfully benefit our theory-building by enhancing the richness and comprehensiveness (Boyd *et al.*, 2013). Hence, we encourage future scholarship to further enrich our measurements by introducing more relevant and salient constructs into the existing theoretical models. Second, our study may suffer from weak causal inference given that our data are cross-sectional by nature. Even if we had used the PSM method to enhance the causal inference, we remain curious about whether a longitudinal design could generate additional insights into our developed theoretical framework. This is thus left for future scholars to further explore different research designs. Finally, our sample was drawn from China. Although our theory stresses the importance of family collectivism as the bridge between China and the rest of the world, we urge scholars with similar interests to test our framework across different countries and societies. Such an effort will definitely improve the generalizability of our theoretical framework.

#### **Conclusion**

The extant IAT literature overwhelmingly centers around static social institutional conditions and remains limited in explaining important outcomes such as entrepreneurship across different types of institutional environments. Our study integrates

the social movements literature with the existing IAT framework and develops a dynamic perspective of IAT. As a result, we extend the scope and generalizability of the IAT framework. In this way, we hope that our framework and findings will inspire future researchers to enrich their understanding of the IAT framework in new ways going forward.

## Notes

1. The report is available at iiMedia Research: <https://www.iimedia.cn/c400>
2. We used average exchange rates between China's currency to U.S. currency in both 2017 and 2020 to convert China's currency to U.S. dollar.
3. The first outbreak of COVID-19 in China started in Wuhan, Hubei in December 2019, although the exact date is still not clear. This event could generate much more entrepreneurial opportunities in digital platforms, especially in year 2020. In this way, we have added year dummies in our empirical models to control the salient effect of COVID-19 in year 2020.
4. Sina.com is one of the most popular social media platforms in People's Republic of China.

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**Corresponding author**

Lei Xu can be contacted at: [lxy9f@umsl.edu](mailto:lxy9f@umsl.edu)

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