Forecasting entrepreneurial motivations and actions: development and validation of the entrepreneurial trigger scale

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Abstract

Purpose – The purpose of this paper is to evaluate the insights of founding entrepreneurs to understand what they consider as motivating factors in their decision to act upon entrepreneurial intentions. Using this information, the entrepreneurial trigger event influence was conceptualized, and a scale developed for use in subsequent testable models.

Design/methodology/approach – Qualitative and quantitative techniques were used to construct an instrument that measures the presence and influence of entrepreneurial behavior triggers. The concept of triggering events was explored with 14 founding entrepreneurs. Themes emerged from this enquiry process which informed the development of four primary entrepreneurial triggering events. Over 600 entrepreneurs participated in the study. Exploratory factor analysis was used to identify dimensions of entrepreneurial triggers and was tested using confirmatory factor analysis.

Findings – Entrepreneurs perceive that personal fulfillment and job dissatisfaction serve as two significant trigger events which will lead individuals to engage in entrepreneurial behaviors. This research supports theorizing that suggests entrepreneurial trigger events have influence in motivating individuals to act upon entrepreneurial intentions and some trigger events may have more influence toward behavior than others.

Research limitations/implications – This research is subject to multiple limitations. Trigger events were limited to those identified in literature and the interviews. Most entrepreneurs participating in this study were from a limited geographic region. The entrepreneurs in this study reported their triggering event based on their memory which could have been affected by inaccurate recall or memory bias. No attempt has been made to model the comparative effects of the different variables on entrepreneurial outcomes. Finally, the entrepreneurial trigger event instrument did not measure the participant's demographics or psychographics which could have played a role in the influence of reported trigger event.

Practical implications – This study extends previous research that trigger events serve as catalysts for entrepreneurial behavior. Findings support the premise that different types of triggers have different levels of influence as antecedents of entrepreneurial behavior. Specifically, positive, negative, internal and external entrepreneurial triggering events were explicated. The Entrepreneurial Trigger Event Scale created to facilitate this study enables researchers to explore the effects of types and perceived influences of precipitating trigger events on the intentions of the individual that result in entrepreneurial behavior. The optimized instrument further expanded Shapero's (1975) proposed theory of the origins of entrepreneurial behavior.

Social implications – The development of a scale provides researchers with the opportunity to include the influence of entrepreneurial trigger events, as perceived by entrepreneurs, in future testable models. Entrepreneurial development organizations can use the knowledge to assist in understanding when potential

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entrepreneurs may act upon entrepreneurial intentions. Information gained can have significant implications for understanding the initiation of entrepreneurial behavior, entity establishment and business growth.

Originality/value – This research responds to a call for investigation into the influence of entrepreneurial trigger events on a person's decision to act upon entrepreneurial intentions. It is an early attempt to conceptualize a relevant construct of entrepreneurial trigger event influence and to develop a scale for use in empirical testing. It is distinguished by using planned behaviors, push and pull, motivation and drive reduction theories. These theories are applied to the perceptions of successful entrepreneurs to develop a construct and validate it.

Keywords Entrepreneur, Triggers, Entrepreneurial behavior, Planned behavior, Push and pull theories, Motivation, Drive reduction, Scale development

Paper type Research paper

Introduction

Most theoretical models of entrepreneurial performance have emphasized motivation as one of the key elements in the success of new venture creation (Herron and Robinson, 1993; Naffziger *et al.*, 1994; Blawatt, 1995). Current research in the field of entrepreneurship is driven by the idea that greater insight is required into entrepreneurial intention, motivation, orientation and passion as predictors of new business or organizational performance (Bruyat and Julien, 2001; Segal *et al.*, 2005; Cardon *et al.*, 2009; Fatoki, 2010; Carsrud and Brännback, 2011; Bolton, 2012; Schenkel *et al.*, 2013; Kautonen *et al.*, 2013).

A major question in entrepreneurial research is "What brought about the action that led to a change in the entrepreneur's former life path?" (Shapero and Sokol, 1982, p. 78). Researchers have characterized entrepreneurs by traits, personalities, preferences and behaviors (McClelland, 1961; Shaver and Scott, 1991). Studies have determined that entrepreneurial individuals are often motivated by economic and/or psychological causes. Other research has examined environmental variables, education and their influences on an individual's decisions regarding entrepreneurial behavior (Kaffka and Krueger, 2018). Research has considered market forces, employment change and shifting opportunities (Audretsch, 1997; Schindehutte *et al.*, 2000). Several studies have measured entrepreneurial success by measuring the level of motivation, orientation and passion in entrepreneurs (Carsrud and Brännback, 2011; Bolton, 2012; Cardon *et al.*, 2012; Gabarret and Vedel, 2013; Fisher *et al.*, 2014).

A high level of entrepreneurial intention, motivation, orientation or passion cannot independently initiate entrepreneurial behavior. One or more events must occur that precipitate a change in individuals' perception of situational factors and move them toward entrepreneurial behavior (Shapero and Sokol, 1982; Gersick, 1991; Liang and Dunn, 2007). These critical precipitating events (i.e. triggers) were first defined by Shapero (1975) as events that disrupt or displace the inertia which guides people. This displacement can trigger people to pursue entrepreneurial activities. The entrepreneurial process is considered initiated or triggered when individuals start devoting time and/or resources to investment, creation of new organizations or the bringing of products to market (Bruyat and Julien, 2001; Fayolle, 2007; Klein, 2008). Identification of drivers and the resultant triggering of entrepreneurial behavior involve parsing several layers of potentially related factors (e.g. personal factors, external forces, opportunities and threat-driven events) (Shapero, 1975).

Much is speculated about the attributes and impacts of entrepreneurial trigger events. Two primary dichotomous trigger event categories are considered within the scope of this scale development study. The first category is positive opportunities and/or negative threats. The second is internal and/or external experiences (Shapero, 1975; Morris, 1998; Schindehutte *et al.*, 2000; Bewayo, 2014; Maâlej and Cabagnols, 2020). Although certain related research has been conducted, the relationship between entrepreneurial trigger events and entrepreneurial behavior has been largely ignored.

Extant studies have been limited in scope and have only measured certain entrepreneurial trigger events. In 2000, Summer published the results of a study which explored the effect that three separate factors had on the formation of entrepreneurial intentions. These three factors were entrepreneurs' personal traits, characteristics and external predisposing events. Summer's sample was limited to less than 50 individuals who were enrolled in a real estate license program.

Liang and Dunn (2007) published a study in which they attempted to discover triggering factors in new venture creation. Even though their trigger pool construction process included input from more than 100 entrepreneurs, the resultant instrument was neither validated nor administered to entrepreneurs. Liang and Dunn reported that they administered their instrument to 227 pre-business participants at a business workshop. The workshop participants varied from those who were curious about business to those who were seriously attempting to start a new venture.

Degeorge and Fayolle (2011) conducted exploratory research which attempted to model the entrepreneurial process. Their study of more than 600 French engineers resulted in two major findings. First, trigger paths are believed to evolve differently over time. Second, the intensity and impact of displacements are perceived differently. The study addressed the concept of positive and negative influences but was limited by indecisiveness regarding determinism (i.e. whether individuals could determine their own career paths.)

Research (Choo and Wong, 2006; Liang and Dunn, 2007; Bewayo, 2014) has done much to establish the existence of an entrepreneurial trigger event. Entrepreneurial literature postulates that trigger events are the catalyst for entrepreneurial behavior (Shapero, 1975; Morris *et al.*, 2000; Summers, 2000; Liang and Dunn, 2007; Bewayo, 2014; Elifneh, 2015). Even though a theoretical foundation exists, no instrument had been developed to measure the degree to which precipitating trigger events influence individuals to act on entrepreneurial intentions. The Entrepreneurial Trigger Event Instrument (ETEI) developed through this study answers the call for a reliable and robust instrument to identify and measure the types and influences of trigger events among entrepreneurs.

Research has continued into trigger events in higher education (Maâlej and Cabagnols, 2020; Kisubi *et al.*, 2021: Ruiz-Rosa *et al.*, 2022). The individuals surveyed about the trigger events were graduate students who showed entrepreneurial interest but have not started a business.

Literature review

Many studies have identified entrepreneurial drivers that may lead to entrepreneurial behavior (Shapero and Sokol, 1982; Schindehutte *et al.*, 2000; Robichaud *et al.*, 2001). The single most influential driving factor in the rise of entrepreneurship has been found to be a high level of intention, motivation, orientation or passion (i.e. entrepreneurial drivers) in potential entrepreneurs (Kuratko *et al.*, 1997; Fatoki, 2010).

History of the entrepreneurial trigger event construct

One of the earliest studies exploring the entrepreneurial trigger event construct was conducted by Shapero and Sokol (1982). Their work shifted research focus from individuals who performed entrepreneurial activities to entrepreneurial events themselves. Shapero and Sokol's research considered the behaviors of all types of entrepreneurs (e.g. part-time, full-time and repetitive). Further, they considered a large variety of activities without the hindrance of those activities being dependent on the particular type of entrepreneur. Shapero and Sokol postulated that multiple factors affect the decision to act entrepreneurially. These factors include exogenous influences (e.g. entrepreneurs' respective social, economic, political

and cultural backgrounds, drivers of intention and precipitating events). Shapero and Sokol (1982) operationalized the characteristics of the entrepreneurial event.

Shapero and Sokol's (1982) entrepreneurial event model proposes that inertia guides human behavior in a certain direction until something interrupts or displaces that inertia. The event that displaces the inertia in people's life path can be either (1) positive and/or negative as well as (2) internally and/or externally driven (Krueger and Brazeal, 1994). Individuals must decide how they will respond to interrupting or displacing events. Entrepreneurs respond by seeking the best opportunity from their available set of alternatives (Katz, 1992). Each displaced individual's choice depends on each prospective life path's desirability, feasibility and the specific individual's own propensity to act. Further, the prospective entrepreneurial life path must be seen as both desirable (i.e. fulfilling the displaced individual's hopes and ambitions) and feasible (i.e. the individual must feel capable of accomplishing what is required for success (Degeorge and Fayolle, 2011). Propensity to act, along with perceived desirability and feasibility, result in the intention to act in a certain manner (i.e. entrepreneurially). Once entrepreneurial intention exists, entrepreneurial triggering event(s) are required to cause the entrepreneur to act upon the intention (Shapero and Sokol, 1982).

The entrepreneurial trigger event framework also draws on Bruyat's (1993) entrepreneurial development process model. Bruyat's model distinguishes three critical stages in the development of entrepreneurial action. The first stage consists of the entrepreneurial process being initiated or triggered. The discovery of an opportunity may serve as the trigger. During this stage, individuals begin to think seriously about starting a business, searching for opportunities, and devoting time and resources to entrepreneurial opportunities (i.e. they consider acting upon their entrepreneurial intentions). During the second stage individuals become committed to the process. In this stage individuals devote most of their time, financial, intellectual, relational and affective resources to entrepreneurial activities. There is no perceived going back. The third and final stage consists of the completion of the entrepreneurial development process. The entrepreneurial process either leads to success, to a greater or lesser extent, or to failure.

Entrepreneurial trigger event theoretical foundation

Existence and operation of the entrepreneurial trigger event is based on various extant theories. These include Bandura's (1977) social cognitive theory, Bandura's (1977) social learning theory and Ajzen's (1985) theory of planned behavior.

Social cognitive theory, social learning theory and theory of planned behavior. Bandura's (1977) social cognitive theory proposes that behavioral performance can be predicted from people's plan and intent to perform particular behaviors. From a social cognitive perspective, behavior is a function of the important information, or beliefs, relevant to the behavior. Bandura proposes that basic cognitive processes include the perceiving, storing, retrieving, responding to and evaluating information.

Ajzen's (1985) theory of planned behavior is derived from Bandura's (1977) social cognitive theory. Ajzen's theory can be applied to explain entrepreneurs' particular actions. The theory of planned behavior proposes that exogenous influences (e.g. people's skills, role models, personal traits and available resources) affect individuals' perceptions of the desirability and feasibility of specific behaviors. These perceptions combined with individuals' propensity to act will drive people's intentions to act entrepreneurially. These exogenous influences do not affect intentions or behavior directly. Influences on entrepreneurship affect attitudes, which shape intentions, which shape behaviors (Krueger and Carsrud, 1993).

Ajzen's theory of planned behavior has been tested, challenged and advanced in many social science fields and, as a result, has generated substantial interest among researchers.

Ajzen has generated alone more than 60,000 citations to date (Tornikoski and Maalaoui, 2019).

In psychology literature, intention is recognized as predecessor of entrepreneurial behavior and Ajzen's theory of planned behavior has been one of the primary models used to develop the entrepreneurial event model (Shapero and Sokol, 1982) and the foundation of entrepreneurial intention (Davidsson, 1995; Yaseen *et al.*, 2018). The reason why intention has captured scholarly interest is, it drives individuals to be engaged in and become committed to start a business (Davidsson, 1995; Krueger *et al.*, 2000; Bird and Schjoedt, 2009; Kaffka and Krueger, 2018; Yaseen *et al.*, 2018). The theoretical work of Bird and Jelinek (1989) suggested that an entrepreneur's intentions to start a business and the decisions that occur before start-up shape the subsequent goals, strategies and structures of the new venture (Choo and Wong, 2006; Maâlej and Cabagnols, 2020; Kisubi *et al.*, 2021; Ruiz-Rosa *et al.*, 2022).

Extant entrepreneurial literature suggests that attitude, subjective norms and perceived behavioral control typically explain 30–45% of the variance in intentions toward entrepreneurship (Kautonen *et al.*, 2013). If attitude, subjective norms and perceived behavioral control account for only a portion of the variance, further research is necessary regarding the interruption or displacement that precipitates a change in behavior.

Entrepreneurial motivation. Motivation research can be traced to Freud's work on instincts (Freud, 1924) and subsequent research (Maslow, 1943; Deutsch and Krauss, 1965). Each individual's behavior is believed to be driven by their instinct to survive, succeed and avoid failure. Motivation, at the individual level, has been studied to answer three kinds of questions (Mitchell *et al.*, 2014, p. 91). "What activates a person?" "What makes the individual choose one behavior over another?" "Why do different people respond differently to the same environmental factors?" Motivation can be theoretically described by two categories: drive and incentive. Drive theories suggest that there are internal stimuli driving individuals and those individuals seek ways to reduce the resulting tension. The need for tension reduction represents this type of motivation (Carsrud and Brännback, 2009).

Push and pull theories of entrepreneurship. Gilad and Levine's (1986) push and pull theories are two closely related explanations of entrepreneurial motivation. Kruger (2005) reports that individuals can be pushed into entrepreneurship by negative situational factors, as well as, pulled into business opportunities by financial rewards or a desire to gain in social standing.

Push theory. Gilad and Levine's (1986) push theory contends that individuals are pushed into entrepreneurship by negative external forces and situational factors (e.g. job dissatisfaction, difficulty finding employment, insufficient salary, inflexible work schedule, divorce, lay-off and loss of a family member) (Kirzner, 1973; Powell and Bimmerle, 1980; Brünjes and Diez, 2013). These negative experiences tend to activate latent entrepreneurial talent and push individuals into new ventures or business activities (Valdez, 1988). Psychological evidence supporting the push theory includes multiple studies which describe entrepreneurs as misfits, loners, refugees, rejects from society and displaced individuals (Collins and Moore, 1970; Shapero and Sokol, 1982; Bull and Willard, 1993). According to these studies entrepreneurs perceive their environment as hostile and turbulent. These individuals have been either forced out of employment or denied opportunities for success. To prove their self-worth and succeed in unfavorable situations, they react by establishing their own businesses.

Drive reduction theory. Push triggers are conceptually derived from the drive reduction theory. Drives are internal states of desire or tension prompted by physiological or biological needs (Hockenbury and Hockenbury, 2010). These needs include hunger, thirst, need for warmth, etc. Internal states of desire or tension are believed to increase individuals' motivations. Additionally, individuals are in a state of need when their survival is threatened.

When people are in a state of tension and they deem their situation to be unpleasant, they will behave in a way that reduces that tension. To reduce the tension, they will begin to seek out ways to satisfy the physiological or biological needs that are the source of the tension (Festinger, 1962). The desire to reduce internal tensions serve to push individuals toward more positive and optimistic environments (Carsrud and Brännback, 2011).

Pull theory. Gilad and Levine's (1986) pull theory proposes that individuals are attracted to entrepreneurial activities. The pull theory suggests that the existence of attractive, potentially profitable business opportunities will attract (i.e. pull) individuals into entrepreneurial activities. The pull theory proposes that people are drawn into entrepreneurial behaviors by positive events (e.g. receiving a windfall, curiosity, finding an opportunity, desire for a challenge, seeking independence, self-fulfillment, wealth and other desirable outcomes) (Carroll, 1955; Vesalainen and Pihkala, 1999; Segal *et al.*, 2005).

For example, Carroll (1955) found that a high percentage of entrepreneurs were raised in homes where one or more family members had a business opportunity experience. Carroll theorized that these families created environments in which entrepreneurial development was encouraged and success was both emphasized and expected. It is postulated that early exposure to success encourages the search for business opportunities and will result in entrepreneurial behaviors (Gilad and Levine, 1986).

Incentive theory of motivation. Pull triggers are conceptually derived from the incentive theory of motivation (Carsrud *et al.*, 1989). Individuals are often motivated to act entrepreneurially because of internal desires and aspirations. Behaviors can also be driven by a desire for rewards (Wright, 1996). The incentive theory proposes that individuals will be pulled toward behaviors that offer positive incentives and valuable enticements (e.g. rewards, money, opportunity, trophies and recognition). Individuals will be pushed away from actions and behaviors associated with negative incentives (e.g. job demotion, penalties and fines). Differences in behavior from one individual to another or from one situation to another can be explained by the incentives available and the perceived value individuals place on those incentives at the time of decision (Carsrud and Brännback, 2011). Incentive theories emphasize the motivational pull. End points can be found in the rewards, goals and/or opportunities that pull people (Carsrud and Brännback, 2011).

Entrepreneurial trigger events in literature

The origin of entrepreneurial behavior has long been a critical topic of historical and economic investigation. Morris (1998) suggests that people do not wake up one day and decide to become entrepreneurs. Many entrepreneurs do not even consider themselves to be entrepreneurs even after they achieve great success. Morris describes the multiple paths people take in deciding to act entrepreneurially. Entrepreneurial behaviors are initiated by triggering events. Morris lists and provides examples of 13 positive and negative triggering events.

Liang and Dunn (2007) asked seminar attendees to list triggers that could lead pre-business and in-business individuals to begin the entrepreneurial process and the relative importance of those triggers. They identified 42 entrepreneurial triggering events and proposed that the triggers can be placed in five categories: personal, opportunity/idea, job related, financial and family/interpersonal. There were significant differences along with some similarities in triggers proposed by the pre-business and in-business groups. The two groups also differed as to the degree to which the various triggers would influence their decisions to behave entrepreneurially.

Kruger (2005) proposed there are two trigger event types that cause individuals to begin to act entrepreneurially. In his research he identified six entrepreneurial pull factors which encourage individuals to become entrepreneurs by virtue of the attractiveness of the

entrepreneurial option. Kruger also identified six entrepreneurial push factors which drive individuals to become entrepreneurs.

Even though the previously mentioned studies served to identify potential entrepreneurial triggers, no study has specifically measured the level of influence these triggers may have on individuals with entrepreneurial intention. A list of potential triggers driven by speculative studies has limited practical applicability as some speculative triggers may have limited influence. Accordingly, there has been a significant need for the development of a more refined measure of entrepreneurial triggers. The instrument developed as a result of this study has satisfied that need.

Methodology

The need for a more refined measure of entrepreneurial trigger influence required that a robust methodology be followed. Accordingly, this study followed the protocol for scale development identified by MacKenzie *et al.* (2011). As an overview, the protocol began with the generation of a trigger event pool. The trigger event pool was used to construct a Likert scale through which a first wave of data was collected from entrepreneurs. A parallel analysis on the first wave of data was conducted to ascertain the number of possible dimensions. Exploratory factor analysis was used to identify the dimensions. A second wave of data collection was conducted with a revised scale through which data was collected from a different set of entrepreneurs outside of the geographic region addressed by the first wave. Confirmatory factor analysis was conducted utilizing the second wave of data to generate the findings and final scale.

Item development

Trigger event pool generation. The entrepreneurial trigger event construct was conceptually defined through a review of existing entrepreneurial research (Audretsch, 1997; Morris, 1998; Schindehutte *et al.*, 2000; Summers, 2000; Liang and Dunn, 2007) and an exploratory qualitative study of the triggers identified by entrepreneurs based on their own experiences. A review of entrepreneurship literature, including scholarly and press articles about entrepreneurial triggers, along with discussions with academic colleagues formed the questions for the interviews.

Purposive sampling (Patton, 2002; Neuman, 2000) was used to identify the entrepreneurs who were invited to participate in the qualitative portion of the study. For the purposes of this study an entrepreneur was defined as a person who founded a for-profit business in which they hold (or have held) a majority ownership interest. Qualitative interview participants consisted of five newly formed (i.e. less than 7 years of experience) entrepreneurs and nine seasoned (i.e. 7 or more years of experience) entrepreneurs.

A series of open-ended questions were utilized in interviews with entrepreneurs to explore pertinent constructs. Key areas explored through open-ended questions were as follows:

(1) What experiences led the person to entrepreneurship?

(2) How did the person become an entrepreneur?

(3) What was the role of the trigger event in the critical decision to become an entrepreneur?

(4) What were the characteristics of the triggering event in the life of the entrepreneur?

This process generated a pool of 65 unique triggering events deemed to have the potential to initiate entrepreneurial behavior. This initial pool of items was deemed representative of the conceptual domain of the entrepreneurial trigger event.

Parallel analysis and exploratory factor analysis

A five-point psychometric Likert scale was used to collect entrepreneurs self-reported perception of influence of each of the 65 trigger events explored in this study: (1) trigger event did not occur, (2) not influential, (3) slightly influential, (4) moderately influential and (5) very influential. The initial entrepreneurial trigger event instrument was administered in Northwestern Pennsylvania. Instruments were administered at various types of meetings: entrepreneurial, community business, chamber of commerce and direct face-to-face with business owners. Data was collected from 300 participants.

Nine demographic questions were added to the instrument for analytical purposes. Most entrepreneurs in the first wave of data collection self-identified as white (90%) (Table 1) and between the ages of 23 and 44 (89%) (Table 2). Regarding highest level of education at the commencement of entrepreneurial behavior, 24% reported completion of high school while 23% reported having earned a bachelor's degree (Table 3). Regarding method of business creation when entrepreneurial behavior commenced, the majority (71%) indicated that they created a business that previously did not exist (Table 4).

Table 1.
Race/ethnicity (first wave)

Race/Ethnicity	*n*	Percentage
White	271	90
Black	15	5
Hispanic	10	3
Asian	5	2
Other	0	0

Source(s): Created by author

Table 2.
Age of participant when entrepreneurial behavior began (first wave)

Age	Percentage	*n*
15–22	12	37
23–30	22	67
31–37	25	75
38–44	19	58
45–51	12	37
52–58	5	16
59–65	3	8
66–73	1	3

Source(s): Created by authors

Table 3.
Education level when the entrepreneur started their business (first wave)

Educational level	*n*	Percentage
Did not complete high school	16	5
Completed high school	73	24
Completed a trade school certificate degree	38	13
Completed an associate degree	48	16
Completed an apprentice/journeyman's program	6	2
Completed a bachelor's degree	69	23
Completed a graduate degree	51	17

Source(s): Created by authors

Results

The data collected through administration of the initial instrument (containing items formed from information collected through open ended interviews) was subjected to a parallel analysis to identify the potential number of factors and exploratory factor analysis to identify the nature of the factors.

Parallel analysis

Factors were extracted from the initial data using parallel analysis (Horn, 1965). Dinno's (2009) method of parallel analysis was employed to generate the factor retention criteria following estimation of sample bias. Eigenvalues measuring sample bias were estimated using randomly generated uncorrelated data, which is then subtracted from the eigenvalues of the observed data (Table 5). Factors with eigenvalues of one or greater suggest the possible maximum number of factors to be retained (Dinno, 2009). Results from the parallel analysis suggested the presence of four factors.

Exploratory factor analysis

STATA software was used to identify the initial dimensions in the iterated principal factor analysis. A minimum factor loading criterion of 0.45 is recommended for a loading to be considered a fair measure of a factor (Comrey and Lee, 1992). Four factors (i.e. personal fulfillment, job dissatisfaction, innovation and death and inheritance) emerged from the analysis of the event items. Table 6 presents the retained variables, their descriptive statistics and associated factor loadings.

Confirmatory factor analysis

The trigger event instrument developed following parallel analysis and exploratory factor analysis was administered to a second sample of entrepreneurs and was analyzed using confirmatory factor analysis.

Data from an additional set of 300 participants were collected from entrepreneurs who had not previously participated in this study. To increase generalizability of the findings, this new

Method of business creation	*n*	Percentage
Purchased a franchise	12	4
Purchased an existing business	38	13
Bought into an existing business	16	5
Created a business that previously did not exist	214	71
Reported as "broker"	13	4
Other	7	2

Source(s): Created by authors

Table 4. Initial study method of business creation when entrepreneurial behavior began (first wave)

Factors	Eigenvalues
Factor 1	10.29
Factor 2	1.91
Factor 3	1.66
Factor 4	1.25

Source(s): Created by authors

Table 5. Horn's parallel analysis eigenvalue trigger event factors

Entrepreneurial trigger events	Mean	Standard deviation	Factor loading
Personal Fulfillment and Autonomy			
I wanted to realize my dream	2.54	1.500	0.534
I wanted a better life	2.38	1.530	0.606
For my own personal growth	2.82	1.400	0.594
I wanted to be in control	2.54	1.343	0.595
I wanted to be independent	2.78	1.334	0.701
I wanted to increase my prestige	1.06	1.169	0.521
I felt I was not accomplishing all I could	1.97	1.523	0.498
I wanted a challenge	2.46	1.429	0.633
I wanted to reach my full potential	2.34	1.540	0.690
I wanted job security	1.59	1.511	0.587
I wanted to earn a comfortable living	2.22	1.456	0.645
I wanted to be my own boss	2.84	1.363	0.706
I wanted personal freedom	2.46	1.495	0.783
I wanted the satisfaction of my own business	2.91	1.320	0.788
I wanted to challenge myself	2.70	1.406	0.700
I wanted to take a risk	1.89	1.448	0.625
Job Dissatisfaction			
My job was boring	0.88	1.188	0.671
My job was not satisfying	1.16	1.346	0.733
Conflict existed between my boss and I	0.51	1.066	0.571
I did not like my boss	0.38	0.866	0.576
I did not like my coworkers	0.22	0.611	0.517
I did not like my job	0.72	1.169	0.785
Innovation			
I thought up an idea	1.79	1.743	0.556
I wanted a challenge	2.46	1.429	0.492
I saw a market for this type of business	2.38	1.530	0.583
I saw a problem to solve	1.09	1.440	0.597
There was a need for this type of business	2.13	1.527	0.587
I wanted to challenge myself	2.70	1.406	0.482
Death and Inheritance			
Death of a loved one	0.23	0.816	0.465
I joined my family's business	0.36	1.073	0.576
I inherited the business	0.14	0.674	0.654

Source(s): Created by authors

Table 6. Iterated principal factor analysis with ≥0.45 loading trigger events variables

set of instruments was administered in geographic areas different than the focus of initial data collection.

Most entrepreneurs in the second wave of data collection self-identified as white (94%) (Table 7) and between the ages of 19 and 44 (70%) (Table 8). Regarding highest level of education at the commencement of entrepreneurial behavior, 31% reported completion of high school while 24% reported having earned a bachelor's degree (Table 9). Regarding method of business creation when entrepreneurial behavior commenced, the majority (66%) indicated that they created a business that previously did not exist (Table 10).

Confirmatory factor analysis was used to test the data collected with the emergent 56 event instrument. Data was tested for the four factors identified in the initial exploratory factor analysis (i.e. personal fulfillment, job dissatisfaction, innovation, and death and inheritance). Model fit was estimated utilizing maximum likelihood estimation with the

Satorra–Bentler option where standard errors are estimated without assuming the presence of a normal distribution.

Fit indices for each of the CFA model proposals are reported in Table 11. The confirmatory factor analysis for the four-factor model resulted in a root mean squared error of approximation (RMSEA) of 0.099, a comparative fit index (CFI) of 0.721, a standardized root

Race/Ethnicity	*n*	Percentage
White	281	94
Black	8	3
Hispanic	3	1
Asian	4	1
Other	4	1

Source(s): Created by authors

Table 7. Race/ethnicity (second wave)

Age	*n*	Percentage
10–18	6	2
19–27	79	26
28–36	70	23
37–44	64	21
45–53	36	12
54–61	24	8
62–70	17	6
71–79	4	1

Source(s): Created by authors

Table 8. Age of participant when entrepreneurial behavior began (second wave)

Education level	*n*	Percentage
Did not complete high school	13	4
Completed high school	92	31
Completed a trade school certificate degree	28	9
Completed an associate degree	43	14
Completed an apprentice/journeyman's	7	2
program Completed a bachelor's degree	73	24
Completed a graduate degree	44	15

Source(s): Created by authors

Table 9. Education level when the entrepreneur started their business (second wave)

Method of business creation	*n*	Percentage
Purchased a franchise	6	2
Purchased an existing business	59	17
Bought into an existing business	14	5
Created a business that previously did not exist	197	66
Other	31	10

Source(s): Created by authors

Table 10. Method of business creation when entrepreneurial behavior began (second wave)

mean squared residual (SRMR) of 0.085 and a chi-square index of 793.57, $p < 0.001$. The results for the four-factor model fell short of the Kline's (2005) fit indices benchmarks (RMSEA ≤0.05, CFI ≥0.95, SRMR ≤0.08, non-significant chi-squared). The confirmatory factor analysis did not support the four-factor model. A second confirmatory analysis was generated by removing the death and inheritance factor which had resulted in the lowest percent of explained variance as reflected in the exploratory factor analysis. The factors evaluated were (1) personal fulfillment, (2) job dissatisfaction and (3) innovation. The results of the confirmatory factor analysis on the three-factor model resulted in a RMSEA of 0.101, a comparative fit index of 0.749, a standardized root mean squared residual of 0.093 and a chi-square index of 1086.02, $p < 0.001$. These results still fell short of the fit indices benchmarks but showed improvement.

A third model, which consisting of two factors, was estimated by dropping the innovation factor. The innovation factor yielded the next lowest percentage of variance explained in the exploratory factor analysis. The confirmatory factor analysis for the two-factor model consisted of the personal fulfillment and job dissatisfaction factors. The model was further modified with the addition of four theoretically justified item covariances (Table 12). Each of the modifications was defined as determined in part by social level causes in addition to the personal motives and circumstances of the individual entrepreneur.

The confirmatory factor analysis that included covariances for the two-factor model yielded adequate model fit with a root mean squared error of approximation of 0.055, a comparative fit index of 0.955, a standardized root mean squared residual of 0.047 and a chi-square index of 161.61, $p < 0.001$. Although the significant chi-squared index was reduced it remained significant, as can be expected with relatively larger sample sizes. The two-factor model fulfilled the scale development objective of identifying and retaining those items that most clearly represent the content domain of the underlying construct (Hinken *et al.*, 1997). Figure 1 graphically displays the two-factor model (i.e. personal fulfillment and job dissatisfaction) and reports the modification indices and standardized residual covariances.

Model	Chi-squared	RMSEA[1]	CFI[2]	SRMR[3]
4-factors	793.57*	0.099	0.721	0.085
3-factors	1086.02*	0.101	0.749	0.093
2-factors**	161.61*	0.055	0.955	0.047

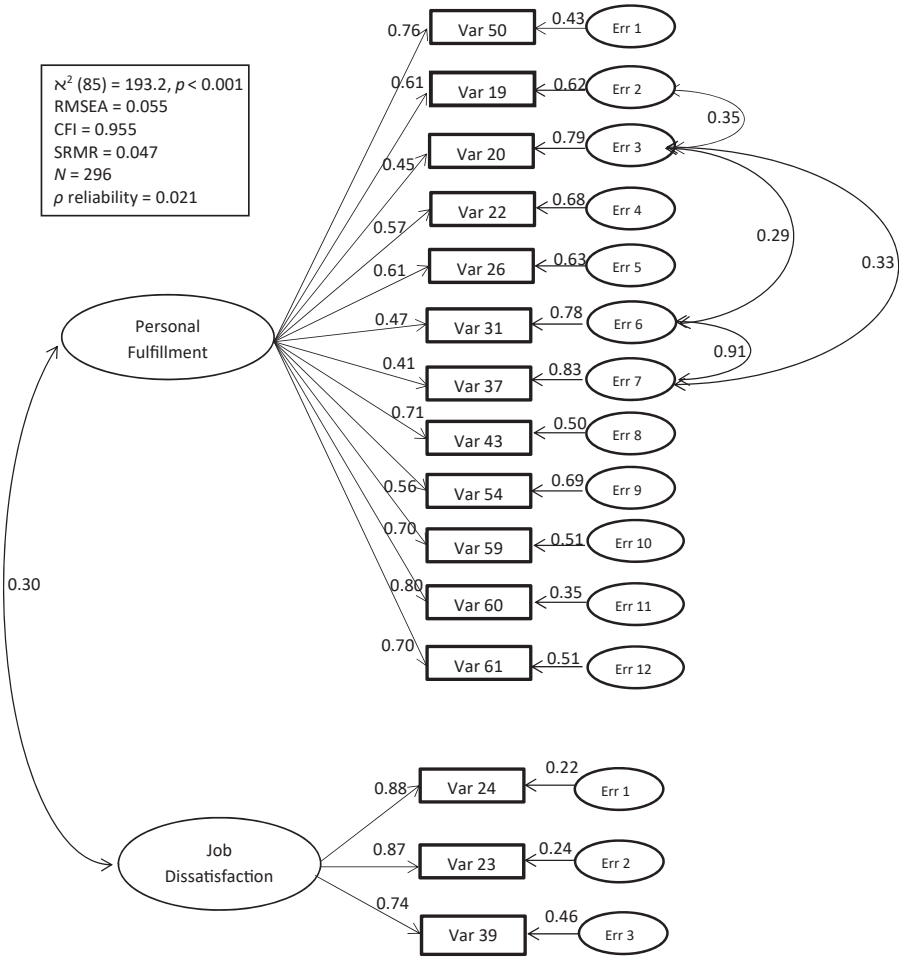
Note(s): *$p < 0.001$
** includes covariances
1: root mean squared error of approximation
2: comparative fit index
3: Standardized root mean squared residual
Source(s): Created by authors

Table 11.
Confirmatory factor analysis fit statistics for alternative models

		Social dimension		
Item	Description		Item	Description
19	I wanted to realize my dream	↔	20	I wanted a better life
20	I wanted a better life	↔	31	I wanted to increase my prestige
20	I wanted a better life	↔	37	I wanted to increase my status
31	I wanted to increase my prestige	↔	37	I wanted to increase my status

Source(s): Created by authors

Table 12.
Personal fulfillment modification indices and incorporated covariances (with instrument question reference numbers)



Source(s): Created by Authors

Figure 1.
Two-factor CFA model

The standardized solution and correlation of the two-factor model, along with standard errors, are provided in Table 13.

The estimate of reliability for the personal fulfillment factor based on the presence of four correlated errors was 0.85. Job dissatisfaction with no correlated covariances was 0.88 (see Table 14). Both factors yielded acceptable levels of reliability estimates for their respective latent variables.

Optimization of the instrument

The emergent 56 trigger event instrument was optimized to be reliable and concise. The 15 trigger event items yielded a two-factor model (i.e. personal fulfillment and job dissatisfaction) generated by confirmatory factor analysis. The other trigger event variables were removed from the instrument because they resulted in a significant level of error in the model.

Item number and description		Coefficient	Standard error
Personal fulfillment			
50	I wanted to reach my full potential	0.757	0.085
19	I wanted to realize my dream	0.613	0.085
20	I wanted a better life	0.453	0.087
22	I wanted to start my own business	0.568	0.078
26	For my own personal growth	0.605	0.083
31	I wanted to increase my prestige	0.472	0.076
37	I wanted to increase my status	0.408	0.073
43	I wanted a challenge	0.708	0.080
54	I wanted to take advantage of my creative talent	0.561	0.086
59	I wanted the satisfaction of my own business	0.702	0.075
60	I wanted to challenge myself	0.803	0.079
61	I wanted to take a risk	0.699	0.080
Job dissatisfaction			
24	My job was not satisfying	0.882	0.077
23	My job was boring	0.738	0.068
39	I did not like my job	0.873	0.062
Personal fulfillment ↔ *Job dissatisfaction*		0.297	

Source(s): Created by authors

Table 13. Standardized solution and correlation of the two factor model

Trigger event factors	Reliability estimate
Personal fulfillment	0.8540
Job dissatisfaction	0.8777

Source(s): Created by authors

Table 14. Internal consistency of the two-factor model

Implications for academic research

The types of events that trigger an individual to begin acting upon entrepreneurial intention, motivation, orientation or passion are often discussed in literature and business press. Anecdotal evidence reveals that different types of events have the potential to trigger entrepreneurial behavior. A review of extant literature did not identify specific types of triggering events. Rather, the types of events that triggered entrepreneurial behavior has been typically understood in the context of the individual entrepreneur and situation in which the behavior was triggered and acted upon. In addition, differing perspectives were proffered by academic, organizational development, policy making, commentating, practicing and entrepreneurial communities. In order to advance theory and discussions regarding the triggering of entrepreneurial behavior, a common understanding needed to be developed of the types of events that serve this purpose. A defensible conceptualization was developed to capture the process. Understanding the typology of events should be informed by practitioners to avoid discrepancies between scholarly interest and entrepreneurial practice (Achtenhagen *et al.*, 2010).

This research explored the types of events that entrepreneurs believed had disrupted or displaced the initial inertia of their life and led them to pursue entrepreneurial intentions, motivations, orientations or passions. The exploration was conducted from the self-reported perspective of the entrepreneur. This study developed a conceptualization and factor that

could be used in empirical research into the types of events that serve as triggers of entrepreneurial behavior.

Research results indicate the trigger is the event that leads the entrepreneur to act upon entrepreneurial intentions, motivations, orientations and/or passions in such a way that the triggered behavior results in the creation of a successful business. The findings of this study indicate that all entrepreneurs experienced a life changing event that caused them to act upon entrepreneurial intentions. No entrepreneur in the study experienced a life inertia change without a triggering event. This finding confirmed Liang and Dunn's (2007) proposed model requiring an initiator and a precipitating event for entrepreneurial activity to occur. The precipitating event is the trigger of entrepreneurial behavior. Liang and Dunn defined entrepreneurial triggers as forces in the individual's perception of their situation that move them toward the entrepreneurial process. Entrepreneurial processes within the scope of this study are defined as creating new products of quality, creating new methods of production, opening new markets, creating new sources of supply or creating new organizations or structures in business (Schumpeter, 1934). The entrepreneurial process is considered "triggered" or initiated from the moment the individual starts thinking seriously about setting up or taking over a business or organization and consequently starts devoting time and resources to its development (Bruyat and Julien, 2001; Fayolle, 2007).

Four major types of events have been found to have the potential for triggering entrepreneurial behavior. The four types of trigger events in order of strength are as follows: personal fulfillment and autonomy; job dissatisfaction; innovation; and death and inheritance. The items in the two extracted factors, personal fulfillment and job dissatisfaction, have been found to have the greatest influence in causing entrepreneurs in the study to shift from their original life inertial direction and manifest entrepreneurial behaviors. As observed, it should be noted that some trigger events were found to have greater influence in the entrepreneur's life than other events.

This study's conceptualization of the triggers of entrepreneurial behavior is distinguished by its derivation – it is derived from the self-reported introspections of successful entrepreneurs and is not a conceptualization derived wholly from extant theory. Additionally, the construct is consistent with continuously emerging dichotomous research that conceptualizes the triggers of entrepreneurial behavior as fitting into two separate pairs of experience theoretical categories. The first pair is internal and/or external experiences. The second pair being positive opportunities and/or negative threat categories (Shapero, 1975; Morris, 1998; Schindehutte *et al.*, 2000; Bewayo, 2014). In addition, planned behavior and drive reduction theories were considered. The next step during conceptualization and development of the scale are to verify the identified types of events trigger entrepreneurial behavior. This can be achieved by correlation with similar scales and practical validity through further empirical studies (Comrey, 1988).

This study provides an unequivocal conceptualization or insight into the types of events that trigger an individual to begin acting upon entrepreneurial intention, motivation, orientation or passion. However, as this study's research is developed using the self-reported perspectives of founding entrepreneurs, it contributes to the ongoing discussion and research into triggers of entrepreneurial behavior. Nonetheless, further research is needed to deconstruct the elements and processes involved in the triggering of entrepreneurial behavior. These findings along with further deconstruction research will enable the development of a robust model that can be used for understanding and evaluating triggers of entrepreneurial behavior in empirical research.

Implications for business, government and practice

Entrepreneurship is a critical component in the development and creation of small- to medium-sized companies (Wiklund, 1999). Uncovering the entrepreneurial trigger

mechanisms that lead to the development of small businesses may provide an important means to better understand the explanatory variables associated with business development. In the United States over two-thirds of all employees are employed by small companies with less than 10 workers. US Census Bureau data (2022) reveal that small to medium companies made up 89% of all US businesses. This scale provides entrepreneurial development institutions with the opportunity to include the influence of entrepreneurial trigger events, as perceived by entrepreneurs, in future indicators of business creation. Entrepreneurial organizations can use the knowledge to assist in understanding when potential entrepreneurs may act upon entrepreneurial intentions. Information gained can have significant implications for understanding the initiation of entrepreneurial behavior, entity establishment and business growth. Entrepreneurial growth is important to market economies because they can act as the wheels of the economic growth of the country.

Identification and understanding of the entrepreneurship triggering event are critical since entrepreneurial behavior accounts for the majority of innovation, economic, financial and employment growth of the United States (Small Business and Entrepreneurship Council, 2019).

Findings from this study may help organizations that develop entrepreneurs identify life events that may cause individuals with entrepreneurial intentions to begin acting on those intentions. Understanding that personal fulfillment and job dissatisfaction are areas that trigger entrepreneurial behavior may lead organizations to focus on these areas in their developmental programming. The entrepreneurial trigger event instrument can assist business developers to understand the background and attitudes of their clients more effectively in areas specifically found to trigger entrepreneurial behavior. Future research utilizing the entrepreneurial trigger events instrument will enable focus on past events related to the dimensions of personal fulfillment and job dissatisfaction. In situations where entrepreneurial intentions existed but triggering events did not occur, developmental organizations may explore ways in which triggering events can be simulated.

There has been significant need for the creation of an entrepreneurial trigger event instrument that will allow researchers to explore the effects of precipitating trigger events on entrepreneurial intentions. This instrument will enable researchers to identify which life events may stimulate an individual's entrepreneurial intent and thus initiate entrepreneurial behavior.

Limitations and propositions for future research

This research is subject to multiple limitations. First, the trigger events utilized in the entrepreneurial trigger event instrument were limited to the events identified in literature and the interviews with business owners. There may be additional trigger event types that may influence an individual to act entrepreneurially. Expansion of the comprehensive trigger event item pool through additional qualitative and quantitative research may provide a greater understanding of the triggers of entrepreneurial behavior. Second, most entrepreneurs participating in this study were from the Northeastern United States. The contents and dimensionality of trigger events could be affected by the disproportionate ratio of participants who reside in predominately blue-collar work environments (Evans *et al.*, 1987), which characterizes much of the "rust-belt" region of the Northeast from which the data of this study were derived. Administering the instrument in other geographic, demographic and culturally diverse areas may enhance the generalizability and applicability of this study. Third, the entrepreneurs participating in this research were limited to businesses to which the primary researcher had direct access. This limitation could possibly be minimized by targeting a wider

population of entrepreneurs in more diverse product and service industries. Fourth, the entrepreneurs participating in this study reported their triggering event based on their memory which could have been misrepresented due the inaccurate recall or memory bias. This bias is a statistical phenomenon that occurs when a person's memory is distorted by their current state of mind. When this happens, the person's recollection of past events will be skewed and possibly inaccurate (Hawkins and Hastie, 1990). Fifth, no attempt has been made to model the comparative effects of the different variables on entrepreneurial outcomes. For example, future studies can measure the impact of the participants' race/ethnicity on the other variables. No tests were run to measure whether specific variables, or set of variables, served as either moderators or mediators on the relationship between triggers and entrepreneurial action. This paper was designed to explore base level interactions between triggering events and subsequent entrepreneurial behavior. Further explorations will help develop deeper understanding of trigger event influence. Finally, the study did not test the effect of participants' demographics or psychographics, i.e. race/ethnicity, gender identity, social economic, education, age and minority status, on the trigger event/entrepreneurial behavior relationship. The aforementioned limitations could play a major role in the effect of triggering events on entrepreneurial behavior. Accordingly, these limitations serve as fertile ground for future research.

Conclusion and discussion

In researching what motivates individuals to act upon entrepreneurial intentions, measuring and understanding effective entrepreneurial triggers has a great importance. It is important from academic, business, government and practical aspects. Specific types of triggers have been found to precipitate entrepreneurial behavior. In this study, data was collected from practicing entrepreneurs to ascertain the events those entrepreneurs believed led to their acting upon entrepreneurial intentions. Within the scope of this study, it was found that there are two major categories of entrepreneurial triggering events. These two types of triggering events include personal fulfillment and job dissatisfaction. These findings align with earlier social science research and expand previous research into the realm of entrepreneurship. Personal fulfillment aligns with behavior pull-based theories and job dissatisfaction aligns with behavior push-based theories.

The main contribution of this research addresses the calls for further investigation into the triggering events that initiate entrepreneurial behavior with the development of Entrepreneurial Trigger Event Scale. Reliability and validity of the scale is tested and found high. The two-factor model contains personal fulfillment and job dissatisfaction. Personal fulfillment contains 12 dimensions and job dissatisfaction contains three dimensions. The factors and dimensions are explicated in this paper.

The optimized instrument developed in this study further expanded Shapero's (1975) proposed theory of the origins of entrepreneurial behavior. Shapero postulated that an event must exist that interrupts one's life direction, stimulates change and moves individuals toward entrepreneurial behaviors. The instrument developed in this study represents a psychometrically valid model to measure the self-perceived influence of personal fulfillment and job dissatisfaction trigger events on individuals' engagement in entrepreneurial behaviors. The entrepreneurial trigger event instrument offers significant research potential for understanding entrepreneurial behavior, business establishment and economic growth.

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