



Affect spin, entrepreneurs' well-being, and venture goal progress: The moderating role of goal orientation☆



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ABSTRACT

Using two experience sampling studies, we examined the relationship between affect fluctuations (i.e., affect spin) and goal orientation on psychological well-being and venture goal progress of early-stage startup entrepreneurs. We found that the entrepreneur's affect spin negatively related to well-being (Study 1) and venture goal progress (Study 2). Goal orientation moderated these relationships. Specifically, high performance-approach goal orientation weakened the negative relationship between affect spin and psychological well-being (Study 1) and venture goal progress (Study 2); high learning goal orientation strengthened the negative impact of affect spin on well-being (Study 1) but not on venture goal progress (Study 2). We discussed the theoretical and practical implications of our study to affect in entrepreneurship research.

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1. Executive summary

The important role of affect (i.e., moods and emotions) in the entrepreneurial process is widely recognized by scholars and practitioners alike. While affect research has made great strides in the field of entrepreneurship, existing studies have predominantly focused on the property of affect in terms of *levels* which can either be in the form of trait level (how entrepreneurs feel in general) or state level (how entrepreneurs feel at a certain point in time). This approach, while offering many insights, paints an incomplete picture of the role of affect in entrepreneurship, as it overlooks the entrepreneur's affect fluctuations, i.e., *affect spin*, as a property of affect. Affect spin encompasses fluctuations of both positive and negative affect in response to affect-laden events. Our study highlights that omitting affect spin from affect research in entrepreneurship can result in at best insufficient, and at worst, inaccurate predictions of the impact of affect on entrepreneurial outcomes.

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Through two experience-sampling studies involving early-stage entrepreneurs, we found that affect spin negatively related to well-being and venture goal progress. Moreover, the entrepreneur's goal orientation which captures his/her overall motivational approach in pursuing achievement goals moderated the effects of affect spin on psychological well-being and venture goal progress. Specifically, high performance-approach goal orientation mitigated the negative impact of affect spin on both well-being and venture goal progress; high learning goal orientation strengthened the negative impact of affect spin on well-being but not on venture goal progress. As our findings suggest, affect spin explains the entrepreneur's well-being and venture progress distinctly from what is accounted for by average levels of affect. This changes how we think about affect as a level to one that encompasses fluctuations as a fundamental property of affect.

Taken together, our findings suggest that individual differences in affect spin and goal orientation play a significant role in the early-stage entrepreneurial process. Our research builds on a growing body of research on affect in entrepreneurship and adds to this conversation by highlighting the role of affect fluctuations—fluctuations of both of positive affect and negative affect—on psychological well-being and venture goal progress. Importantly, our findings generate insights beyond what we already know from existing entrepreneurial affect research which predominantly focused on the entrepreneurs' average levels of positive and negative affect. Our study also provides evidence that affect spin's impact on outcomes should be looked at in conjunction with relevant action tendencies, in particular, goal orientation.

2. Introduction

The important role of affect in entrepreneurship has emerged in the recent decade (Baron, 2008; Cardon et al., 2012). Scholars have conceptualized affect as traits or general predispositions to experience certain feelings, and also as states or transient emotional experiences (Lyubomirsky et al., 2005; Watson, 2000). Studies on entrepreneurs' affect indicate significant linkages between affect and opportunity recognition (Hayton and Cholakova, 2012; Welpe et al., 2012), risk perceptions (Foo, 2011), goals and satisfaction with business (Delgado-García et al., 2012), team relationship conflict (Breugst and Shepherd, 2015), venture effort (Foo et al., 2009), and firm performance (Baron et al., 2011). As a result, our understanding of affect in entrepreneurship has made significant progress.

Notwithstanding the insights derived from extant research, these studies mainly focus on the property of affect in terms of level, i.e., scholars take the average value of positive and negative affect respectively and use them to predict entrepreneurial

Table 1
Comparison among trait affect, state affect, and affect spin.

	Trait affect	State affect	Affect spin
Conceptualization of affect	Levels of affect that are generally stable (Baron, 2008; Delgado-García et al., 2012)	Levels of affect over time where affect is measured at specific points in time (Baron, 2008; Hayton and Cholakova, 2012)	Fluctuations of affect (Beal et al., 2013)
Operationalization of positive affect (PA) and negative affect (NA)	Separately and distinctly—i.e., trait PA and trait NA (Foo et al., 2009; see Watson et al., 1988)	Separately and distinctly—i.e., state PA and state NA (Foo et al., 2009; see Watson et al., 1988)	Jointly—accounts for intraindividual fluctuations of PA and NA over time (Beal et al., 2013)
Impact of PA on psychological well-being	Positive—trait PA enhances entrepreneurs' capacity to tolerate stress, which could have beneficial effects on the entrepreneurs' wellbeing (Baron, 2008; Cardon and Patel, 2015; Delgado-García et al., 2012)	Same as that of trait PA—trait and state affect exert parallel effects (Baron, 2008)	Negative—psychological resources needed to manage and regulate positive affect fluctuations; continuous regulation could result in depletion of resources which could be detrimental to well-being (present study; see Beal et al., 2013; Kuppens et al., 2007)
Impact of NA on psychological well-being	Negative—trait NA stimulates anxiety and stress which could have detrimental effects on entrepreneurs' wellbeing (Baron, 2008; Cardon and Patel, 2015; Delgado-García et al., 2012)	Same as that of trait NA—trait and state affect exert parallel effects (Baron, 2008)	Negative—psychological resources needed to manage and regulate negative affect fluctuations; continuous regulation could result in depletion of resources which could be detrimental to well-being (present study; see Beal et al., 2013; Kuppens et al., 2007)
Impact of PA on venture-related outcomes	Mixed—PA signals favorable progress which could motivate future-oriented venture effort (Foo et al., 2009) and creative effort which translates to improved firm performance (Baron and Tang, 2011); but beyond certain levels PA could be detrimental to entrepreneurial cognition, motivation, and firm performance (Baron et al., 2012, 2011)	Same as that of trait PA—trait and state affect exert parallel effects (Baron, 2008)	Negative—psychological resources needed to manage and regulate positive affect fluctuations; limited personal resources are diverted away from the venture (present study)
Impact of NA on venture-related outcomes	Mixed—NA signals that things not going well and can spur immediate venture effort (Foo et al., 2009); but NA may hurt confidence which could deter entrepreneurial behavior (Koellinger et al., 2007)	Same as that of trait NA—trait and state affect exert parallel effects (Baron, 2008)	Negative—psychological resources needed to manage and regulate negative affect fluctuations; limited personal resources are diverted away from the venture (present study)

outcomes (e.g., Baron and Tang, 2011; Foo et al., 2009). Levels of affect can either be in the form of trait level (how entrepreneurs feel in general) or state level (how entrepreneurs feel at a certain point in time). This approach, while offering many insights, paints an incomplete picture of the role of affect in entrepreneurship, as it overlooks the entrepreneur's affect *fluctuations* as a property of affect.

This is an unfortunate omission because affect level and affect fluctuations can make different predictions on entrepreneurial outcomes. Consider a hypothetical example of two entrepreneurs: over a month, the first entrepreneur experienced relatively stable or steady-state positive affect levels, while the second entrepreneur experienced drastic fluctuations from low to high positive affect. When state positive affect levels are aggregated over the one-month period, the two entrepreneurs could end up having similar average positive affect levels, but certainly different affect fluctuations. Without accounting for affect fluctuations, simply using the level of affect perspective would predict no difference between the two entrepreneurs in wellbeing and venture progress. In Table 1, we summarize the comparison among trait and state affect and affect fluctuations or *affect spin* in terms of conceptualization, operationalization and implications on relevant entrepreneurial outcomes. Defined as the dispositional tendency to experience qualitatively different feelings, affect spin directly captures fluctuations of both positive and negative affect in response to affect-laden events (Beal et al., 2013; Beal and Ghandour, 2011; Kuppens et al., 2010b; Timmermans et al., 2010). As we will explain in our theory development, predictions from the fluctuations approach would be that the second entrepreneur compared to the first will have poorer psychological well-being and his or her venture will experience less progress because psychological resources are needed to regulate affect fluctuations. Omitting affect spin from affect research in entrepreneurship can result in at best incomplete, and at worst, inaccurate predictions of the impact of affect on entrepreneurial outcomes.

In this study, we examine the impact of entrepreneurs' affect spin on two outcomes in entrepreneurship, *psychological well-being*, defined as a person's overall psychological condition or general state needed for effective human functioning (Costa and McCrae, 1980; Ryan and Deci, 2001), and *venture goal progress* or the extent to which the entrepreneur has made successful attempts in advancing or moving the business venture forward (Gielnik et al., 2015; Uy et al., 2015). We focused on these two outcomes because scholars have emphasized the importance of considering not just the health of the business venture (or venture progress) but also the health of the entrepreneur (or well-being), and both outcomes are vital especially for entrepreneurs to sustain their ventures (Gielnik et al., 2015; Shepherd and Haynie, 2009; Uy et al., 2015). Drawing on the dynamics of affect (DynAffect) theory which provides a theoretical account of individual differences in the temporal dynamics of affective experiences (Kuppens et al., 2010b) and the self-regulation perspective that contends affect spin requires and consumes psychological resources (Beal et al., 2013), we hypothesize that the entrepreneurs' affect spin would have significant implications on both psychological well-being and venture goal progress.

A key aspect of the effect of affect spin on entrepreneurial outcomes involves how entrepreneurs regulate their psychological resources in responding to affect-laden events (Beal et al., 2013; Kuppens et al., 2007). Thus, the extent to which affect spin influences entrepreneurial outcomes should depend on the entrepreneurs' tendencies to expose themselves to such events. One such tendency is goal orientation defined as "*the cluster of actions undertaken in the pursuit of achievement goals in specific situations*" (DeShon and Gillespie, 2005, p. 1120). Studying goal orientation as a moderator of the link between affect spin and outcomes of well-being and venture progress allows us to theorize a coherent model, as both affect spin and goal orientation are rooted in the self-regulatory framework which encompasses the self's capacity to manage his/her feelings, cognition, and behavior (Creed et al., 2009; Porath and Bateman, 2006).

Our study makes the following contributions. First, we contribute to the burgeoning affect research in entrepreneurship by introducing affect spin as a vital property of the entrepreneurs' affect. We advance how entrepreneurship scholars think about affect by revealing the role of affect spin in shaping entrepreneurial outcomes. As our findings suggest, affect spin matters because it explains the entrepreneur's well-being and venture progress distinctly from what is accounted for by average levels of affect. This changes how we think about affect as a level to one that encompasses fluctuations as a fundamental property of affect.

Second, we take a self-regulation perspective to study the boundary condition of the linkage between affect spin and entrepreneurial outcomes. We theorize how goal orientation—a self-regulatory construct which predisposes people to certain action strategies (DeShon and Gillespie, 2005; Payne et al., 2007; VandeWalle, 1997)—moderates the impact of the entrepreneurs' affect spin. We highlight the importance of considering how affective (affect spin) and motivational (goal orientation) self-regulatory constructs interact to shape entrepreneurial outcomes. In considering these interactive effects, we challenge the prevailing view that learning goal orientation is almost *always* more favorable than performance-approach goal orientation (Payne et al., 2007). As our results indicate, entrepreneurs with high affect spin could be negatively impacted (i.e., result in poorer well-being) by the exploratory and unproven strategies driven by learning goal orientation; whereas performance-approach goal orientation, which entails more defined strategies and activities that elicit less uncertainty, could buffer the negative impact of high affect spin.

Finally, by virtue of affect spin's dispositional nature (Beal et al., 2013; Kuppens et al., 2007), we contribute to the trait-based research in entrepreneurship. While some scholars have called for a discontinuation of efforts in adopting dispositional paradigms in entrepreneurship research (e.g., Gartner, 1988; Low and MacMillan, 1988) due to the lack of strong and consistent relationship between personality and entrepreneurship, recent meta-analytic studies provide support for the predictive validity of traits on entrepreneurial outcomes (e.g., Rauch and Frese, 2007; Zhao et al., 2010). We offer a fresh perspective to personality research in entrepreneurship by unraveling the research implications of affect spin, an individual difference construct that captures *intraindividual fluctuations* of positive and negative affect over time (Beal et al., 2013), in shaping critical entrepreneurial outcomes.

3. Theoretical background and hypothesis development

3.1. Affect and affect spin

Baron's (2008) seminal paper offered two reasons for the relevance of affect in entrepreneurship. First, the entrepreneur's environment is highly uncertain and rapidly changing, and it is in such situations that affective influences are pervasively shaping one's cognition and behavior. Second, the nature of entrepreneurial tasks is significantly varied and subject to erratic changes, and such entrepreneurial activities tend to be prone to strong affective influences. Baron's (2008) article inspired scholarly interest to focus on the entrepreneurs' affective experiences. Most studies on affect in entrepreneurship have looked into the relationship between affect levels and outcomes such as creativity (Baron and Tang, 2011), idea perception and intentions to develop the idea (Hayton and Cholakova, 2012), and effort (Foo et al., 2009). Scholars have adopted the most commonly used affective structure which consists of positive affect (PA), or activated pleasant feelings such as enthusiasm, and negative affect (NA), or activated unpleasant feelings such as anxiety, as research has shown that people can be meaningfully characterized in terms of individual differences in average levels of positive affect and negative affect (Larsen, 2000; Watson and Tellegen, 1985).

However, contemporary affect scholars also found substantive individual differences in the extent to which people's affective experiences vary over time, as demonstrated in a growing body of research on stable differences in how people's affect fluctuate (Eaton and Funder, 2001; Kuppens et al., 2007). Scholars conceptualized affect variability as a personality characteristic (Eid and Diener, 1999). While the theoretical significance of looking at meaningful individual differences in the experience of affective fluctuations is widely recognized (Kuppens et al., 2007; Moskowitz and Zuroff, 2004), empirical studies on affect variability have only begun to gain traction in recent years. From this developing stream of research emerged the concept of affect spin, or the tendency to experience qualitatively different feelings as indicated by the intra-individual variability in response to affect-laden events (Beal et al., 2013; Kuppens et al., 2007).

According to the DynAffect theory (Kuppens et al., 2010b) which conceptually portrays the affective regulatory process, each person's affective system is characterized by an affective home base which has a fixed point that reflects the system's baseline functioning. Such fixed point is also known as the attractor of the system which can be regarded as the person's "affective comfort zone", or the level that implies things are normal. However, every person's affective system is subject to the influences of various external and internal elements which may generate varying shifts in feelings, and as a result, deviate from the home base or affective comfort zone. The attractor preserves the affective system's equilibrium by activating the regulatory processes that pulls the core affect back to the home base. Regulating affect is inevitable as scholars argue that all affective experiences originate from regulation efforts (Frijda, 2009; Kuppens et al., 2010b). As such, the upward or downward regulation of affective experiences could have significant implications on the return of the affective system to its baseline level. Importantly, because high-affect spin individuals tend to experience high fluctuations in affect (Kuppens et al., 2007), they require and consume more affect regulatory resources to return to their baseline affective state (Beal et al., 2013).

In the next section, we explain how affect spin impacts early-stage entrepreneurs based in business incubators. We studied these entrepreneurs because they are typically young, inexperienced and resource-constrained. These are circumstances where affect has strong, pervasive effects on thoughts and behaviors (Baron, 2008).

3.2. Affect spin and its impact on psychological well-being and venture goal progress

People with high affect spin have highly varying affective experiences in that they tend to experience more switching from positively to negatively valenced feelings and vice versa. High affect spin denotes having an affective system that is hypersensitive and extremely reactive to valenced stimuli (Beal and Ghandour, 2011), such that when something negative happens, high affect spin entrepreneurs will react more strongly than low affect spin entrepreneurs; similarly, when something positive occurs, high affect spin entrepreneurs would also react more strongly compared to their low affect spin counterparts.

We hypothesize that affect spin would negatively impact early-stage entrepreneurs' psychological well-being, as well as their venture goal progress for two reasons. First, high affect spin is associated with a greater need for emotional regulation (Beal et al., 2013; Beal and Ghandour, 2011), which depletes resources necessary for effective functioning. Self-regulatory resources that people use for maintaining well-being and attaining higher levels of performance are limited in nature (Hobfoll, 2002; Kanfer and Ackerman, 1989). Because of their tendency to be more reactive to affective events, high affect spin individuals tend to be "more depleted by the act of regulating emotions", and they also tend to experience "depletion due to the unpredictable nature of their affective experience" (Beal et al., 2013, p. 601). Such depletion brings about fatigue and consequently, psychological well-being suffers (Hobfoll, 2001; Suh et al., 1996). The depletion of psychological resources also imply that affect spin should negatively impact the entrepreneur's performance because high quality performance requires continual investment of resources (Behrman et al., 1981; Cardon et al., 2005; Tubre and Collins, 2000).

Second, because affect serves as information that becomes incorporated into one's judgments, decisions, and actions (Foo et al., 2009; Forgas and George, 2001; Hirt et al., 1997; Schwarz, 2000) especially in complex and uncertain environments—characteristics that aptly reflect the early-stage entrepreneurial landscape (Baron, 2008)—high affect spin would present greater information processing demands as entrepreneurs make sense of affect fluctuations they are experiencing. Early-stage entrepreneurs with high affect spin may not have the ability to deal with such information processing demands, as prior experience and knowledge is crucial to sensemaking and opportunity recognition (Baron and Ensley, 2006; Corbett, 2007). Such inability could jeopardize the limited attentional resources for venture tasks (Sun and Frese, 2012). An early-stage

entrepreneur with high affect spin suggests heightened sensitivity to the variability in *both* positive and negative affect, which the entrepreneur would consider as information that s/he has to make sense of. Having to process and make sense of too many changes in information could deplete one's psychological resources and consequently hurt psychological well-being (Beal et al., 2013; Kuppens et al., 2007). Similarly, high affect spin could also be detrimental to the entrepreneur's venture progress, because having to deal with wider fluctuations of positive and negative affect (which are sources of information) necessitates more time and resources to make sense of these information before taking concrete action steps to move the venture forward. Thus, we hypothesize:

Hypothesis 1. The early-stage entrepreneur's affect spin relates negatively to (a) psychological well-being and (b) venture goal progress.

3.3. Moderating effects of goal orientation

High affect spin individuals are more prone to affect-laden events. Despite this important assumption, to our knowledge, no research on affect spin has looked at how tendencies to put oneself in novel, unfamiliar situations would moderate the impact of affect spin. The second purpose of our study is to examine boundary conditions of the linkages between affect spin and outcomes of well-being and venture goal progress. Because the entrepreneur is not a passive recipient of the deterministic forces of the environment, much of what the entrepreneur experiences is a result of his/her agentic, active role in the new venture implementation (Baron, 2007). In short, as the entrepreneurs' action strategies influence their environment, their overall approach would also influence the degree of uncertainty and complexity they confront. From a self-regulation perspective, one way to moderate the impact of the early-stage entrepreneur's affect spin is through regulating different action strategies that can expose entrepreneurs to different levels of risks and uncertainties. We draw on the motivated action theory of goal orientation (DeShon and Gillespie, 2005) to hypothesize moderators of the linkages between affect spin and entrepreneurial outcomes. Goal orientation captures how individuals regulate attention and effort in achievement situations (DeShon and Gillespie, 2005; VandeWalle, 1997), and different goal orientations specify *how* to approach the early-stage entrepreneurial context which we regard as an achievement situation. Goal orientation scholars have predominantly used a trichotomous framework of achievement motivation (DeShon and Gillespie, 2005; Elliot et al., 2005; VandeWalle, 1997). *Performance-approach goal orientation* is a form of approach motivation that refers to self-regulation towards attaining normative, prestige-oriented competence. *Performance-avoid goal orientation* refers to self-regulation towards avoiding normative incompetence. *Learning goal orientation* refers to self-regulation towards developing intrinsic task-based competence and is also a form of approach motivation.

Goal orientation theory explains that people with a performance-approach goal orientation focuses on attaining normative competence and attends to external requirements for success (Ferris et al., 2011). Oftentimes, people with strong performance-approach goal orientation tend “not to engage in mistake-prone exploration” and adopt proven or tried-and-tested strategies to ensure successful performance (DeShon and Gillespie, 2005, p. 1110). Because performance-approach goal oriented individuals are primarily focused on “finding a single path to achieve a goal” (Ferris et al., 2011, p.149), entrepreneurs high in performance-approach goal orientation will prefer to engage in venture tasks that they think they are good at and would adopt proven strategies instead of exploratory ones. Rather than exploring multiple uncertain paths, they will tend to focus on more exploitative strategies (Chadwick and Raver, 2015), or action strategies that have worked well in the past which entail modest refinements rather than drastic modifications. These tried-and-tested strategies would reduce the incidence of emotionally draining events. Fewer occurrences of unanticipated events would mean less resources required for affect regulation (Baumeister et al., 1998). Because exploitative strategies are narrower in scope and less risk-prone (March 1991), the entrepreneur will face far less complex informational and environmental cues, and consequently, unexpected jolts would also be reduced. As a result, the impact of affect spin on well-being and venture goal progress will be less potent for entrepreneurs with higher levels of performance-approach goal orientation.

Hypothesis 2. Performance-approach goal orientation weakens the negative relationship between affect spin and (a) psychological well-being and (b) venture goal progress.

In contrast, performance-avoid goal orientation will likely strengthen the negative impact of affect spin on psychological well-being and venture goal progress. People with strong performance-avoid goal orientation are highly sensitive to negative information, which in turn evokes a set of maladaptive self-regulatory processes such as insecurity, anxiety and even self-handicapping (DeShon and Gillespie, 2005; Elliot et al., 2005; VandeWalle, 1997). Avoidance motivation places increasing demands on self-regulatory resources, as it “requires blocking every path that may lead to a negative outcome” (Ferris et al., 2011, p. 149). Moreover, because people with high performance-avoid goal orientation are extremely sensitive to negative outcomes (Elliot, 2006; Ferris et al., 2013), any resource loss in the self-regulation process tends to be amplified. Since high affect spin could trigger a greater need for making sense of the changing information brought about by affect fluctuations, when a high-affect-spin entrepreneur also has a high performance-avoid goal orientation, her self-regulatory resources will be overextended. As a result, her psychological well-being and venture goal progress will likely suffer.

Importantly, in the early stages of business implementation, the entrepreneur needs to put in significant effort for the venture to survive (Cardon et al., 2005; Carter et al., 1996). An entrepreneur with high performance-avoid goal orientation who exhibits a preference for withdrawal could let problems persist. Performance-avoid goal orientation could intensify the impact of high affect

spin on well-being and venture goal progress outcomes because the continued presence of challenges and problems that remain unaddressed could lead to situations more conducive to extreme emotional reactions (Shepherd and Cardon, 2009). Greater emotional uncertainty could result in the consumption of more cognitive and self-regulatory resources. This combination of high affect spin and high performance-avoid goal orientation could take its toll not only on the entrepreneur's psychological well-being, due to the incessant worrying and increased anxiety (Uy et al., 2013), but also on the venture goal progress, due to the lack of direct, hands-on strategic actions critical in the early stage of business implementation.

Hypothesis 3. Performance-avoid goal orientation strengthens the negative relationship between affect spin and (a) psychological well-being and (b) venture goal progress.

What about the moderating effect of learning goal orientation? While both performance-approach and learning goal orientations are regarded as approach motivation, they differ because unlike performance-approach goal orientation which focuses on proven strategies, learning goal orientation prompts individuals to engage in more experimentation and trial-and-error methods in achievement contexts (DeShon and Gillespie, 2005). Learning goal orientation denotes seeking out challenging tasks and focusing on experimentation and exploration (VandeWalle et al., 2001) which could expose entrepreneurs to more uncertainties and affect-laden events, and result in increased variability in outcomes (Brett and VandeWalle, 1999) that implies greater risk that a certain outcome may or may not be realized (Forlani and Mullins, 2000).

Given affect spin engenders diverse information due to the heightened sensitivity to both positive and negative affect fluctuations, the varying feelings experienced by the entrepreneur are regarded as information for the entrepreneur to attend to and process (Forgas, 1995; Schwarz and Clore, 1983), regardless of whether they are potentially beneficial to the venture. A strong learning goal orientation will put increasing information processing demands on the entrepreneurs's self-regulatory resources, as s/he would be intrinsically motivated to make sense of his/her affect fluctuations. High learning goal orientation necessitates higher attentional resources (Steele-Johnson et al., 2000) because it could prompt the entrepreneur to engage in sensemaking whereby s/he attempts to explain unexpected, incoherent, and often confusing experiences (Maitlis and Christianson, 2014) to comprehend the variability of affect brought about by high affect spin. Because high learning goal orientation encourages exploratory strategies (Chadwick and Raver, 2015), the entrepreneur would tend to engage in more divergent search and risk-prone activities (March 1991), which could likely present more complex environmental cues. Making sense of varying and disparate information is psychologically taxing and requires personal resources, because high affect-spin entrepreneurs "require greater efforts of control" to regulate their emotions to an optimal state (Beal et al., 2013; Eid and Diener, 1999). Expending resources to make sense of affect fluctuations will likely divert resources from current venture tasks which effectively come from the same pool of self-regulatory resources, causing performance trade-offs and well-being to suffer (Kanfer and Ackerman, 1989; Sun and Frese, 2012). Hence, we expect high learning goal orientation to strengthen the negative impact of affect spin on the entrepreneur's psychological well-being.

We also expect the same moderating pattern of learning goal orientation for the link between affect spin and venture goal progress. For high affect-spin entrepreneurs, having to deal with increased variety and frequency of events could deplete their resources (Kanfer and Ackerman, 1989) and consequently impair their executive functioning (Wright and Cropanzano, 2000; Zhao, 2011), because a high learning goal oriented entrepreneur would engage in more exploratory strategies that require more resources to deal with uncertainty and difficulties. Moreover, as personal resources will be diverted to making sense of the varying information brought about by the heightened fluctuations in positive and negative affect, delays might occur as a result of needing more time and resources in processing varying informational content. Delayed action steps may happen because of the experienced difficulties in making sense of the information (Anderson, 2003), which could impede venture goal progress. Hence, we hypothesize:

Hypothesis 4. Learning goal orientation strengthens the negative relationship between the entrepreneur's affect spin and (a) psychological well-being and (b) venture goal progress.

4. Method: overview of the two studies

We used data from two studies to test our hypotheses. Hypotheses 1a, 2a, 3a, and 4a with psychological well-being as outcome were tested in Study 1, while Hypotheses 1b, 2b, 3b, and 4b with venture goal progress as outcome were tested in Study 2. Following the theoretical conceptualization and empirical assessment of affect spin (Beal et al., 2013), we used the experience sampling methodology or ESM to capture the entrepreneur's affect spin in both studies. ESM requires participants to provide in situ reports of their momentary affect over a period of time (Beal and Weiss, 2003).

Since general or average levels of affect impact well-being and performance (Diener, 2000), we controlled for trait affectivity using the 20-item Positive and Negative Affect Schedule or PANAS (Watson et al., 1988). Moreover, past studies reveal significant effects of self-efficacy (or one's belief of succeeding in achievement situations; Bandura, 1977) on both well-being and performance (Gecas and Schwalbe, 1983; Karademas, 2006), as well as gender differences in psychological well-being and venture outcomes (Harris et al., 1999; Jennings and Mcdougald, 2007). Furthermore, past research suggests that prior venture experience can ease information processing demands and facilitate opportunity identification that benefit venture goal progress (Baron and Ensley, 2006; Corbett, 2007). We thus controlled for the effects of trait positive and negative affectivity, self-efficacy, gender,

prior venture experience and industry (classified into manufacturing, retail, and others) in all our analyses for both Study 1 and Study 2. We assessed all these variables during the orientation.

4.1. Study 1: psychological well-being as the dependent variable

4.1.1. Sample and procedures

We define entrepreneurs as individuals who founded their ventures and are actively involved in running and managing them (Davidsson et al., 2001). We recruited entrepreneurs from a business incubator attached to a university in Manila, Philippines. According to the most recent entrepreneurship report by the Philippine research team affiliated with the Global Entrepreneurship Monitor (Licaros-Velasco et al., 2014), the Philippines exhibited the highest entrepreneurship rate in the Asia Pacific and South Asian region. A significant majority of these entrepreneurs are driven by necessity because of limited job opportunities and high unemployment rate in the country.

It is critical to understand the situation of entrepreneurs in business incubators, given the continuous increase of business incubators not just in developed nations, but also in developing countries and emerging economies (Bruneel et al., 2012). These entrepreneurs are typically young, inexperienced and resource-constrained, and like most other entrepreneurs face complex and uncertain environments (Baron, 2008; Brigham et al., 2007; McMullen and Shepherd, 2006).

At the time of the study, 67 entrepreneurs (out of 70 entrepreneurs in the facility) agreed to participate, and they had been in the incubator for 9 months. Four entrepreneurs dropped out a few days after the study commenced, leaving 63 participants (nested in 11 business ventures) in the final sample (35 were men). Regarding their entrepreneurship experience, 38% of the participants have started business ventures in the past, and 35% of them have experienced working in their respective family businesses. The entrepreneurs were between 19 and 23 years old. While our sample consists of young entrepreneurs, all their ventures are registered legal businesses which they personally founded. Importantly, according to the Labor Force Survey, Filipinos within the 18–24 age range account for more than half of the total unemployed Filipinos in the country (Corrales, 2014). In the absence of traditional employment opportunities, many of those belonging to the 18–24 age range are looking into starting their own businesses. While the Philippines has the highest business start-up rate in the region, it also has the highest business discontinuance rate in the region, a rate that is triple that of the combined Asia-Pacific and South Asia regions (Licaros-Velasco et al., 2014). Thus, the entrepreneurs in our sample are in a very challenging, affect-laden entrepreneurial environment.

ESM surveys were administered twice daily for 15 consecutive days. We used the cell phone ESM protocol with Java-programmed survey application that participants can download into their respective cell phones (Uy et al., 2010). Participants also completed a paper-and-pencil survey on their demographics and background information. At the end of the study, we compensated each participant in Philippine Peso to the equivalent of 30 US dollars. We sent 1890 text message prompts (or alerts that instructed the participant to complete the ESM survey) and received 1663 valid reports (i.e., reports received within two hours after prompts were sent; e.g., Judge and Ilies, 2004). The response rate was 87.99%. We achieved a high response rate because we invested time and effort to interact with all the entrepreneurs and the incubator heads/directors, building a strong rapport with each one of them. It is the research alliance we established with the entrepreneurs (i.e., we convinced them of the fact that they are significant contributing partners of this research endeavor), rather than the monetary incentive, that led to the high response rate (Uy et al., 2010).

4.1.2. Measures

4.1.2.1. Affect spin. The rationale of affect spin is that affect variability along a single dimension (e.g., standard deviation of positive affect or standard deviation of negative affect) does not fully capture variability in one's affective experiences (Beal et al., 2013; Kuppens et al., 2007). Scholars suggest that variability in affective states that make up the two-dimensional affect circumplex (e.g., across both positive and negative affect dimensions) more fully capture affect variability (i.e., affect spin). Initial validity evidence regarding affect spin as a measure of affect variability has been provided in a number of recent studies (e.g., Beal et al., 2013; Beal and Ghandour, 2011; Kuppens et al., 2007). Following Beal and colleagues, we used the dimensions of positive affect

Table 2
Descriptive statistics and zero-order correlations among Study 1 variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Gender	0.56	0.50	–									
2 Trait PA	3.76	0.46	0.09	0.80								
3 Trait NA	2.27	0.67	0.04	–0.04	0.87							
4 Self-efficacy	5.59	0.67	–0.11	0.51**	–0.14	0.90						
5 Prior venture experience	0.38	0.49	–0.22	0.12	0.06	0.01	–					
6 Affect spin	3.29	0.21	0.20	0.00	0.13	–0.00	–0.10	–				
7 Performance-approach GO	5.34	0.10	–0.18	0.11	0.16	0.40**	0.04	0.15	0.88			
8 Performance-avoid GO	3.93	1.16	0.40*	–0.15	0.25*	0.02	–0.22	0.07	0.08	0.89		
9 Learning GO	5.76	0.76	–0.07	0.47**	–0.21	0.62**	0.22	–0.07	0.41**	–0.19	0.88	
10 Psychological well-being	2.86	0.43	–0.22	0.25*	–0.53**	0.27*	–0.05	–0.32*	–0.15	–0.11	0.30*	0.80

Notes: * $p < 0.05$; ** $p < 0.01$;

PA = positive affect; NA = negative affect; GO = goal orientation; Gender: 0 = male; 1 = female. $N = 63$.

(PA) and negative affect (NA) to describe the location of affective experience on the two-dimensional core affect space (Watson, 2000). Participants reported their momentary affective state using the shortened PANAS (Watson et al., 1988) to minimize response fatigue. PA items were *enthusiastic, attentive, proud, interested, and inspired*, while NA items were *upset, irritable, nervous, distressed, and jittery*. Participants rated the extent to which each item described their momentary affect on a scale of 1 (*not at all*) to 5 (*extremely*). To calculate the score of affect spin, we followed Beal et al.' (2013) procedures. Specifically, we first calculated the within-person mean-centered PA and NA, which generated final affect spin scores based on within-person variance. Second we calculated the circular standard deviation of these within-person centered affect (Mardia, 1972). The circular standard deviation considers the changes or variability in the angles of each affective state in the two-dimensional space as defined by positive and negative affect. Hence, if an entrepreneur's affect is scattered across the four quadrants, the circular standard deviation is higher than another entrepreneur whose affect is concentrated within one or two quadrants. The higher the circular standard deviation, the higher the affect spin.

4.1.2.2. Goal orientation. We measured goal orientation during the orientation session using Vandewalle's (1997) 13-item scale, with five items measuring learning (e.g., *I enjoy challenging and difficult tasks at work where I will learn new skills*), four items measuring performance-approach (e.g., *I'm concerned with showing that I can perform better than others*), and four items measuring performance-avoid (e.g., *I prefer to avoid situations at work where I might perform poorly*) goal orientations. Participants rated the extent to which they agree or disagree with the statements ranging from 1 (*completely disagree*) to 7 (*completely agree*). The reliability coefficients are 0.88 for learning, 0.88 for performance-approach, and 0.89 for performance-avoid goal orientations, respectively.

4.1.2.3. Psychological well-being. We asked participants to assess their psychological well-being at one point in time using the 12-item General Health Questionnaire or GHQ-12 (Goldberg, 1978) on a scale of 1 (*not at all*) to 4 (*much more than usual*). An example is "Have you recently been able to concentrate on whatever you are doing?" The reliability coefficient is 0.80.

4.1.3. Study 1 results

Table 2 presents descriptive statistics and reliability coefficients of the study variables. Because of the nested structure of our data (i.e., entrepreneurs nested within ventures), we conducted hierarchical linear modeling (HLM) analyses to test all the hypotheses. The ICC1 for well-being is 0.06, suggesting 6% of the variance comes from the venture level and 94% comes from individual-entrepreneur level. This attests to the importance of studying entrepreneurial level variables to understand their well-

Table 3

HLM analyses: The effects of affect spin and goal orientation on psychological well-being.

Variables	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	2.91**	4.46**	2.97**	3.02**	2.97**	2.92**	2.97**
Control variables							
Gender	-0.18	-0.15	-0.27**	-0.28**	-0.27**	-0.25**	-0.26**
Trait PA	0.25*	0.24*	0.27**	0.23*	0.28**	0.32**	0.30**
Trait NA	-0.31**	-0.29**	-0.28**	-0.30**	-0.29**	-0.29**	-0.31**
Self-efficacy	0.04	0.05	0.10	0.03	0.02	-0.00	0.02
Prior venture experience	-0.08	-0.08	-0.09	-0.04	-0.09	-0.08	-0.01
Industry dummy 1	0.06	0.02	0.06	-0.04	0.06	0.10	0.01
Industry dummy 2	0.10	0.14	0.08	0.05	0.07	0.09	0.06
Main effects							
Affect spin		-0.46*	-0.33	-0.20	-0.35*	-0.43*	-0.30
Moderators							
Performance-approach GO			-0.10*	-0.08	-0.11*	-0.10*	-0.06
Performance-avoid GO			0.10**	0.07	0.11**	0.11**	0.07
Learning GO			0.12	0.10	0.13	0.11	0.06
Interaction terms							
Affect spin × Performance approach GO				0.57**			0.70**
Affect spin × Performance avoid GO					0.16		-0.04
Affect spin × Learning GO						-0.48+	-0.72**
Var (Intercept)	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Var (Residual)	0.10	0.09	0.07	0.06	0.07	0.07	0.06
Overall Pseudo R²	0.39	0.44	0.50	0.56	0.50	0.50	0.57
Pseudo R² change	Baseline	0.05					
		Baseline	0.06				
			Baseline	0.06	0.00	0.00	0.07
Deviance	38.00	32.70	23.03	16.51	22.32	20.30	10.03
χ² difference test	Baseline	5.30*					
		Baseline	9.68**				
			Baseline	6.52**	0.40	2.72*	12.99**

Notes: + $p = 0.08$; * $p < 0.05$; ** $p < 0.01$; PA = positive affect; NA = negative affect; GO = goal orientation; $N = 63$ entrepreneurs nested in 11 ventures.

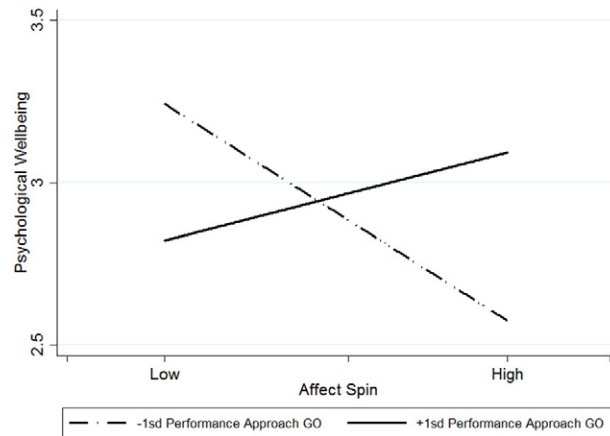


Fig. 1. Moderating effects of performance-approach goal orientation (GO) on affect spin and psychological well-being.

being. Because HLM does not provide Variance Inflation Factor or VIF statistics, for the purpose of demonstration, we calculated VIF using OLS regression. Results show that the VIF was smaller than the cut-off value of 10 (Tamhane and Dunlop, 2000), suggesting that multicollinearity is not a serious problem in the analyses. In calculating the pseudo-*R* squares, we used the formula provided by Snijders & Bosker (2012) to report both overall pseudo-*R* square and pseudo-*R* square change.

Hypothesis 1a. states an overall negative relationship between the entrepreneur's affect spin and psychological well-being. Results in Table 3, Model 1, indicate a significant and negative coefficient ($b = -0.46, p < 0.05$), even after controlling for gender, trait affectivity, self-efficacy, prior venture experience, and industry. Thus Hypothesis 1a is supported.

For all our moderating hypotheses, as prescribed by methodologists, we used the full or complete model where all main effects and interaction effects are simultaneously estimated to avoid omitted variable bias and prevent model misspecifications, given that we hypothesized a priori interaction effects (Echambadi et al., 2006; Finney et al., 1984). Hypothesis 2a states that performance-approach goal orientation attenuates the negative impact of affect spin on psychological well-being. Results in Table 3, Model 6, indicate a positive and significant interaction between performance-approach goal orientation and affect spin ($b = 0.70, p < 0.01$). Fig. 1 illustrates the simple slopes at ± 1 standard deviation above and below performance goal orientation's mean (Aiken et al., 1991). The standard deviation for performance goal orientation (centered) is 1.00 (Mean = 0.00; Min = -2.59; Max = 1.66). The affect spin to psychological well-being link is negative and stronger when performance-approach goal orientation is low ($b = -0.99, p < 0.01$) and is positive and non-significant when performance-approach goal orientation is high ($b = 0.40, p = 0.18, ns$). To provide more nuanced understanding regarding under what values the simple slope is no longer significant, we used the regions of significance approach (Preacher et al., 2007). One advantage associated with computing the region of significance is that it informs the results of all possible simple slopes tests. Any value of the moderator falling within the region corresponds to a nonsignificant simple slope of the dependent variable on the independent variable, whereas any value of the moderator falling outside the region corresponds to a significant simple slope. The critical values defining the region of significance of performance-approach goal orientation are $[-0.05, 1.55]$. When performance-approach goal orientation falls outside the region defined by these values, the simple effect of affect spin on psychological wellbeing is significant. Specifically, when

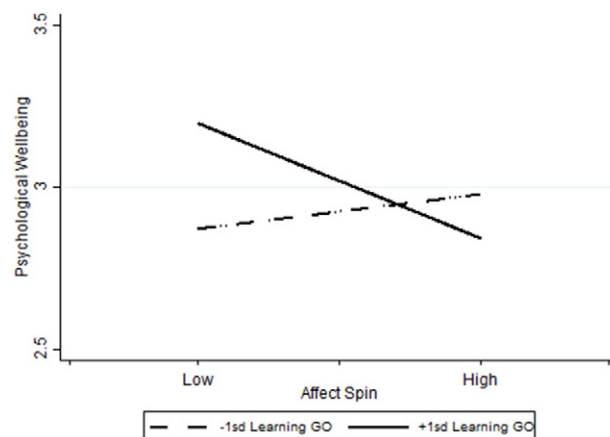


Fig. 2. Moderating effects of learning goal orientation (GO) on affect spin and psychological well-being.

performance-approach goal orientation is smaller than -0.05 , the simple effect of affect spin on psychological wellbeing is negative and significant; when performance-approach goal orientation is larger than 1.55 , the simple effect of affect spin on psychological wellbeing is positive and significant. These nuanced analyses offer compelling evidence that performance-approach goal orientation moderates the effect of affect spin on psychological wellbeing. Thus, Hypothesis 2a is supported.

Hypothesis 3a. states that performance-avoid goal orientation heightens the negative impact of affect spin on psychological wellbeing. Results in Table 3, Model 6, indicate that the interaction between performance-avoid goal orientation and affect spin is not significant ($b =$

-0.04 , $p = 0.81$, *ns*). Thus, Hypothesis 3a is not supported.

Hypothesis 4a. states that learning goal orientation strengthens the negative link between affect spin and psychological wellbeing. Although the pseudo- R squared value suggests that the moderating effect of learning goal orientation explains little variance beyond the moderating effect of performance-approach goal orientation, results in Table 3, Model 6, indicate a negative and significant interaction between learning goal orientation and affect spin ($b = -0.72$, $p < 0.01$). Fig. 2 shows the interaction plots at ± 1 standard deviation above and below learning goal orientation's mean (Mean = 0; SD = 0.76; Min = -1.56 ; Max = 1.24). The affect spin to psychological well-being relationship is positive and non-significant when (centered) learning goal orientation is low ($b = 0.25$, $p = 0.31$, *ns*) and negative and stronger when learning goal orientation is high ($b = -0.85$, $p < 0.01$). The critical values defining the region of significance for learning goal orientation are $[-1.70, 0.07]$, which suggests that if the value of learning goal orientation falls outside (within) these values, the simple effect of affect spin on well-being is significant (nonsignificant). Hence, Hypothesis 4a is supported.

Although we used experience sampling reports to derive the personality trait of affect spin, which is consistent with Beal et al.' (2013) operationalization, we recognize the limitation of the cross-sectional design of study 1, as the entrepreneurs' well-being was measured at the beginning of the experience sampling study. Notably, while common method bias is not an issue in testing moderating effects because it can even make interactions more difficult to detect, which would make our results conservative (Evans, 1985; Siemsen et al., 2010), we nonetheless addressed Study 1's limitations in Study 2, where we used a time-lag design and an other-rated dependent variable, venture goal progress.

4.2. Study 2: Venture goal progress as the dependent variable

To test Hypotheses 1b, 2b, 3b, and 4b, we used a study involving a different set of participants (i.e., participants in Study 1 did not participate in Study 2). We recruited participants from four university-linked business incubators in Manila, Philippines. Thirty-four lead entrepreneurs who control the day-to-day operations of their respective ventures completed the study. We excluded one participant due to significant missing data, leaving 33 entrepreneurs in our final sample. Among these participants (age range = 19 to 23 years), 12 are women; 16 of them have started businesses in the past, and 26 of them have experienced working in their respective family businesses. Participants completed the ESM survey twice daily for four consecutive days. We sent a total of 272 ESM prompts and received 189 valid reports (response rate = 69.49%). At the end of the study, we compensated participants in Philippine pesos equivalent to US\$15. Affect spin was calculated using the same procedures as in Study 1. Goal orientation and all control variables for Study 2 were similar to those in Study 1. For this study (Study 2), venture goal progress is the dependent variable assessed at the end of the experience sampling study. The incubator director/head rated each lead entrepreneur's venture goal progress using the four-item goal progress measure ($1 = strongly disagree$, $5 = strongly agree$) adapted from Brunstein's goal progress measure (Brunstein, 1993). In all items, we changed "I" to "this entrepreneur". An example is "This entrepreneur has made a great deal of progress toward building a viable business venture." The alpha reliability is 0.90.

4.2.1. Study 2 results

The ICC1 for venture goal progress is 0.22, suggesting nonindependence from the incubator membership and supports the use of HLM models (Bliese, 2000). To quote Bliese and Hanges (2004), "In situations in which nonindependence exists but in which

Table 4
Descriptive statistics and zero-order correlations among Study 2 variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Gender	0.74	0.45	–									
2 Trait PA	3.96	0.47	0.14	0.88								
3 Trait NA	2.26	0.68	0.05	-0.13	0.87							
4 Self-efficacy	4.21	0.52	0.26	0.34	-0.50^{**}	0.89						
5 Prior venture experience	0.76	1.15	-0.01	-0.12	0.06	-0.03	–					
6 Affect spin	2.10	0.19	0.17	-0.21	0.12	-0.09	-0.29	–				
7 Learning GO	5.75	0.83	0.19	0.30	-0.27	0.64^{**}	-0.06	-0.15	0.87			
8 Performance-approach GO	5.29	1.21	-0.09	0.25	0.14	0.02	-0.00	0.16	0.21	0.88		
9 Performance-avoid GO	4.15	1.52	-0.12	0.14	0.21	-0.16	-0.12	0.24	-0.05	0.46^{**}	0.84	
10 Venture goal progress	3.93	0.82	-0.28	-0.15	-0.11	0.02	0.24	-0.13	0.00	0.06	-0.03	0.90

Notes: $** p < 0.01$; PA = positive affect; NA = negative affect; GO = goal orientation. Gender: 0 = male; 1 = female. $N = 33$.

Table 5
HLM analyses: The effects of affect spin and goal orientation on venture goal progress.

Variables	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	4.27**	4.22**	4.21**	4.07**	4.20**	4.08**	3.84**
Control variables							
Gender	−0.55	−0.45	−0.41	−0.35	−0.42	−0.38	−0.29
Trait PA	0.02	−0.02	−0.09	0.09	−0.09	−0.06	0.10
Trait NA	−0.08	−0.06	−0.10	−0.18	−0.11	−0.17	−0.25
Self-efficacy	0.26	0.18	−0.05	−0.32	−0.05	−0.08	−0.39
Prior venture experience	0.08	0.07	0.06	0.14	0.05	0.03	0.12
Industry dummy 1	−0.12	−0.17	−0.27	−0.08	−0.27	−0.20	−0.04
Industry dummy 2	0.28	0.26	0.27	0.08	0.27	0.43	0.19
Main effects							
Affect spin		−0.41*	−0.51*	−0.62*	−0.54	−0.78*	−0.96**
Moderators							
Performance-approach GO			0.09	0.31*	0.10	0.13	0.37*
Performance-avoid GO			−0.03	−0.02	−0.04	−0.03	−0.07
Learning GO			0.20	0.23	0.20	0.20	0.21
Interaction terms							
Affect spin × Performance approach GO				1.11**			1.24**
Affect spin × Performance avoid GO					−0.03		−0.24
Affect spin × Learning GO						0.38	0.15
Var (Intercept)	0.03	0.03	0.00	0.03	0.00	0.00	0.02
Var (Residual)	0.46	0.44	0.41	0.33	0.41	0.40	0.32
Overall Pseudo R²	0.18	0.33	0.37	0.45	0.37	0.38	0.48
Pseudo R² change	Baseline	0.15					
		Baseline	0.04				
			Baseline	0.08	0.00	0.01	0.11
Deviance	70.07	66.46	64.32	58.94	64.30	63.71	57.82
χ² difference test	Baseline	3.61+					
		Baseline	2.14				
			Baseline	5.38*	0.02	0.60	6.50*

+ $p = 0.06$; * $p < 0.05$; ** $p < 0.01$; PA = positive affect; NA = negative affect; GO = goal orientation. $N = 33$ entrepreneurs nested in 4 incubators.

researchers are theoretically and practically interested only in lower level processes, it may be tempting to ignore the fact that the data come from preexisting groups" (p. 401); however, ignoring nonindependence when analyzing only lower level variables increases Type II errors. Given the high ICC1, the assumption of the independence of observations that underlie standard statistical tests such OLS regression is violated (Hox, 2010). We thus conducted HLM because it can appropriately account for the error variance caused by group membership and provide sufficient power for our statistical tests to avoid Type II errors. Similar to Study 1, we also calculated VIF using OLS regression, and found no multicollinearity issues (Tamhane and Dunlop, 2000).

Table 4 presents descriptive statistics and reliability coefficients of the study variables. Hypothesis 1b posits a negative relationship between affect spin and venture goal progress. The zero-order correlation, without taking the nested nature of the data (i.e., entrepreneurs nested within incubator programs), between affect spin and venture goal progress is negative but non-significant ($r = -0.13$, $p = 0.46$, ns). When we accounted for the nested structure of our data ($ICC1 = 0.22$), HLM results in

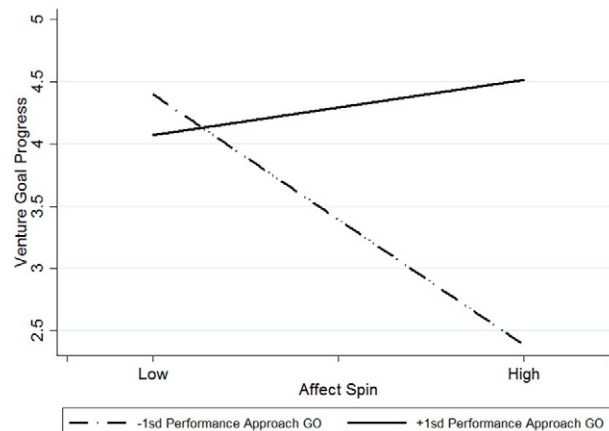


Fig. 3. Moderating effects of performance-approach goal orientation (GO) on affect spin and venture goal progress.

Table 5, Model 1 indicate a negative coefficient ($b = -0.41, p < 0.05$) between affect spin and venture goal progress, even after controlling for the effects of gender, positive and negative affectivity, self-efficacy, prior venture experience, and industry. Thus, Hypothesis 1b is supported.

Hypothesis 2b. states that performance-approach goal orientation weakens the impact of affect spin on venture goal progress. Results in Table 5, Model 6 indicate a positive and significant interaction between performance-approach goal orientation and affect spin on venture goal progress ($b = 1.24, p < 0.01$). We plotted the moderating effect of performance-approach goal orientation (centered) in Fig. 3 at ± 1 standard deviation above and below performance-approach goal orientation's mean (Mean = 0; SD = 1.21; Min = -3.04; Max = 1.71). The affect spin to venture goal progress link is negative and stronger when performance-approach goal orientation is low ($b = -2.45, p < 0.01$) and is positive and non-significant when performance-approach goal orientation is high ($b = 0.54, p = 0.35, ns$). The critical values of the region of significance for performance-approach goal orientation are [0.20, 2.69], which suggests that if the value of performance-approach goal orientation falls outside (within) the region defined by these values, the simple effect of affect spin on venture goal progress is significant (nonsignificant). Hence, Hypothesis 2b is supported.

Hypothesis 3b. states that performance-avoid goal orientation strengthens the negative impact of affect spin on venture goal progress. Results in Table 5, Model 6, indicate that the interaction between performance-avoid goal orientation and affect spin on venture goal progress is negative but not significant ($b = -0.24, p = 0.47, ns$). Hence, Hypothesis 3b is not supported.

Hypothesis 4b. states that learning goal orientation heightens the negative link between affect spin and venture goal progress. Results in Table 5, Model 6 indicate a non-significant interaction between learning goal orientation and affect spin ($b = 0.15, p = 0.77, ns$) on venture goal progress. Hence, Hypothesis 4b is not supported.

4.2.2. Study 2 additional analyses

As a robustness test, we performed additional analysis without the control variables and retained only trait affectivity as control—the result patterns were similar with those in our previous models. Methodologically, the use of incubator head ratings helps avoid biases in self-reporting and circumvents common-method bias (Podsakoff et al., 2003). Scholars have suggested that entrepreneurs are generally high in optimism (Hmieleski and Baron, 2009) which limits their ability to assess their venture progress more objectively. However, we also collected self-reported venture performance at the end of the experience sampling study using Wiklund and Shepherd's (2003) measure by asking the entrepreneurs to evaluate their firm's performance relative to their two most important competitors using a 5-point scale (1 = much lower; 5 = much higher). Sample items include sales/revenue growth, profitability, quality, and customer satisfaction. We performed additional analysis to examine the main effects of affect spin on self-reported venture performance and found nonsignificant effect ($b = 0.02, p = 0.90$). This nonsignificant main effect could be partly explained by the moderating effects of goal orientations we found—performance-approach goal orientation significantly moderated the relationship between affect spin and self-reported performance ($b = 0.99, p < 0.05$), while the performance-avoid goal orientation ($b = -0.55, p = 0.06$) and learning goal orientation ($b = -0.14, p = 0.72$) did not. This is consistent with the moderating patterns found when venture goal progress rated by the incubator head was used as the dependent variable.

5. General discussion

Affect research has made great strides in the field of entrepreneurship, but despite the progress made, “we believe we have barely begun to uncover the most interesting questions concerning entrepreneurial emotion” (Cardon et al., 2012, p. 2). Through two ESM studies involving early-stage, young entrepreneurs, we found that affect spin or the tendency to be reactive to affect-laden events negatively related to well-being and venture goal progress. This attests to the importance of affect fluctuations when considering well-being and venture-related outcomes among early-stage entrepreneurs. We also found that goal orientation moderated the effects of affect spin on psychological well-being and venture goal progress. Specifically, high performance-approach goal orientation mitigated the negative impact of affect spin on both well-being and venture goal progress; high learning goal orientation strengthened the negative impact of affect spin on well-being but not on venture goal progress.

5.1. Theoretical implications

We respond to a recent call for more studies that adopt a “cognitively hot” perspective in entrepreneurship (Shepherd, 2015). We deepen the understanding of the role of affect fluctuations in the early-stage venture implementation. Our study advances entrepreneurial affect theory and research, generating insights above and beyond what we know from existing research that largely focused on average levels of entrepreneurial affect. We demonstrate affect spin's impact even after controlling for the entrepreneurs' average levels of positive and negative affect and self-efficacy which are important antecedents of both well-being and performance (Diener, 2000; Gecas and Schwalbe, 1983; Karademas, 2006). This shows that affect spin accounts for unique variance beyond existing individual-difference factors that can explain entrepreneurs' psychological well-being and venture goal progress. Our study extends the impressive and growing body of research on affect in entrepreneurship by calling on affect researchers to consider affect fluctuations as a property to be studied. As illustrated in Table 1, affect fluctuations can make

predictions different from affect levels in terms of shaping the entrepreneurs' well-being and venture goal progress. To gain a better understanding of affective influences in entrepreneurship, researchers should consider not just trait and state affect levels, but also affect spin that accounts for fluctuations as a property of affect.

Second, we contribute to the trait-based approach to entrepreneurship. Our study supports the resurgence of interest in studying personality/dispositions in shaping entrepreneurial outcomes (Frese and Gielnik, 2014; Rauch and Frese, 2007) by introducing affect spin, an individual-difference construct that captures intraindividual affect variability, in entrepreneurship research. Frese and Gielnik (2014) asserted that past reviews on entrepreneurship and personality research were rather skeptical of the usefulness of the trait-based approach in entrepreneurship and prematurely questioned its value to the broad entrepreneurship research because these reviews failed to pay enough attention to matching the relevant personality variables to the task characteristics of entrepreneurs. The impact of traits on entrepreneurial outcomes is now generally accepted. Our study highlights the value of considering novel ways of capturing individual differences in *intraindividual variability* such as affect spin, especially given affect spin's nontrivial role in the early stages of venture implementation.

Third, we provide a boundary condition of affect spin effects by explaining how goal orientation moderate the relationships between the entrepreneurs' affect spin and their well-being and venture goal progress. Indeed, because we found significant moderating effects, the main effects of affect spin need to be interpreted with caution. For instance, while affect spin is generally associated with worse outcomes (Beal et al., 2013), high affect spin together with high performance goal orientation relates to better outcomes, both in terms of the entrepreneur's psychological well-being and venture progress. By studying how different dimensions of goal orientation alter the influence of affect spin on entrepreneurial outcomes, we highlight the importance of incorporating "the motivations of people making entrepreneurial decisions" (Shane et al., 2003, p. 276). Different goal orientations represent strategies entrepreneurs use in implementing their business ventures. Entrepreneurship researchers have underscored the importance of balancing risk-taking and risk-reducing strategies (Forlani and Mullins, 2000; Miner and Raju, 2004; Shepherd et al., 2000; Stewart and Roth, 2001). We extend this idea by suggesting that when entrepreneurs have high affect spin, risk-taking strategies associated with high learning goal orientation and risk-reducing strategies associated with high performance goal orientation will have significant implications on entrepreneurial outcomes.

Our theorizing on the interactive effects between affect spin and goal orientation on well-being and venture goal progress should be understood in the context of incubator-based entrepreneurs who are in the early stages of venture implementation. They are in much more precarious situation because apart from being resource constrained, they also have insufficient capacity to assimilate new information or connect disparate pieces of information to make sense or detect meaningful patterns, processes which may be more straightforward for more experienced, seasoned entrepreneurs (Baron and Ensley, 2006). We encourage future research to look into other contexts—such as serial entrepreneurs, later stage ventures, or corporate ventures—that could be less resource constrained, to enrich and complement our current understanding.

Our findings on affect spin are consistent with the self-regulatory arguments drawn from past research (Beal et al., 2013), i.e., that a person with high affect spin requires increased regulatory effort to manage one's emotions. Interestingly, Beal et al. (2013) also found a potential silver lining for affect spin, such that although it aggravated one's strain experience, it could likely make one physiologically tougher. While they acknowledged that this was not a robust finding in their study and that the depletion arguments were more consistent with what they found, future research is warranted to examine this issue. For instance, the "physiologically tougher" reasoning could apply to serial entrepreneurs as these entrepreneurs have learnt to be tougher from previous ventures. Future research can pursue this line of inquiry to verify whether significant differences exist between serial and novice entrepreneurs.

A key contribution of our study is to incorporate intraindividual affect variability into affect research in entrepreneurship. Apart from affect spin used in this study, future research can introduce other conceptualizations and operationalizations of affect variability including pulse or affect intensity variability (Kuppens et al., 2007; Moskowitz and Zuroff, 2004), and inertia or emotional resistance to change (Kuppens et al., 2010a) and how these ways of conceptualizing affect variability impact psychological well-being and venture outcomes.

5.2. Strengths, limitations, and future research

Apart from the contributions of the paper and future research opportunities highlighted in the paragraphs above, another strength of our paper is that it includes the use of other-rated venture goal progress (Study 2) and the use of different study durations (i.e., 15 days for Study 1 and 4 days for Study 2) to verify whether the moderating effects of goal orientation would hold at different lengths of time. Nonetheless, future research could test our research model using longer time frames (i.e., months or even years). For instance, it is possible that the benefits of learning goal orientation could emerge in the long term as learning makes the entrepreneur better at responding to changing environments. Future research can extend our study beyond entrepreneurs in business incubators to include more established entrepreneurial ventures.

Another limitation concerning time frames involves our assessment of venture goal progress, i.e., our measure of progress did not have the same four-day time frame as when we assessed positive and negative affect. However, venture goal progress is typically demonstrated over a longer period of time, as the entrepreneur needs to pour in continuous and sustained efforts to build a viable business venture. This approach is not unusual in research that seeks to relate affect with ongoing behaviors that are not constrained to short periods of time, such as creativity (George and Zhou, 2002; Madjar et al., 2002). That we found support for our theoretically developed hypothesis is consistent with this line of reasoning. Nonetheless, in the absence of a corresponding or matching time frame for our venture goal progress construct, we must exercise caution in interpreting the results. Future research

can address this limitation by aligning the corresponding time frames of predictors and outcomes, while being mindful of the distinct nature of the constructs of interest.

Another interesting question for future research is to examine whether entrepreneurs with different affect spin set different goals that fit their personalities. While goal research has traditionally ignored the role of personality in goal setting (Locke and Latham, 1990), the integration of personality and goal setting research has been evident in the most recent decade (Locke and Latham, 2006). For example, high affect spin individuals may decide to set less ambitious goals to limit affect fluctuations. In a related vein, future research can also explore the role of regulatory focus (Diefendorff and Lord, 2008; McMullen and Shepherd, 2002), a self-regulation concept that focuses on the achievements (promotion focus) versus safety (prevention focus), in shaping the impact of affect spin on entrepreneurial outcomes. For example, high affect spin together with prevention focus could lead to worse psychological well-being as the coping resources of such entrepreneurs are overwhelmed by the anxiety of not meeting their obligations. Since many high-growth ventures are started by teams, future efforts can also examine potential antecedents and moderators of the impact of affect spin in venture teams (Klotz et al., 2014) including team member dynamics (e.g., cohesion, collaboration, etc.) which could have critical implications on how entrepreneurs with high affect spin could regulate their emotions. For instance, high affect spin members can turn to their venture partners for support, attenuating the impact of high affect spin on psychological well-being. Alternatively, contagion effects can accentuate the impact of high affect spin on psychological well-being of other team members.

The small sample size (especially in study 2) is a limitation of our study, as small sample size tends to decrease statistical power (Aiken et al., 1991; Jaccard et al., 1990). For this reason, our analyses in study 2 should be viewed as conservative tests of our hypotheses. The small sample size is not uncommon in experience sampling research because of the difficulty in collecting this type of data (e.g., Fulford et al., 2010; Ilies and Judge, 2002; both studies had <30 participants for their final sample). Despite our sample size limitation, our findings provide evidence that is generally consistent with our a priori hypothesized patterns. Nonetheless, future research should seek to employ larger sample size whenever possible.

Finally, scholars can extend our research model by combining psychological well-being and venture goal progress in one study and exploring the potential mediating effect of psychological well-being on affect spin and venture goal progress. There is an abundance of research to support the facilitative effect of psychological well-being on performance (Wright and Cropanzano, 2007, 2000). Because the linkage between psychological well-being and performance has been well-established, we decided not to focus on it in our study. Rather, we focused on examining whether affect spin can explain both outcomes beyond traditional individual-difference factors (e.g., positive and negative affectivity, general self-efficacy, etc.) studied in entrepreneurship research. Since it is not possible to examine the potential mediation link in our current study, we leave this question for future research to explore.

5.3. Practical implications

The nontrivial effect sizes in both studies as indicated by the pseudo-*R* square values in Tables 2 and 4 reasonably suggest that we can infer practical insights from our research (Aguinis et al., 2010; American Psychological Association, 2001; Grissom and Kim, 2012). Overall, our results highlight that in the complex and challenging process of new venture implementation, the entrepreneurs' personal well-being or mental health should not be taken for granted. Gaining a better understanding of one's approach in working towards the venture goal in relation to one's emotional reactivity could illuminate how one can sustain favorable entrepreneurial outcomes.

One might regard that affect spin, like most individual differences studied in entrepreneurship such as cognitive styles (e.g., Brigham et al., 2007; Corbett, 2007), would have limited practical implications given the relatively stable properties of dispositional traits. While we cannot do a drastic change in personality, we can do something with our behaviors and experiences, even in the short term, and we can also take steps to change the situation and our immediate surroundings. Given the relevance of affect spin in early-stage entrepreneurs' psychological well-being, educators and mentors should consider offering training sessions for effective emotion regulation among budding entrepreneurs (Shepherd, 2004). Becoming aware of one's heightened sensitivity to affect-laden events can also be empowering as it allows us to gain a deeper understanding of how we appraise and respond to positive and negative events. Entrepreneurs can decide to undergo mindfulness-based training (e.g., Roche et al., 2014) to help them deal with their emotional reactions and enhance their emotion management capabilities (Shepherd, 2004) especially in the early stages of the venture implementation. Those with high affect spin can decide to adopt effective strategies to manage their feelings (Ashkanasy et al., 2002). Emotion regulation is not limited to dealing with negative emotions but also in managing the fluctuations of *both* positive and negative affective experiences (Gross and John, 2003).

Our findings have implications to aspiring entrepreneurs who are in the process of deciding on the type of venture to launch and manage. For individuals with high affect spin, it might be advisable to engage in business ventures with relatively less exploration required, and in relatively munificent and stable industries. For instance, a high affect spin individual may opt to buy a franchise instead of venturing into uncharted *de novo* enterprises that require more exploratory efforts and perhaps more emotionally taxing trial-and-error processes. Buying a franchise is a type of entrepreneurship that does not involve starting a business from scratch, because someone already did the trial-and-error (Combs et al., 2011; Kaufmann and Dant, 1999).

Our study also challenges a blanket overemphasis of prescribing learning goal orientation without considering the contextual factors, given that researchers tend to emphasize the beneficial role of learning goal orientation (e.g., Janssen and Van Yperen, 2004). However, we suggest that for young entrepreneurs in the early venture implementation stage, prescribing a learning goal orientation without accounting for the context and variation in the dispositional characteristics among entrepreneurs can

have unintended consequences. In a similar vein, that performance-approach goal orientation mitigated the impact of affect spin on entrepreneurial outcomes does not suggest that such goal orientation is better. Scholars need to consider the circumstances of the individual as well as the dispositional factors which could interact with the different dimensions of goal orientation (Bell and Kozlowski, 2002; Midgley et al., 2001).

5.4. Conclusion

Our study suggests that individual differences in affect spin and goal orientation play a significant role in the early-stage entrepreneurial process. Our research builds on a growing body of research on affect in entrepreneurship and adds to this conversation by highlighting the role of affect fluctuations—fluctuations of both of positive affect and negative affect—on psychological well-being and venture goal progress. Importantly, our findings generated insights beyond what we already know from existing entrepreneurial affect research which predominantly focused on the entrepreneurs' average levels of positive and negative affect. Our study also provides evidence that affect spin's impact on outcomes should be looked at in conjunction with relevant action tendencies, in particular, goal orientation.

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