



Entrepreneurs' dispositional positive affect: The potential benefits – and potential costs – of being “up”

Robert A. Baron ^{a,*}, Keith M. Hmieleski ^b, Rebecca A. Henry ^{a,1}

^a Oklahoma State University, School of Entrepreneurship, Stillwater, OK 74078-74011, United States

^b Texas Christian University, McNeeley School of Business, Fort Worth, TX 76129, United States

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ABSTRACT

Dispositional positive affect (DPA) – the stable tendency to experience positive moods and emotions – has been found to be related to several beneficial outcomes (e.g., enhanced career success, development of high quality social relationships, improved personal health). Evidence on this issue is not entirely consistent, however, and high levels of dispositional positive affect have sometimes been found to also be associated with detrimental outcomes (e.g., reduced task performance, biased recall of information, increased impulsivity). A framework is proposed for integrating these seemingly inconsistent findings and applying the result to entrepreneurs. Briefly, this model suggests that there are discrete limits to the benefits conferred by DPA because at very high levels, processes that interfere with specific aspects of cognition, perception, motivation, and self-regulation, operate. The overall result is a curvilinear relationship between entrepreneurs' level of DPA and their performance of tasks closely related to new venture development and growth (e.g., opportunity recognition and evaluation, effective decision making). Factors that make entrepreneurs especially susceptible to negative effects of high levels of DPA are described, and theoretical and practical implications of the proposed model are discussed.

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1. Executive summary

Dispositional positive affect (DPA) – the stable tendency to experience positive moods and emotions across many situations and over time – has been found, in a large body of research in several different fields, to be associated with beneficial outcomes (e.g., enhanced career success, development of high quality social relationships, superior personal health). Evidence on this issue is not entirely consistent, however, and high levels of DPA have sometimes been found to be associated with detrimental outcomes. We develop a theoretical model that seeks to reconcile these inconsistent findings and apply the result to entrepreneurs. Briefly, this model suggests that there may be discrete limits to the beneficial effects of DPA because at high levels, positive effects such as increments in energy and broadened cognitive perspectives are offset by potentially detrimental processes, ones with negative implications for cognition, motivation, perception, and self-regulation. As a result, the overall function relating DPA to entrepreneurs' performance of key tasks (and hence, by extension, to firm performance) is curvilinear in nature. Initially, performance rises with increments in DPA, but beyond some point, declines with further increments in DPA. The logic underlying such a relationship is consistent with major theories of affect (Fredrickson and Losada, 2005; Oishi et al., 2007), recent empirical findings (Chen et al., 2009), certain aspects of theories of entrepreneurial passion (Cardon et al., 2009), and suggestions concerning the overall role of affect in new venture creation (Baron, 2008).

* Corresponding author. Tel.: +1 405 744 3438.

E-mail address: robert.baron@okstate.edu (R.A. Baron).

¹ Tel.: +1 405 513 5287.

The possibility that high levels of DPA may be associated with detrimental effects is of general interest, but has special significance for the field of entrepreneurship because several factors combine to make entrepreneurs (i.e., individuals who both found and lead their firms; Hmieleski and Baron, 2009) especially susceptible to such effects. Recent evidence indicates that entrepreneurs are very high in DPA—higher than all other tested groups (Baron et al., 2011). Further, because entrepreneurs often break new ground and seek to develop new products, services, or markets, they often function in situations that are complex, uncertain, and offer few guidelines for behavior (Baron, 2007; McKelvey, 2004). Such situations are ones in which individual predispositions and preferences are especially likely to influence cognition and behavior (Forgas and George, 2001; Mischel, 1977; Staw, 1991). In addition, detrimental effects of DPA have been found, in previous research, to be especially likely to occur in the context of high levels of environmental challenge—environments involving intense competition over scarce resources. Entrepreneurs often face precisely such environments (Zahra and Bogner, 2000) and as a result, are at high risk for experiencing detrimental effects of high levels of DPA. Finally, high levels of DPA have been found to interfere with self-regulation—processes through which individuals direct and adjust their own behavior in order to attain progress toward important goals or standards (Carver and Scheier, 2010; Tice, 2009). Self-regulation is especially important for entrepreneurs, because, as noted above, they frequently function in situations where external guides to action (e.g., norms, established practices) are absent. Several processes that play a role in the potential detrimental effects of DPA on entrepreneurs' performance are described, and implications of the proposed model for one activity closely related to new venture performance – product innovation – are considered. Theoretical and practical implications of the proposed model are discussed.

2. Introduction

Across a large body of research conducted in several different fields (e.g., social and cognitive psychology, human resource management, organizational behavior) positive affect has been found to be associated with a wide range of benefits (Ashby et al., 1999; Kaplan et al., 2009; Lyubomirsky et al., 2005; Weiss and Cropanzano, 1996). Among the most consistently reported beneficial effects are the following: increased energy, enhanced cognitive flexibility, increased generation of new ideas, greater confidence and self-efficacy, adoption of efficient decision making strategies (e.g., satisfying), augmented use of heuristics that can reduce cognitive effort, and improved ability to cope with stress and adversity (Ashby et al., 1999; Baron, 2008; Fredrickson, 2001). Further, high levels of positive affect have been found to be related to improve performance on a wide range of cognitive and work-related tasks (Kaplan et al., 2009), increased career success, enhanced personal health, and formation of more extensive and higher quality personal relationships (Baas et al., 2008; Lyubomirsky et al., 2005). Given the robustness and generality of these effects, there appear to be strong grounds for concluding that positive affect either produces, or is associated with, a wide range of beneficial effects. Indeed, on the basis of an extensive review of extant literature, Lyubomirsky et al. (2005, p. 804) conclude: *“People who experience a preponderance of positive emotions tend to be successful and accomplished across multiple life domains...not merely because success leads to happiness, but because positive affect engenders success...”* Similarly, Fredrickson and Branigan (2005, p. 314) note that *“Positive emotions...broaden individuals' thought-action repertoires, prompting them to pursue a wider range of thought and actions than is typical...these can build a variety of personal resources...physical, social...intellectual...and psychological...”* In short, existing evidence provides strong grounds for concluding that positive affect is associated with, or may actually be involved in generating, a wide range of favorable outcomes. Further, as noted in more detail below, this appears to be true both for *state* positive affect (i.e., positive affect produced by discrete events) and *dispositional* positive affect (i.e., stable tendencies to experience positive moods and emotions across time and situations).

Recently, research on positive affect has been extended to the field of entrepreneurship, and has reported that in this domain, too, it is linked to beneficial outcomes including enhanced focus and effort on future-oriented tasks (Foo et al., 2009), and increased creativity (Baron and Tang, 2011). In addition, Hayward et al. (2010) have recently suggested that high levels of confidence among founding entrepreneurs facilitate positive emotions and expectations which then strengthen their resilience in terms of bouncing back from failure and hence their likelihood to found additional ventures. Similarly, Cardon et al. (2009) suggest that entrepreneurial passion, which they define as involving intense positive feelings toward engaging in roles associated with the entrepreneurial process (e.g., inventing, founding, developing), has many beneficial effects, including the adoption of more challenging goals, stronger goal commitment, and enhanced creative problem solving. However, as noted below, these authors also call attention to potential detrimental effects that can result from very high levels of passion. Further, at least one recent study failed to find beneficial effects of high levels of entrepreneurs' passion on funding decisions by venture capitalists (Chen et al., 2009). In general, however, findings and theory in the field of entrepreneurship tend to echo those in other fields, suggesting that high levels of positive affect can have beneficial effects for the performance of entrepreneurs and, thus, indirectly influence their ability to successfully launch and develop their firms.

While this large body of evidence and theory is highly informative, it has not, to an appreciable extent, explored the possibility that there are upper limits to the benefits of positive affect. This is an important issue because it has often been assumed, in recent literature, that the effects of positive affect are predominantly, if not exclusively, beneficial (Baron, 2008; Lyubomirsky et al., 2005). Further, recent research in several fields (e.g., positive organizational behavior, positive organizational scholarship, positive psychology) has emphasized the benefits of “positivity” for managers, leaders, and others (Cameron et al., 2003; Luthans, 2002; Seligman and Csikszentmihalyi, 2000). Implications based on these findings have often been described in the popular press and the practitioner literature (Fredrickson, 2009; Hess and Cameron, 2006; Lyubomirsky, 2008; Seligman, 2002) so that at present, belief in the benefits of being “positive” or “upbeat” is strong. Given this fact, it seems important to insert a note of caution by carefully considering the potential “downside” of high levels of DPA. Further, and of greater importance, careful review of existing

evidence indicates that although most studies on the influence of positive affect have reported beneficial effects (Ashby et al., 1999; Lyubomirsky et al., 2005), some findings are contrary to this overall pattern (Judge and Ilies, 2004).

For example, past research has reported that high levels of positive affect increase susceptibility to cognitive errors that can potentially interfere with effective decision making (Isen, 2000), and can reduce performance on many tasks, especially ones involving critical reasoning and logic (Melton, 1995). Similarly, *dual-tuning theory*, proposed by Zhou and George (2007) indicates that high levels of positive affect may not always be beneficial in terms of facilitating creativity. Positive affect may increase the volume of creative ideas, but careful evaluation of such ideas may not occur in the absence of offsetting negative affect. In addition, high levels of positive affect have been found to reduce attention to negative information—especially, input that contradicts currently held beliefs and attitudes (Forgas and George, 2001). Finally, high levels of positive affect – especially forms of positive affect that are high in both positive valence and activation (e.g., enthusiasm, excitement) have been found to encourage *impulsiveness* – the tendency to act without adequate thought, abruptly, and with little or no regard for potential negative consequences (DeYoung, 2010). To the extent positive affect encourages such behavior, it can have negative implications for entrepreneurs and their new ventures, which generally have limited resources and cannot easily recover from the detrimental effects of rash actions or hasty decisions by their founders (Khair, 2010).

At this point, it should be noted that extant theories of affect (e.g., optimum level of affect theory; Oishi et al., 2007; broaden-and-build theory; Fredrickson and Losada, 2005), converge in suggesting that there may be limits to the beneficial effects of positive affect and that the relationship between such affect and performance on many different tasks may be curvilinear in nature. Further, current theories of self-regulation – the processes through which individuals direct or alter their thinking and actions so as to bring them into accord with key goals, norms, rules, or other standards (Baumeister and Alquist, 2009) – suggest that high levels of positive affect may have negative implications for this important process. Finally, in their insightful analysis of entrepreneurial passion, Cardon et al. (2009) note that high levels of such passion – which encompasses intense positive feelings associated with engagement in entrepreneurial activities and roles – can sometimes generate reduced levels of persistence and goal striving. As they specifically note (p. 520) that: “...passion that is too positive or intense can limit an entrepreneur's creative problem solving...because the entrepreneur is resistant to exploring alternative options, fearing that doing so may dilute...the intense positive experience...” Findings of a study by Vallerand et al. (2003) offer support for this suggestion. These authors found that “obsessive passion” led to rigid persistence in the task at hand—a tendency that can limit individuals' ability to develop novel solutions (Csikszentmihalyi, 1997).

It should be noted that curvilinear relationships between individual characteristics (e.g., the “Big Five” dimensions of personality) and task performance have recently been reported in several studies (Mount et al., 2008). For instance in a recent study Le et al. (2011) reported curvilinear relationships between conscientiousness and emotional stability and task performance as rated by employees' immediate supervisors. Similar curvilinear relationships were also found with respect to organizational citizenship behavior. Finally, in a recent paper entitled “Too much of a good thing...”, Grant and Schwartz (2011, p. 62) have called attention to the fact that a great deal of evidence supports the view that “...there is no such thing as an unmitigated good. All positive traits, states, and experiences have costs that at high levels may begin to outweigh their benefits, creating the nonmonotonicity of an inverted U.” Overall, then, there appear to be grounds for suggesting that a wide range of personal characteristics are related in a curvilinear rather than a linear manner to task performance and other aspects of work-related behavior. In the present model, we extend this previous research and theory by focusing on the possibility that the relationship between entrepreneurs' DPA and processes that strongly influence their performance of key tasks is also curvilinear in nature. Although this possibility has been suggested, in passing, in recent literature (Baron, 2008; Fredrickson and Losada, 2005; Lyubomirsky et al., 2005), it has not, to date, been fully examined. The present model seeks to address this gap in current theory.

In order to adequately examine the potential detrimental effects of high levels of DPA on entrepreneurs' performance, the remainder of this discussion proceeds as follows. First, reasons why entrepreneurs may often be at special risk for experiencing such effects are examined. Next, potentially detrimental effects of high levels of DPA with respect to key aspects of cognition, perception, motivation, and self-regulation are considered. Third, to illustrate the potential role of these detrimental effects in the domain of entrepreneurship, their relevance to an activity found, in previous research, to be strongly related to new venture success – product innovation – is discussed (Brown and Eisenhardt, 1995; Shepherd and DeTienne, 2005). The paper concludes with the consideration of the theoretical and practical implications of the present model, and a brief review of potential avenues for future research.

2.1. Clarifications relating to key terms and the scope of the present paper

Before proceeding with the major tasks described above, several clarifications should be offered. First, the term *affect* is used throughout this paper as it has been in a large body of previous research, to refer to a broad range of feeling states. Affect includes both *moods*, which are often relatively long-lasting but not focused on specific events or objects (e.g., cheerfulness, depression), and *emotions* (e.g., anger, sorrow, joy) which are often shorter in duration but more specifically directed toward a particular object (e.g., a person, event, object; Frijda, 1993). Several models of affect (Feldman-Barrett and Gross, 2001; Feldman-Barrett and Russell, 1999) suggest that this construct encompasses two basic dimensions relating, respectively, to activation (*low-high*) and valence (*pleasant-unpleasant*). Recent research findings suggest that both dimensions are important for a full understanding of the nature of affect and its impact. For example, a meta-analysis of research on positive affect and creativity (Baas et al., 2008) indicates that positive affect is related to increased creativity, but only if it is high in activation and involves a promotion focus (i.e., an orientation toward achieving gains). Positive affect that is low in activation (e.g., feelings of serenity or relaxation) and involves

a prevention focus (i.e., an orientation toward avoiding potential losses) is not associated with increased creativity. In research on affect in several fields of management, attention has been focused primarily on the valence dimension—the extent to which affect is pleasant or unpleasant. Further, a widely used measure of positive and negative affect (the PANAS; Watson et al., 1988) is concerned primarily with high-activation forms of positive affect (e.g., feelings of excitement, elation, alertness). Since such affect (e.g., feelings of excitement, alertness, elation) is most relevant to entrepreneurs involved in developing their new ventures, it will be the focus of the present discussion, and primary attention will be directed to the valence (i.e., pleasant–unpleasant) dimension of affect.

Second, the present framework focuses on dispositional rather than state (i.e., event-generated) affect. Extant theoretical frameworks concerned with affect (Lyubomirsky et al., 2005) generally distinguish between these two aspects of positive affect. Dispositional positive affect refers to stable tendencies to experience positive affect often, and across many situations—a baseline to which individuals tend to return when in the absence of strong affect-inducing events or experiences. In contrast, state (event-generated) affect refers to affect in response to specific events. Although state and dispositional affect appear to derive from different sources (e.g., specific events versus stable biological processes), existing evidence suggests that in general, they produce parallel effects in many contexts (Baron, 2008, p. 329). Because the process of launching and operating new ventures unfolds over extended periods of time, we reason that DPA on the part of founding entrepreneurs may be more directly relevant to both their capacity to perform various tasks and, indirectly, to achieving firm-level outcomes. The present framework, therefore, focuses on dispositional rather than state (i.e., event-generated) positive affect. It is fully recognized, however, that both aspects of positive affect have important implications for entrepreneurship (Baron, 2008; Cardon et al., 2009) and should be carefully considered in future research.

Third, the present paper focuses on positive, rather than negative, affect for several reasons. Previous literature has generally emphasized the potential benefits of high levels of positive affect (Baron, 2008; Cardon et al., 2009; Foo, 2011) or “positivity” (Luthans, 2002). Although negative affect, too, is related to cognition and behavior in important ways (Zhou and George, 2007), growing evidence indicates that under high levels of stress or arousal, the two dimensions shift toward being negatively correlated – toward becoming opposites on a single dimension (bipolarity) – rather than functioning as two separate and distinct dimensions (Reich et al., 2010). This shift occurs because under conditions of high arousal or stress, information processing capacity is compromised, thus reducing individuals' capacity to distinguish clearly between positive and negative affect (Russell, 2003). Since entrepreneurs often operate under conditions of high arousal and/or stress, treating positive and negative affect as independent dimensions appears to be somewhat inconsistent with the findings of recent research (Reich et al., 2003). Finally, several studies indicate that although individuals can experience both positive and negative affect simultaneously (Laresn et al., 2001), in most situations they tend to experience one or the other of these feelings so that in general, they tend to be mutually exclusive. In sum, although we fully recognize the possibility that both positive and negative affect can co-occur, and that negative affect, too, has important implications for entrepreneurship, we focus here on positive affect.

Finally, it is important to distinguish between dispositional positive affect and optimism (Ucbasaran et al., 2010). As noted previously, DPA refers to the stable tendency to experience positive moods and emotions often, and in a wide range of contexts. In contrast, optimism refers to a cognitive tendency to expect positive outcomes in almost any situation—to anticipate that in general, “things will turn out well.” As Ucbasaran et al. (2010, p. 541) put it: “...comparative optimism is the tendency of people to report that they are less likely than others to experience negative events, and more likely than others to experience positive events.” Thus, although these two constructs are moderately correlated and are likely to interact (e.g., see literature on the interplay between emotions and cognition; Dalgleish and Power, 1999), they are conceptually distinct. One represents a feeling state (i.e., positive affect), while the other refers to a cognitive orientation (i.e., optimism). As an example of the functional difference between these constructs, it would be possible for a person to experience negative affect (perhaps as a result of a recent, negative event), yet still anticipate positive outcomes. Although the present model focuses on dispositional positive affect, it is fully recognized that DPA is related to optimism, and that optimism, too, may play an important role in entrepreneurs' behavior and performance (Hmieleski and Baron, 2009; Ucbasaran et al., 2010).

3. Why entrepreneurs may be at special risk for experiencing the detrimental effects of high levels of DPA

While the potentially negative effects of high levels of positive affect are relevant in many business contexts (e.g., job interviews, performance appraisals) there are several reasons why they may be especially pertinent in the domain of entrepreneurship. First, existing evidence suggests that detrimental effects are most likely to occur at high or very high levels of positive affect (Fredrickson and Losada, 2005). Although entrepreneurs are a heterogeneous population, varying greatly in terms of many characteristics (e.g., motives, goals, skills, personality, age, gender), as a group, they appear to be considerably higher than the general population in dispositional positive affect. Indeed, in recent research (Baron et al., 2011), they have been found to be higher in dispositional positive affect than any other group studied to date—a mean of 4.16 on a 5-point scale of positive affect (see Table 1). This mean score is statistically higher (using a p-level of .01; $n = 157$) than any study reported in a meta-analysis conducted by Lyubomirsky et al. (2005), which had used an equivalent measure of DPA (i.e., the PANAS; Watson et al., 1988). In short, entrepreneurs do appear to be very high in DPA, and their high levels of positive affect may put them at considerable risk for falling under the declining segment of the curvilinear function relating affect to task performance.

Second, current theories concerning the nature and impact of affect, plus recent theorizing in the field of entrepreneurship (Baron, 2008; Cardon et al., 2009), suggest that the downturn in task performance at high levels of dispositional positive affect is more likely to occur in challenging environments than in more supportive ones (Fredrickson and Losada, 2005; Oishi et al., 2007).

Table 1

Comparison of mean scores for positive affect of entrepreneurs sampled in Baron et al. (2011) in the current study with mean scores for positive affect observed in prior studies of non-entrepreneurs.

Study	Sample	Sample size	Mean	SD	t value	Lower CI of unbiased estimate	Upper CI of unbiased estimate	Eta Squared
Audrain et al. (2001)	Women who had a FDR with a diagnosis of primary breast cancer.	228	3.30	0.71	11.09**	1.08	1.60	0.27
Berry and Hansen (1996) (Study 1)	Undergraduate women enrolled in introductory psychology course.	112	3.62	0.66	6.80**	0.65	1.22	0.18
Berry and Hansen (1996) (Study 2)	Undergraduate students who participated in a recent study of the relations between physical appearance and social interaction.	105	3.68	0.68	5.87**	0.53	1.11	0.15
Burger and Caldwell (2000)	Graduating college seniors.	134	3.77	0.57	5.62**	0.47	1.01	0.12
Crede et al. (2007)	Non-academic employees from 12 departments of a large university	959	3.15	0.83	12.01**	1.05	1.48	0.12
Griffin et al. (2006)	Male participants from the VA Normative Aging Study (NAS).	1,222	3.35	0.73	10.98**	1.12	1.36	0.08
Kashdan and Roberts (2003)	Undergraduate college students enrolled in an introductory psychology course.	104	3.31	0.69	10.19**	1.12	1.73	0.34
Lucas et al. (2000)(Study 3)	Graduate college students.	134	3.31 ^a	0.76 ^a	9.85**	1.02	1.59	0.30
Lucas et al. (2000)(Study 4)	Undergraduate and graduate college students.	210	3.49	0.62	9.59**	0.91	1.42	0.23
Pelled and Xin (1999)	Employees (administrative staff, engineers, production supervisors, and technicians) in a single division of a large electronics company.	99	3.59	0.73	6.56**	0.64	1.22	0.18
Pettit et al. (2001)	College students at a large state university.	140	3.18	0.75	11.51**	1.22	1.80	0.36
Tarlow and Haaga (1996)	Undergraduate psychology students.	124	3.39	0.71	9.30**	0.96	1.54	0.28
Van Katwyk et al. (2000)	Employees at a large state university.	112	3.64	0.64	6.69**	0.64	1.20	0.18
Watson et al. (1988)	Undergraduate college students, university employees, and non-university affiliated persons.	663	3.50	0.64	9.99**	0.86	1.29	0.12
Wright and Cropanzano (1998)	Social welfare workers employed by a large city on the West Coast of the United States	52	3.40	0.70	7.88**	0.97	1.71	0.29

For Baron et al. (2011), $n = 157$, Mean = 4.16. SD = .47.

** $p < 0.01$.

^a Average across three times.

In their efforts to start and run new ventures, entrepreneurs often face precisely such environments—ones filled with intense competition, rapidly changing technologies, and ever-shifting markets (Zahra and Bogner, 2000). Thus, they are exposed to two factors – their own high levels of dispositional positive affect and highly challenging, environments – which, jointly, may accentuate any detrimental effects on their performance.

Third, although other groups may also experience similar combinations of high positive affect and strong environmental challenge, additional factors may be especially important for entrepreneurs. Because they often break new ground and seek to develop new products, services, or markets, entrepreneurs often function in situations that are complex, uncertain, and offer few guides for, or constraints on, their behavior. For these reasons they can, and often must “make it up as they go along” (Baker et al., 2003; Baron, 2007; Hmieleski and Corbett, 2006; 2008). In such situations, individual predispositions and preferences are especially likely to influence cognition and behavior (Hambrick, 2007; House et al., 1996; Kaplan et al., 2009). Thus, entrepreneurs' DPA should exert relatively strong effects—stronger than might be true for other groups of persons who do not regularly encounter such work situations (e.g., individuals working in large companies that have well-established rules, procedures, and internal structures).

Fourth, by the very nature of their development, many new ventures are relatively small in size. Research on organizational culture (Schneider et al., 2010) suggests that founding entrepreneurs play a key role in the development of organizational culture—the shared values, beliefs, and ideologies within an organization. Further, this research also indicates that the impact of founding entrepreneurs is maximum when their firms are small (Staw, 1991), and is often reduced as firms grow in size (Schein, 1997) and

become more structured and hierarchical in nature (Miller, 1990). For this reason, any detrimental effects of high levels of DPA on founding entrepreneurs' cognition, perception, motivation, or self-regulation (effects detailed in the next section), may be magnified because they are reflected in the organizations' developing culture, and therefore influence many aspects of operations.

For these reasons, entrepreneurs and the new ventures they lead may be at particular risk for experiencing the detrimental effects of very high levels of DPA. This in no way implies that similar risks do not exist for other persons or occupational groups. However, several factors may combine to accentuate the likelihood or intensity of such effects among entrepreneurs. We now turn to the underlying psychological mechanisms through which such effects are likely to occur—mechanisms through which very high levels of DPA can impair entrepreneurs' performance of key tasks.

4. The curvilinear effects of dispositional positive affect on cognition, perception, motivation, and self-regulatory processes

Before proceeding, we should reiterate a basic point: in general, DPA is associated with beneficial effects on individuals' task performance, career success, social networks, and personal health (Lyubomirsky et al., 2005). It is a basic proposal of the present model, however, that there may be limits to such effects, so that at very high levels of DPA, such benefits decrease and may actually be replaced by detrimental outcomes. Findings relevant to this suggestion are varied in scope, but in most cases, involve specific detrimental effects of high levels of positive affect on *cognition, perception, task-directed motivation, and self-regulation* (Baumeister and Heatheron, 1996; Clore and Huntsinger, 2007; Isen, 2000). In the discussion that follows, we examine the nature of these detrimental effects and explain why they are relevant to important activities performed by entrepreneurs and – hence – ultimately to firm-level performance.

4.1. The effects of DPA on cognition

The beneficial effects of DPA on cognition appear to be relatively clear. For instance, research on the *broaden-and-build framework* proposed by Fredrickson (1998, 2001) indicates that positive affect expands the scope of individuals' attention, cognition, and action (Fredrickson and Branigan, 2005). In other words, when individuals experience positive affect, they tend to notice more in a given situation, think about a wider range of factors and possibilities (e.g., entertain more unusual patterns of thought), and consider a broader range of actions than when in the absence of positive affect. These broadened perspectives (or “mindsets” as Fredrickson terms them), then assist individuals in building a wide array of personal resources, including intellectual resources (e.g., increased knowledge and intellectual complexity) and psychological resources (e.g., enhanced resilience, optimism, and creativity; Fredrickson et al., 2003)—resources that contribute to their performance on many cognitive tasks (e.g., problem-solving, decision-making). Moreover, these enhanced resources are durable, persisting beyond the fleeting emotional states that generate their original acquisition. Thus, they build individuals' capacity to adapt to and function effectively in a wide range of situations. In sum, the experience of positive affect often helps to strengthen individuals' cognitive capacities.

On the other hand, additional research findings indicate that positive affect has several potentially detrimental effects on cognition—effects that should not be overlooked. First, positive affect tends to increase susceptibility to various errors or biases. For instance, positive affect, although distinct from optimism as a construct, is related to what is known as the optimistic bias—a tendency to expect positive events and outcomes even when there is little or no justification for such expectations (Busenitz and Barney, 1997; Simon et al., 2000). Partly as a result of this “tilt” in cognition, individuals often over-estimate their future performance, even on tasks with which they have considerable past experience (Henry, 1994). Similarly, positive affect tends to facilitate a closely related error known as the *planning fallacy* (Buehler et al., 1994; Roy et al., 2005), which involves underestimating the amount of time required to complete a given task. The optimistic bias and the planning fallacy may be especially hazardous for entrepreneurs, who, as a result of such cognitive errors, may overlook or underrate formidable obstacles and formulate unrealistically favorable predictions about when various tasks will be completed (e.g., product development, production, delivery to customers). This, in turn, can have serious consequences for decision making—a process that has often been found to be strongly related to firm performance (Eisenhardt, 1989).

Second, positive affect has been found to encourage *heuristic thought*—cognitive processing that is guided by “mental rules of thumb” (i.e., heuristics), such as *availability* (i.e., the ease with which information can be brought to consciousness) and *representativeness* (i.e., the extent to which information is representative of a broad category of objects, events, or persons; Park and Banaji, 2000). Heuristic thought is often efficient and can be useful in many contexts. High levels of positive affect, however, appear to encourage *over-reliance* on such thought, and reduce efforts to seek out and consider other, potentially more promising, alternatives (Klayman et al., 1999). Entrepreneurs often face novel and rapidly changing situations; for this reason, importing heuristics that have “worked” in past situations and other contexts can prove counterproductive, since these cognitive frameworks may *not* be directly applicable in the present circumstances, and may interfere with important processes such as decision making.

Third, high levels of DPA strongly influence how information is encoded into memory, thus affecting what is later available for retrieval and use in subsequent decision making (Eich, 1995). Research findings indicate that when individuals experience high levels of positive affect, they tend to store mostly positive information in memory and retrieve mainly positive evidence from memory—to show *mood congruence effects*. This can result in a situation where biased samples of information become available and are used in decision making (Miller, 2008). Specifically, if entrepreneurs high in DPA tend to both store and recall mainly positive information about, for example, an idea for a new product or product innovation, their decisions concerning these ideas or products may be biased in a favorable direction because the preponderance of information brought to mind points in this direction.

Finally, positive affect sometimes reduces attention to, and processing of, negative information—especially, information that contradicts closely held beliefs and expectations. Previous research indicates that mood can have such effects in two ways. It can function as a goal, such that individuals experiencing positive affect seek to maintain this pleasant state (Isen, 1984; Wegener and Petty, 1994); careful processing of negative information is inimical to this goal. In addition, mood often serves as a source of information, with positive mood indicating that sufficient (or perhaps, even better-than-anticipated) progress toward key goals is being made (Carver and Scheier, 2010). This, in turn, may suggest that elaborate or careful processing of incoming information, and especially negative information, is unnecessary (Bless, 2001). Together, these two tendencies, induced by positive affect, may diminish attention to and processing of negative information, and combine with the memory errors described above to interfere with effective decision making.

It is important to note, however, that some research findings indicate that positive mood can serve as a cognitive resource, enhancing rather than reducing the processing of negative information (Raghunathan and Trope, 2002). According to the “mood-as-a-resource” hypothesis, positive affect can buffer individuals against the affective costs of negative information. In other words, cognitively “cushioned” by positive affect, they are more willing or better able to carefully consider negative information. Research findings indicate that this is most likely to occur when negative information is highly self-relevant—it relates directly to individuals’ self-concept (Raghunathan and Trope, 2002). Since entrepreneurs often identify strongly with their new ventures, it might be assumed that negative information concerning their companies is high in self-relevance, and so would be processed more carefully in the presence of high levels of positive affect than in the absence of such affect. However, many forms of negative information important to entrepreneurs may not, in fact, be high in self-relevance. For instance, a sudden rise in the price of key raw materials may have important implications for the success of a new venture, but may not necessarily be construed by entrepreneurs as high in self-relevance. Thus, high levels of DPA may reduce attention to such information, which is negative in content, because of the strong tendencies toward mood maintenance and reduction of cognitive processing noted above (Carver and Scheier, 2010; Isen, 1984). In sum, taking all existing evidence concerning potentially detrimental effects of high levels of DPA on cognition, the following proposition is suggested:

Proposition 1. *The relationship between entrepreneurs’ level of dispositional positive affect and their effectiveness in performing a wide range of cognitive tasks is curvilinear in nature; up to an inflection point, this relationship is positive, but beyond this point, it is negative.*

4.2. The effects of DPA on perception

Perception involves active attempts by individuals to make sense out of the external world—to interpret information supplied by the senses. Although this is a very basic process, research findings indicate that it can be influenced by affect in several ways. With respect to beneficial effects, positive affect has been found to broaden the scope of attention, so that individuals experiencing it notice a wider range of information than those not experiencing such affect (Fredrickson and Branigan, 2005). Perceiving information is an essential precursor to entering it into memory for further processing (Baddeley, 1997), so this can be an important benefit. In a sense, positive affect assists individuals by helping them to see “more” in a given situation than would otherwise be the case—an enhanced capacity often associated with developing expertise in a given domain (Ericsson et al., 2006).

On the other hand, however, high levels of positive affect can exert detrimental effects on perception. Specifically, high levels of positive affect tend to elevate perceptions of objects, events, or people so that they are viewed more favorably than would be true in the absence of positive affect (Clore et al., 1993). This means, for example, that an idea encountered by individuals while experiencing positive affect will, all other factors equal, be evaluated more favorably than the same idea encountered in the absence of such affect. These types of effects have been observed in many business contexts; for instance, even experienced job interviewers tend to evaluate job applicants more favorably when they (the interviewers) are experiencing positive affect than when they are not (Baron, 1993). Similarly, *halo effects* – the tendency to evaluate specific aspects of others’ performance more favorably if the evaluator’s overall assessment of the rater is positive (Murphy et al., 1993) – appear to stem, at least in part, from the influence of positive affect on such judgments.

For entrepreneurs, such effects can result in spuriously positive evaluations of their own ideas for new products and services. The tendency of entrepreneurs to “fall in love” with their own ideas has long been included in lists of the factors accounting for why such a high percentage of new ventures fail (Shane, 2008), and recently, it has been observed in empirical research (Adomdzda, 2009).

Another potentially detrimental influence on perception of high levels of dispositional positive affect is related to its tendency to broaden individuals’ range of attention, so that they notice more (i.e., a wider array of information) in a given situation than would otherwise be the case (Hicks and King, 2007). This may sometimes be beneficial, and contribute to the development of enhanced physical, social, and/or cognitive skills (Fredrickson and Losada, 2005). At the same time, however, it may also prevent individuals from identifying and focusing on the specific information that is most crucial in a given situation. In other words, it may encourage individuals to focus on the “big picture” while overlooking what might be crucial details. As noted by Fredrickson and Branigan (2005), when experiencing high levels of positive affect, individuals tend to focus on global rather than local dimensions of a situation—the overall pattern rather than the underlying details. Such effects can be beneficial in some contexts, but to the extent they cause individuals to overlook important details, they can be counterproductive. Overall, the reasoning summarized above suggests the following proposition:

Proposition 2. *The relationship between entrepreneurs’ level of dispositional positive affect and the accuracy of their perceptions is curvilinear in nature; up to an inflection point, this relationship is positive, but beyond this point, it is negative.*

4.3. The effects of DPA on motivation

Turning to motivation and effort with respect to important tasks, evidence again provides a mixed picture of effects. Positive affect has been found to exert an energizing influence on behavior, thus facilitating performance on a wide range of tasks requiring effort or concentration, including many such tasks in work settings (Kaplan et al., 2009). Consistent with this suggestion, the PANAS, a popular measure of affect (Watson et al., 1988), assesses positive affect through self-reports concerning such terms as *alert, excited, enthusiastic, strong, and active*—all reflective of increased effort or energy.

On the other hand, recent theory concerning the nature and origins of positive affect suggests that it can exert detrimental effects on motivation and task performance. For example, Carver and Scheier (1990, 2010) note that positive affect often serves as a signal indicating that better-than-expected progress toward important goals has been attained. Negative affect, in contrast, is a signal indicating that worse-than-expected progress has been obtained. They further suggest that because it is a signal of effective progress toward key goals, positive affect often results in *reprioritization*—a shifting of goal priorities, so that attention and effort are re-directed away from current goals and activities and toward others, ones initially lower on individual's list of priorities. The basic reasoning behind this assertion is that if efforts to attain important goals are succeeding, it is appropriate to shift one's focus to other, alternative goals somewhat lower in an individual's priorities. Evidence for this process has been reported in many studies (for a review, see Carver and Scheier, 2010), and has recently also been observed among entrepreneurs. Using experience-sampling methodology to examine daily shifts in affect (cf., Uy et al., 2010), Foo, and colleagues found that entrepreneurs experiencing positive affect did indeed shift their attention and effort away from current tasks and toward ones to be accomplished in the future (Foo et al., 2009). In short, very high levels of DPA may encourage entrepreneurs to shift goals and effort. To the extent this occurs prematurely – in situations where continued effort would yield improved performance and outcomes – this can result in detrimental effects. The possibility of such a relationship is noted by Cardon et al. (2009), who suggest that very high levels of passion (which involves high levels of positive affect) can sometimes interfere with persistence and goal striving. Taken together, these findings and theoretical frameworks suggest the following proposition:

Proposition 3. *The relationship between entrepreneurs' level of dispositional positive affect and their task motivation is curvilinear in nature; up to an inflection point, this relationship is positive, but beyond this point, it is negative.*

4.4. Detrimental effects of DPA on self-regulation

Many times each day, individuals attempt to regulate their own behavior, cognition, or emotions in order to move toward, and attain, important standards or goals (Forgas et al., 2009). Such self-regulation takes many different forms. Self-control, for example, involves efforts by individuals to refrain from engaging in actions they would very much like to perform but should not (e.g., eating high-calorie foods), and, conversely, performing actions they would rather *not* perform but should (e.g., vigorous exercise, intense studying; Baumeister et al., 2007b). Another aspect of self-regulation involves delay of gratification—foregoing currently available rewards in order to obtain larger ones at a future time (Mischel, 1974, 1977; Mischel and Ayduk, 2010). An additional aspect of self-regulation is related to action control orientation—individuals' ability to act overtly on intentions (Diefendorff et al., 1998; Kuhl, 1994). Research on this aspect of self-regulation indicates that people high in action-control orientation are better able than persons low in action-control orientation to initiate actions and to maintain effort and motivation following setbacks. For instance, research findings indicate that following disappointing results in a job search, persons high in action-control orientation are better able than those low in such orientation to persevere and continue their efforts on succeeding days (Wanberg et al., 2009). Further, persons high in action-control orientation are better able to regulate their own affective states so as to facilitate goal-directed behavior (Jostmann et al., 2005).

Processes related to self-regulation play a key role in determining successful performance in many different domains. Persons high in various aspects of self-regulation have been found to out-perform ones lower in such skills or abilities in academic performance, career success, sports, and medicine, and science (Duckworth et al., 2007). In fact, after reviewing available evidence from literally hundreds of studies, Forgas et al. (2009, p. 5) suggest that “...research has identified two major factors that influence success across the entire range of human endeavors—intelligence and self-regulation.” Self-regulation also appears to be an essential aspect of the process through which individuals become truly expert in a given field. Achieving exceptional levels of performance, it has been found, requires diligent practice continued for long periods of time, as well as establishing high personal standards and careful monitoring of behavior to determine if it is in fact, moving toward these standards (Baron and Henry, 2010; Ericsson et al., 2006).

DPA has important implications for various aspects of self-regulation, and once again, these appear to be mixed in nature. In terms of beneficial effects, research findings indicate that engaging in efforts at self-regulation can deplete cognitive resources needed for such regulation (Baumeister et al., 2007a). Thus, the exercise of self-control on one task often reduces individuals' capacity to exercise self-control on a subsequent task (Wan and Sternthal, 2008). Positive affect can help to restore such cognitive resources (Tice, 2009). For instance, in a revealing study on such effects, Tice et al. (2007) had individuals perform a task designed to deplete their self-regulatory resources: refrain from eating delicious snack foods present in the room. Participants then performed a second task that also required the exercise of self-control—persevering in their efforts to solve a puzzle which was, in fact, unsolvable. In between the two tasks, one group of participants was exposed to an experience designed to induce heightened positive affect (presentation of a very funny comedy video), while the others were exposed to a neutral experience (a science video that did not increase their positive affect). Results indicated that participants whose positive affect had been elevated were

significantly better able to demonstrate self-control in the second task: they persevered longer than those whose cognitive resources had *not* been restored. These results indicate that positive affect can indeed restore or enhance cognitive resources needed for self-regulation.

On the other hand, growing evidence suggests that high levels of positive affect often interfere with important aspects of self-regulation (Zimmerman, 2006). Positive affect can distract individuals from careful monitoring of their own actions. With respect to entrepreneurs, this may make it more difficult for them to accurately assess progress toward important milestones established by themselves or other stakeholders (e.g., venture capitalists, business partners). Similarly as noted previously, high levels of dispositional positive affect are often a signal that adequate progress is being made toward key goals. This may lead to a shift in goal priorities, and reduced effort on current tasks or projects (Tice, 2009).

In addition, high levels of dispositional positive affect are associated with increased impulsiveness (DeYoung, 2010). While it is often important for entrepreneurs to respond quickly to rapidly changing events and situations, high levels of impulsiveness – which involve acting suddenly, without careful thought and with little regard to potential negative consequences – can be as harmful, or perhaps even more so, than unreasonable delay.

Finally, since self-regulation requires the use of important cognitive resources, efforts by entrepreneurs to regulate or “rein in” their own very high levels of positive affect may deplete these resources, and reduce their capacity for other forms self-regulation (e.g., self-control, delay of gratification). This, in turn, can interfere with effective performance of many tasks. Together, the findings and reasoning described above suggest the following proposition:

Proposition 4. *The relationship between entrepreneurs' level of dispositional positive affect and their capacity to engage in self-regulation is curvilinear in nature; up to an inflection point, this relationship is positive, but beyond this point, it is negative.*

To summarize, our theorizing suggests that high levels of dispositional positive affect have detrimental as well as beneficial effects on basic psychological processes (e.g., cognition, perception, motivation, and self-regulation; see Table 2 for an overview of these effects). We further propose that initially, beneficial effects predominate and rise with increasing levels of DPA. Beyond some point, however, beneficial effects no longer increase, while detrimental ones may grow in magnitude. Together, these factors generate a curvilinear relationship between entrepreneurs' DPA and basic processes closely related to key entrepreneurial tasks. Since these processes play an important role in many aspects of new venture creation (Gregoire et al., 2010), we suggest that it is important to direct careful attention to them, and especially to the potential detrimental effects of DPA. To the extent that high levels of DPA have negative effects on basic psychological processes, they may interfere with effective performance of tasks that are closely related to new venture performance. These tasks include, but are not restricted to, setting appropriate and attainable goals (Baron, 2007), evaluating the feasibility of various recognized opportunities (McMullen and Shepherd, 2006), making effective strategic decisions (Eisenhardt, 1989; Forbes, 2005; Miller, 2008), and expending effort to ensure that critical tasks are completed on schedule (Shane et al., 2003).

Since effective performance of these tasks is a basic ingredient in new venture success (Baron, 2004; Baum et al., 2001; Shane et al., 2003), a logical extension of the model proposed here suggests that these detrimental effects of high levels of DPA may have negative implications for firm performance, and that such effects occur through the mechanisms described above. In other words, detrimental effects on entrepreneurs' cognition, perception, motivation, and self-regulation may impair their effectiveness in performing key tasks related to new venture performance in this way, may be reflected in reduced firm performance. Detailed examination of the impact of high levels of DPA on firm performance is beyond the scope of the present model, which focuses primarily on processes occurring at the individual level. However, to provide an illustration of the ways in which detrimental effects on founding entrepreneurs' cognition, perception, motivation, and self-regulation can ultimately influence firm

Table 2

The potential benefits and costs of entrepreneurs' dispositional positive affect on specific psychological processes.

Psychological processes	Benefits (up to moderately high levels of DPA)	Costs (beyond moderately high levels of DPA)
Cognition	<ul style="list-style-type: none"> Enhanced cognitive flexibility Adoption of efficient decision-making strategies Augmented use of heuristics that can reduce cognitive effort 	<ul style="list-style-type: none"> Increased susceptibility to cognitive errors Increased reliance on heuristic thought Biased recall of information from memory Reduced attention to and processing of negative information
Perception	<ul style="list-style-type: none"> Openness to an expanded range of opportunities Willingness to consider multiple diverse sources of information Balanced recognition of positive and negative information 	<ul style="list-style-type: none"> Tendency to overvalue ideas and opportunities Tendency to overlook details, and focus on broader perspective Reduced ability to recognize patterns and structural alignments
Motivation	<ul style="list-style-type: none"> Increased energy Greater confidence to take action Decreased level of self-consciousness 	<ul style="list-style-type: none"> Reduced effort on current tasks Choice of inappropriate or unattainable long-term goals Reduced tendency to develop patterns of behavior demonstrating increased flexibility and resiliency
Self-regulation	<ul style="list-style-type: none"> Improved ability to cope with stress and adversity Willingness to adapt to environmental changes Enhanced ability to switch between divergent and convergent modes of thinking 	<ul style="list-style-type: none"> Reduced capacity to monitor own actions Reduced attention to own limitations and situational constraints Increased impulsivity Reduced tendency to delay gratification

performance, we now consider the possible role of such effects in one process that has been found to strongly influence new venture performance—product innovation (Shepherd and DeTienne, 2005). Several authors have recently identified, as a key task for the field of entrepreneurship, attaining greater understanding of the mechanisms through which the skills, motives, capacities, and performance of individual entrepreneurs influence firm performance (Baron, 2007; Hitt et al., 2007; Le et al., 2011). The current discussion represents an effort to contribute to this task by considering one route through which founding entrepreneurs' DPA may exert such effects.

5. An illustration of the potential detrimental effects of DPA: Entrepreneurs' role in new product innovation

Product innovation is a key factor in new venture performance. Research findings indicate that new ventures that engage in high levels of product innovation are more likely to survive and prosper than ones that do not (Damanpour, 1991; Shepherd and DeTienne, 2005). The innovation process enables firms to increase market share and market value (Chaney and Devinney, 1992), improve performance (Roberts, 1999), adapt to the market context in which they are embedded (Brown and Eisenhardt, 1995), create new markets (Burgelman, 1991), and enhance visibility and legitimacy among customers and competitors (Schoonhoven et al., 1990).

In commenting on the relationship between individual creativity and innovation, Amabile (1996) has suggested that creativity underlies product innovation, providing, in a key sense, the “raw materials” for innovation. Positive affect has been found to facilitate creativity in many contexts (Ashby et al., 1999; Baron and Tang, 2011), although as noted by Baas et al. (2008), this is true primarily for high activation forms of positive affect (e.g., feelings of elation, excitement, enthusiasm) in the context of a promotion regulatory focus. While there are certainly important exceptions to this overall pattern (George and Zhou, 2007), it appears that in many situations, positive affect enhances certain aspects of creativity—especially the volume of creative ideas and thought. If, as Amabile (1996) suggests, creativity provides the basis for innovation, then high levels of DPA among founding entrepreneurs might well be expected to encourage product innovation by their new ventures. The psychological mechanisms discussed above are likely to be key intervening variables in this relationship. For example, the creative process involves recognition of potential solutions (perception), evaluation of their feasibility (cognition), motivation to attain them even in the face of setbacks (Shepherd et al., 2009; Shepherd and Cardon, 2009), and several aspects of self-regulation (e.g., consistent focus on key goals, delay of gratification, performing required activities even if not enjoyable; Baumeister and Alquist, 2009; Csikszentmihalyi, 1997; Mischel and Ayduk, 2010). To the extent these processes are encouraged by DPA, increased creativity and innovation would be expected.

As suggested by the proposed model, however, there may be important limits to this relationship. At very high levels of dispositional positive affect, processes that impair both creativity and innovation may be activated—factors that interfere with key aspects of cognition, perception, motivation, and self-regulation. The potential detrimental effects of DPA on each of these processes have previously been discussed in detail, so here, we will simply briefly highlight the relevance of these potentially detrimental effects for innovation.

With respect to cognition, greater susceptibility to cognitive errors and heuristic thinking may impede effective decision making concerning innovations. A key aspect of this process is evaluating the potential value of possible innovations. High levels of DPA, by encouraging unjustified optimism and applying heuristics developed in other situations to the current one, even if they are inapplicable, may reduce entrepreneurs' capacity to choose “wisely and well” among potential innovations. Similarly, high levels of DPA may encourage entrepreneurs to perceive potential innovations very favorably—perhaps more favorably than they merit, and also to overlook details that may be crucial to their development and success. Turning to motivation, as noted previously, high levels of DPA may lead entrepreneurs to reprioritize their goals, so that they shift away from current projects and toward new ones prematurely. In addition, high levels of DPA interfere with key aspects of self-regulation. For instance, they may reduce entrepreneurs' capacity to stay “focused” on important goals, or to resist various temptations. Very high levels of DPA may also encourage a focus on current rewards, thus reducing the capacity to delay gratification. Finally, very high levels of DPA have been found to increase impulsiveness, which, in turn, may lead entrepreneurs to pursue innovations unlikely to yield economic value (DeYoung, 2010). These suggestions and evidence cited in previous discussions, suggest the following proposition:

Proposition 5. *The relationship between entrepreneurs' level of dispositional positive affect and product innovation in their firms is curvilinear in nature; up to an inflection point, this relationship is positive, but beyond this point, it is negative.*

It should be noted that this is not by any means a direct relationship; rather, we suggest that it is mediated by the effects of entrepreneurs' DPA on cognition, perception, motivation, and self-regulation, as described in earlier discussions. We should also emphasize, again, that the negative effects described above are predicted to occur only at high levels of DPA. Below such levels, existing evidence indicates that DPA has generally beneficial effects that should enhance entrepreneurs' ability to lead innovation within their firms (Baron and Tang, 2011).

6. Discussion

The model developed in this paper is based on a wide range of empirical findings, extant theory concerning the nature and impact of positive affect (Ashby et al., 1999; Fredrickson and Losada, 2005; Oishi et al., 2007), and recent theories in the field of entrepreneurship (Baron, 2008; Cardon et al., 2009). Briefly, it suggests that although DPA has important beneficial effects, there

may be discrete limits to these benefits. At high levels, DPA can have detrimental effects on basic aspects of cognition, perception, motivation, and self-regulation. These effects, in turn, may reduce entrepreneurs' performance of key tasks (e.g., decision making, identification and evaluation of opportunities, development and implementation of product innovations). Reduced performance on these tasks can adversely affect firm performance. It is important to note, however, that the present model, as well as the theory and empirical findings on which it is based, focuses primarily on the impact of DPA on individual-level processes. Although these processes play a key role in tasks entrepreneurs perform that are related, ultimately, to firm performance (e.g., opportunity identification or creation, decision making and planning; [Ucbasaran et al., 2010](#); [Zahra and Bogner, 2000](#)), efforts to extend the present model to firm-level outcomes should be undertaken only with considerable caution ([Hitt et al., 2007](#)).

6.1. Theoretical implications for the field of entrepreneurship

Although the model presented here is focused, primarily, on individual-level processes, it does have both theoretical and practical implications for the field of entrepreneurship. First, it examines an issue that has been alluded to in past theory and research ([Oishi et al., 2007](#)), but not explored in detail: the possibility of limits to the beneficial effects of positive affect. Given recent emphasis in several fields, including entrepreneurship, on the possible benefits of such affect ([Baron, 2008](#); [Luthans, 2002](#)), it seems important to further clarify this issue.

Second, the present model contributes to emerging theoretical frameworks for understanding how entrepreneurs – and more specifically, how their skills, knowledge, motives, and other characteristics – ultimately relate to firm performance. Several researchers have suggested that understanding such links is a key task for the field of entrepreneurship ([Davidsson and Wiklund, 2001](#)), and a small, but growing body of evidence relevant to these suggestions has recently begun to emerge ([Hmieleski and Baron, 2008](#); [Lee et al., 2011](#)). Such research suggests that to fully understand key aspects of entrepreneurship, it is necessary to consider the effects of variables operating at many levels of analysis—micro-level factors relating to characteristics of founding entrepreneurs (e.g., their skills, motives, values, goals, etc.), organizational-level variables, environmental-level variables, and societal-level variables ([Hitt et al., 2007](#)). The present model contributes to this literature by suggesting that entrepreneurs' DPA should be included in this complex array of relevant factors, and that its effects are both complex and mediated through several intervening mechanisms. A lack of attention to these complexities may, in fact, partly explain prior failures to identify linkages between the individual characteristics of entrepreneurs and the performance of their firms ([Gartner, 1989](#); [Shaver and Scott, 1991](#)).

6.2. Implications for basic theories of affect

The model developed here also has important implications for basic theories of affect, especially ones proposed by researchers in the field of psychology. Existing theories of the nature and impact of DPA ([Forgas, 2001](#); [Fredrickson and Losada, 2005](#); [Oishi et al., 2007](#)) have generally focused on the potential beneficial effects of positive affect, while devoting relatively little attention to the possibility of detrimental effects. The present framework, in contrast, suggests that the relationship between DPA and many aspects of cognition and behavior are curvilinear in nature, so that beyond discrete inflection points, the beneficial effects observed in many previous studies and emphasized in extant theories, decrease and may be replaced by detrimental ones. Thus, the present framework serves to extend basic theories of the role of affect by calling attention to the fact that although the balance of these “benefits and costs” is often favorable, at very high levels of DPA it may shift, so that detrimental effects predominate. This reasoning is consistent with suggestions by [Grant and Schwartz \(2011\)](#), who, after reviewing all available evidence, concluded that there are often discrete limits to the benefits of many positive states, characteristics and experiences—with the result that the relationship between these factors and various indices of performance or well-being are curvilinear in nature.

In addition, our examination of the effects of DPA among entrepreneurs, a population found in recent research to be especially high in terms of this characteristic ([Baron et al., 2011](#)), helps to extend prior work in the field of psychology by emphasizing that the potential negative effects of DPA are heightened for specific groups. Psychological theories tend to be primarily concerned with the general population and often give less consideration to effects that occur at the extremes of a given distribution, except when they focus on the foundations of specific psychological disorders. This may be one important reason why although basic theories of the nature and impact of positive affect have briefly noted the potential for detrimental effects of DPA ([Fredrickson and Losada, 2005](#); [Lyubomirsky et al., 2005](#)), such effects have received only limited attention. The present model provides a more detailed overview of the mechanisms through which detrimental effects of DPA may occur. In this respect, it serves as an example of how work in the field of entrepreneurship can contribute to primary disciplines such as psychology—the “two-way street” suggested by several researchers ([Baron, 2002](#); [Staw, 1991](#)).

6.3. Practical implications

Turning to practical implications, the present model suggests that although high levels of DPA can often serve as a source of personal strength for entrepreneurs, helping them to persevere in the face of major setbacks and intense stressors ([Hayward et al., 2010](#); [Shepherd et al., 2009](#)), high levels of DPA can also initiate processes that interfere with both individual and firm performance. This, in turn, suggests that a key task for entrepreneurs is learning to regulate their own high levels of DPA so that

they reap the benefits of this tendency, while avoiding the significant “downside” it may also generate. A large literature on *emotion regulation* offers important insights into specific techniques useful in achieving this goal (Erber and Erber, 2000; Gross, 1998; Koole, 2009). While most of this research has been concerned with regulating or minimizing negative moods and emotions, it seems possible that the techniques shown to be effective in that context may also be applicable to the task of regulating high levels of DPA. Full discussion of these techniques is beyond the scope of the present paper, but among them, *cognitive reappraisal* may be most appropriate to the present discussion. This involves changing the interpretations individuals hold of various situations, rather than the situations themselves (Aspinwall and Taylor, 1997). This principle has been clearly established by research on stress (Brennan et al., 2006), but may also be applied to modulating excessive levels of positive affect. Entrepreneurs who experience very high levels of positive affect in various situations and wish to moderate such reactions can do so by altering their interpretations of the situations that elicit such feelings. The general principle is straightforward: by shifting interpretations of various situations or events, individuals can influence the nature and intensity of the affect they experience. Through the use of this and other techniques, entrepreneurs can effectively modulate their own levels of positive affect.

In addition, the present model suggests that entrepreneurship education should seek to inform current or nascent entrepreneurs about the potentially detrimental effects associated with very high levels of DPA. In most texts on entrepreneurship, the benefits of being “upbeat,” optimistic, and enthusiastic are clearly portrayed (Baron and Shane, 2008; Barringer and Ireland, 2010). However, relatively little attention is directed to the possibility that there can, perhaps, be “too much of a good thing” in this respect, and that very high levels of DPA among entrepreneurs can interfere with their individual performance—and hence have negative implications for firm-level outcomes. Corresponding curvilinear relationships have recently been demonstrated with respect to other individual-level variables (Le et al., 2011), and it is suggested here that they may also occur with respect to DPA. Increased attention to this possibility would appear to be a useful step from the point of view of assisting entrepreneurs toward achieving the success they so strongly desire.

The present model also suggests several avenues for future research. Further studies concerning the role of entrepreneurs' DPA can take many different forms and investigate a wide range of issues, but two possibilities can be briefly noted. First, such research can seek to identify moderators of the relationship between dispositional positive affect and important aspects of new venture creation. One of these, firm size, was mentioned earlier, but others may include firm age, environmental dynamism, munificence, and competitiveness (Miller and Friesen, 1983). Second, future research can seek to investigate more fully the mechanisms through which entrepreneurs' DPA ultimately influences measures of firm-level performance. These mechanisms are likely to be complex (Baum et al., 2001), and to involve a wide range of mediating variables, including several aspects of self-regulation discussed previously (Baumeister et al., 2007b; Mischel, 1996; Peake et al., 2002).

7. Conclusions

Positive affect does indeed confer many benefits on the persons who experience it: empirical evidence leaves little room for doubt on this issue (Forgas et al., 2009; Lyubomirsky et al., 2005). However, it is important to recognize that especially at very high levels, DPA may also generate detrimental outcomes and processes. In short, consistent with suggestions offered by Grant and Schwartz (2011), there can, perhaps, be “too much of a good thing” where positive affect is concerned. Future research designed to investigate this possibility may provide new insights into the processes that influence new venture success, and may also help entrepreneurs to maximize the potential benefits conferred by their own high levels of DPA—while simultaneously minimizing the hazards associated with the strong tendency to be “up.”

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