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PERSIST OR ABANDON? THE INFLUENCE OF SOCIAL PRESSURE AND REGULATORY FOCUS ON ENTREPRENEURIAL ESCALATION OF COMMITMENT

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Abstract
Escalation of commitment research has taken a predominantly psychological view in which self-justification theories propose that individuals escalate to prove the rationality of their initial decision to themselves and others. Our study complements this research by answering the call for research on the social determinants of escalation. Investigating how social pressure from one’s team can increase the likelihood of escalation, we theoretically discuss and empirically demonstrate how theories of self-regulation can accelerate or decelerate escalation of commitment in an entrepreneurial context.

Introduction
One important decision in the entrepreneurship process is the exit decision, which involves the decision to sell the firm, close the firm due to poor performance, or sell one’s stake in the firm (Shepherd, Williams, & Patzelt, 2014). Entrepreneurs of underperforming firms often have difficulty with this decision, choosing to persist in hope of a turnaround (DeTienne et al., 2008). When entrepreneurs persist and “maintain commitment to a losing course of action, even in the face of quite negative news” (Sleesman et al., 2012: 541), persistence can devolve into escalation of commitment. Despite a substantial amount of research on escalation of commitment in the organizational behavior field, however, there have been few studies of the phenomenon in entrepreneurship (see Holland & Shepherd, 2013 for a recent exception), despite its obvious relevance to practice.

This study introduces theories of self-regulation (Brown & Ryan, 2003; Higgins, 1997; Hmieleski & Baron, 2009; Kruglanski et al., 2000; Wu, McMullen, Neubert, & Yi, 2008) to explain the conditions under which entrepreneurs may be more or less susceptible to escalation of commitment. We not only empirically test the relative importance of the psychological determinants of escalation, but respond to Sleesman and colleagues’ (2012) meta-analysis on escalation that calls for both an “investigation of social context” (557) and a deeper exploration of “the core theories driving escalation” (558). In so doing, we demonstrate how social pressure from the entrepreneur’s team becomes a key factor in escalation of commitment.

Theory and Hypotheses
Escalation of Commitment

Often demonstrated as “throwing good money after bad” (Sleesman et al., 2012: 541), escalation of commitment occurs when decision makers maintain commitment to a losing course
of action, even in the face of negative news (Brockner, 1992; Sleesman et al., 2012; Staw, 1997). Much of the classic work on escalation is explained by self-justification theory, in which “decision makers, who were responsible for an initial course of action that is subsequently failing, experience a need to justify the original decision and thus escalate in the hope of a turnaround” (Sleesman et al., 2012: 544). As a result, increased financial (Arkes & Blumer, 1985) and/or time (Soman, 2001) investment encourages escalation because self-justification needs are activated, and the decision maker does not want to appear wasteful (Brockner, 1992; Staw, 1976). But what happens when the decision maker is not responsible for the original investment decision, and thus is not concerned with saving face as self-justification theory implies? We argue that, if decision makers are detached from the original decision such that they did not invest their own time and money, then they can remain impartial to the decision. This would lead impartial decision makers to want to abandon any unpromising course of action already high in financial and time investments, thereby reversing the tendency to throw good money after bad and immunizing such decision makers from the tendency to escalate. Accordingly, we hypothesize:

**H1:** As (a) financial investment or (b) time investment increase, escalation of commitment will become less likely, controlling for other variables in the model.

Although the decision maker may be able to maintain impartiality when making future investment decisions in which someone else’s time and money has been invested, we expect that they will still suffer from escalation (1) when the project is close to complete, and (2) when facing social pressure from others to persist. As one approaches the completion of a project, researchers have shown that decision makers substitute a completion goal for the original project goal (Conlon & Garland, 1993), thus encouraging escalation. As for social pressure, decision makers attempt to manage the impressions of those around them (Brockner, Rubin, & Lang, 1981), making decision makers susceptible to peer pressure as a result of their desire for social approval. Thus, if the team recommends persistence, then social pressure will likely encourage escalation.

**H2:** As (a) the percent complete increases or (b) the team’s recommendation is to persist, escalation of commitment will become more likely, controlling for other variables in the model.

**Accelerators / Decelerators**

Theories of self-regulation describe the different ways individuals pursue goals. They explain how individuals process and evaluate information and are likely to influence the tendency to escalate by accelerating or decelerating the pursuit of that goal. As one such theory, Regulatory Focus Theory (Higgins, 1997) distinguishes between (1) a promotion focus, which is evoked by approach-oriented motives and goals, such as return maximization, and (2) a prevention focus, which is evoked by avoidance-oriented motives and goals, such as risk minimization. Because promotion focus evokes optimistic views of uncertainty, while prevention focus evokes pessimistic views of uncertainty, we hypothesize that promotion focus will accelerate escalation, while prevention focus will decelerate escalation. Accordingly, we hypothesize:

**H3:** Promotion focus will weaken the negative relationship between (a) financial investment or (b) time investment and escalation of commitment, whereas promotion focus will strengthen the positive relationship between (c) percent complete or (d) team recommendation to persist and escalation of commitment, controlling for the other variables in the model.
H4: Prevention focus will strengthen the negative relationship between (a) financial investment or (b) time investment and escalation of commitment, whereas prevention focus will weaken the positive relationship between (c) percent complete, or (d) team recommendation to persist and escalation of commitment, controlling for the other variables in the model.

Locomotion and Assessment (Avnet & Higgins, 2003; Kruglanski et al., 2000) are another form of self-regulation that may influence the likelihood of escalation. Locomotion “constitutes the aspect of self-regulation that is concerned with movement from state to state and with committing the psychological resources that will initiate and maintain goal-related movement in a straightforward and direct manner, without undue distractions or delays” (Kruglanski et al., 2000: 794). Alternatively, assessment “constitutes the comparative aspect of self-regulation concerned with critically evaluating entities or states, such as goals or means, in relation to alternatives in order to judge relative quality” (Kruglanski et al., 2000: 794). As such, we hypothesize that locomotion will accelerate escalation, while assessment will decelerate escalation.

H5: Locomotion will weaken the negative relationship between (a) financial investment or (b) time investment and escalation of commitment, whereas locomotion will strengthen the positive relationship between (c) percent complete, or (d) team recommendation to persist and escalation of commitment, controlling for the other variables in the model.

H6: Assessment will strengthen the negative relationship between (a) financial investment or (b) time investment and escalation of commitment, whereas assessment will weaken the positive relationship between (c) percent complete, or (d) team recommendation to persist and escalation of commitment, controlling for the other variables in the model.

Mindfulness can help regulate behavior in a similar manner as promotion and prevention, and locomotion and assessment. It is the state of being attentive to and aware of what is taking place in the present (Brown & Ryan, 2003). This awareness emerges through paying attention on purpose, in the present moment, with compassion and openhearted curiosity (Oxford Mindfulness Centre, 2015). Because mindfulness is about increased receptive awareness and attention to what is taking place in the present, we expect that those high in mindfulness will be more aware of the high financial and time investment already put into product development, and thus will help reduce escalation. Furthermore, mindfulness will help decelerate the escalation caused by goal completion and social pressure as those high in mindfulness tend to have a clearer picture of what is present and will not be swayed by the temptation of goal completion or peer pressure. Therefore, we hypothesize:

H7: Mindfulness will strengthen the negative relationship between (a) financial investment or (b) time investment and escalation of commitment, controlling for the other variables in the model.

H8: Mindfulness will weaken the positive relationship between (a) percent complete or (b) team recommendation to persist and escalation of commitment, controlling for the other variables in the model.
**Method**

**Sample**

The total sample size for this study is 216 participants, which is comprised of three separate samples: 128 undergraduate business students, 62 MBA students, and 26 Chief Executive Officers (CEOs). The undergraduate and MBA students were enrolled in a business school at a large Midwestern public university and took part on a voluntary basis. The undergraduate business students had an average age of 20.90 years, 59% were male, were in their 3.38 year in school, and 20% had attempted at least one startup in their lifetime. The MBA students had an average age of 28.95 years, 65% were male, 5.75 years of work experience, and 52% had attempted at least one startup in their lifetime. The CEOs all belonged to the same professional networking group in a large Midwestern city, but represent 15 different industries. They also took part on a voluntary basis. The CEOs had an average age of 45.17 years, 88% were male, 24.54 years of work experience, 441.71 employees, and 65% had attempted at least one startup in their lifetime.

**Research Design**

All participants completed the study either online through a secure University Website or in person via hard copy while supervised by one of the co-authors. We used metric conjoint analysis combined with a post-survey questionnaire as our experimental design. Conjoint analysis is a technique that requires the participants to make a series of judgments or choices based on manipulated profiles, which reveal how the participant uses the attributes in the profile to make a decision, revealing the relative importance of each attribute in the decision process (Shepherd & Zacharakis, 1997).

In this study, the participants were asked to make a series of decisions of whether to persist or abandon product development in an entrepreneurial venture. First, the participants were given explicit feedback that a competitor had just launched a similar product or service that is superior in cost, functionality, and design to the product or service in question, representing an escalation of commitment scenario. Then we presented the participants with a series of profiles in which we manipulated four attributes of escalation: financial investment, time investment, percentage of goal completed, and team recommendation. Each attribute is varied at three levels (low, medium, and high), which results in $3^4 = 81$ different profile combinations. By using an orthogonal fractional factorial design (McClean & Anderson, 1984), we reduced the number of profiles to 27. We then randomly replicated nine attributes to test for the reliability of the participant’s decision policy and added two practice profiles in the beginning of the experiment to help familiarize the participants with the procedure. This resulted in a total of 38 profiles. We created four unique versions of the experiment in which the profiles were randomized to control for any potential order effects. Given the escalation determinants described and the feedback of superior competition, the participants were asked to indicate the likelihood that they would continue investing in the product (dependent variable).

**Variables and Measures**

*Level 1: Escalation of Commitment Determinants.* Consistent with a recent meta-analysis on escalation of commitment (Sleesman et al., 2012), we manipulated three common psychological determinants and one new social determinant as our independent variables at low, medium, and high levels: Financial Investment is the amount of money already invested into product
development, *Time Investment* is the amount to time already invested into product development, *Percent Complete* is how close the product is to completion, and *Team Recommendation* is the team's recommendation on future investment.

**Dependent Variable.** The dependent variable in this study is the likelihood that the participant would continue investing in the product measured on a 9-point Likert-type scale. Participants were specifically asked, “How likely is it that you would continue investing in the product given the following conditions.”

**Level 2: Accelerators/Decelerators.** At the conclusion of the experiment, we measured a series of potential moderators that may either accelerate or decelerate escalation of commitment. We used the Regulatory Focus Questionnaire (RFQ) (Higgins et al., 2001) as well as the Assessment and Locomotion Scales (Kruglanski et al., 2000) to measure a participant's chronic disposition toward regulating their behavior. Finally, we used the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) to measure a participant's dispositional mindfulness or open and receptive awareness of and attention to what is taking place in the present.

**Control Variables.** We control for the participant age, gender, work experience, and number of startups attempted.

**Analysis & Results**

Each participant in our study made 38 decisions on new product development. This resulted in 8,208 total observations. Because the data is nested at two levels, we rely on hierarchical linear modeling (HLM) for our analysis. Please note that we first ran our analysis on each sample (undergraduate students, MBA students, and CEOs) separately and found identical main effects and very similar interaction effects that are consistent with our theory. For the sake of efficiency, the results of our HLM analysis are provided in aggregate in Table 1.

To test Hypotheses 1 and 2, we examine the coefficients of the escalation determinants in row two through five of the base model. We find support for Hypothesis 1b, 2a, and 2b. Escalation of commitment is less likely when time investment is high than when it is low, and is more likely when percent complete and team recommendation are high than when they are low. However, we do not find support for Hypothesis 1a that escalation of commitment is less likely when financial investment is high than when it is low, as the coefficient on financial investment is non-significant.

To test Hypothesis 3 – 8, which assess the potential moderating effects that accelerate or decelerate escalation of commitment, we examine the coefficients in row 15 – 20 of the full model. We find support for Hypothesis 5a, 5c, 5d, 7b, and 8b. As predicted, locomotion significantly accelerates the relationship between financial investment, percent complete, team recommendation and escalation of commitment. Also as expected, mindfulness strengthens the negative relationship between time investment and escalation of commitment and weakens the positive relationship between the team's recommendation to persist and escalation of commitment.

**Conclusion**

The purpose of this study was to further our understanding on what may be driving escalation of commitment beyond the psychological determinants of the task itself. We found social pressure from one's team to be as robust a predictor of escalation as any psychological determinant. Indeed, it appears that decision makers face not only psychological pressure in their attempts to preserve
their own identity as a sound decision maker and leader, but also social pressure from their team to succeed in venture development. It also appears that, over and above task determinants, self-regulation influences escalation. For example, we found that locomotion consistently acted as an accelerator of escalation, encouraging the decision to persist, while mindfulness decelerated the same decision process. Given that new product development is often inherent to entrepreneurship, entrepreneurs are likely to confront such decisions to persist or abandon entrepreneurial action, some of which are likely to have been initiated by team members other than the entrepreneur. Thus, we offer this study as a first step to unpacking how and why entrepreneurs may be highly susceptible to escalation of commitment.

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Table 1
Results of HLM on the Likelihood of Escalation of Commitment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Base Model</th>
<th>Main Effects Model</th>
<th>Full Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intercept for overall model</td>
<td>5.55***</td>
<td>5.48***</td>
<td>5.84***</td>
</tr>
<tr>
<td>2. Financial investment</td>
<td>-0.01</td>
<td>-0.05</td>
<td>-0.37†</td>
</tr>
<tr>
<td>3. Time investment</td>
<td>-0.14***</td>
<td>-0.19'</td>
<td>-0.31'</td>
</tr>
<tr>
<td>4. Percent complete</td>
<td>1.06***</td>
<td>0.57***</td>
<td>0.15</td>
</tr>
<tr>
<td>5. Team recommendation</td>
<td>1.45***</td>
<td>0.89***</td>
<td>0.31†</td>
</tr>
<tr>
<td>6. Gender</td>
<td>0.06</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>7. Age</td>
<td>-0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>8. Work experience</td>
<td>0.01</td>
<td>-0.00</td>
<td></td>
</tr>
<tr>
<td>9. Number of startups</td>
<td>0.11'</td>
<td>0.13*</td>
<td></td>
</tr>
<tr>
<td>10. Promotion focus</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Prevention focus</td>
<td>0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Assessment</td>
<td>-0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Locomotion</td>
<td>-0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Mindfulness</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Financial investment x Locomotion</td>
<td>0.01**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Time investment x Mindfulness</td>
<td>0.12***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Percent complete x Locomotion</td>
<td>0.01**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Team recommendation x Locomotion</td>
<td>0.02***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Team recommendation x Prevention focus</td>
<td>0.02***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Team recommendation x Mindfulness</td>
<td>-0.18***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a Coefficients are unstandardized

*b Only significant interaction effects are displayed in the table due to space limitations

' p < 0.10

* p < 0.05

** p < 0.01

*** p < 0.001