



Entrepreneurial passion and the acquisition of financial resources in Crowdfunding

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Introduction

Crowdfunding is a novel method of financing for **new entrepreneurial ventures**, a viable alternative in particular for start-ups

→\$16.6 billion raised globally in 2014

→\$6.7 billion collected by business & entrepreneurship category

→\$34.4 billion expected in 2015 (Massolution, 2015)

Aim of the research: investigate the **drivers of success** of CF campaigns with a focus on **entrepreneurial passion** (affective and cognitive) displayed by the proponent and perceived project ambiguity/uncertainty by funders

- Empirical assessment of more than **14,000 projects' descriptions**
- Measuring of entrepreneurial passion through content analysis



Background

Definition: **Crowdfunding** refers to the funding of entrepreneurial efforts (cultural, social and for-profit) by drawing on relatively **small contributions** from a relatively **large number of individuals** using the **internet**, without standard financial intermediaries (Mollick, 2014)

Scant evidence on drivers of success:

- temporal dynamics (Agrawal et al., 2014; Burtch et al., 2013, Zhang and Liu, 2012)
- **social capital** of the proponent
 - External (Facebook, LinkedIn) (Mollick, 2014; Colombo et al., 2015)
 - Internal → triggers obligation of reciprocity (Colombo et al., 2015)
- some characteristics of the project, as **category, duration, target capital**, profit vs no-profit (Kuppuswamy & Bayus, 2013)
- **location** → distance matters even in CF
- equity-based: internal governance, risks, financial roadmaps (Ahlers, 2015)



Background

Entrepreneurial passion:

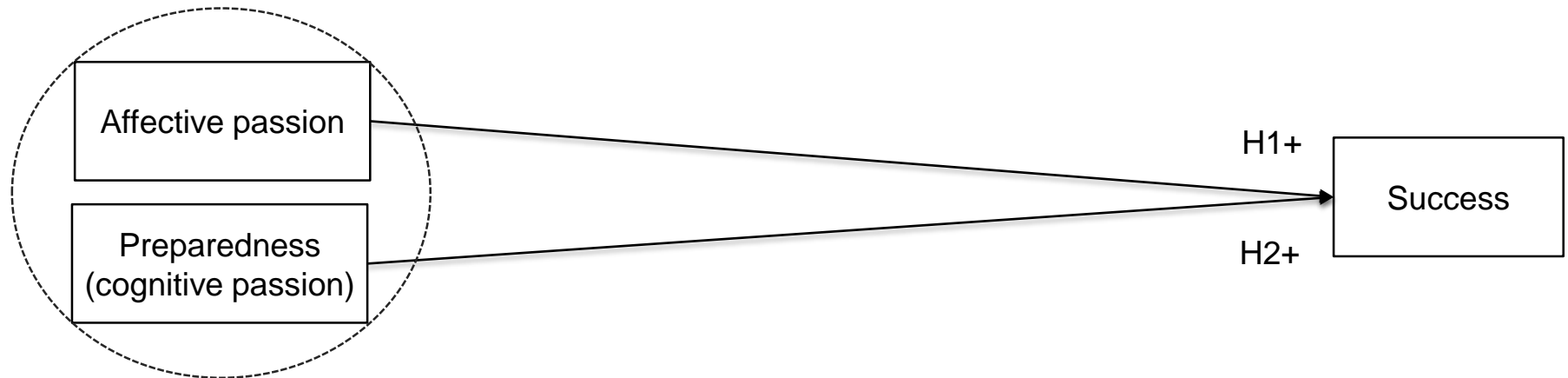
- **Affective passion:** a consciously accessible, intense positive feeling experienced by engagement in entrepreneurial activities
 - **Cognitive passion or preparedness:** understanding, thoroughfulness and accuracy shown by the entrepreneur in the preparation of the business plan
-
- Prior evidence points to a positive relationship between manifestation of preparedness in business pitches and funding potential (Chen, et al., 2009; Pollack, 2012)
 - Affective passion perceived by VCs/BAs positively mediates the impact of passion displayed by the entrepreneur and funding potential (Cardon et al., 2009)



Theoretical framework

Persuasion theory → Entrepreneurs are likely to appear **more persuasive** and **confident** when they demonstrate high levels of positive affect (Vallerand et al., 2003; Baron, 2008)

Entrepreneurial passion



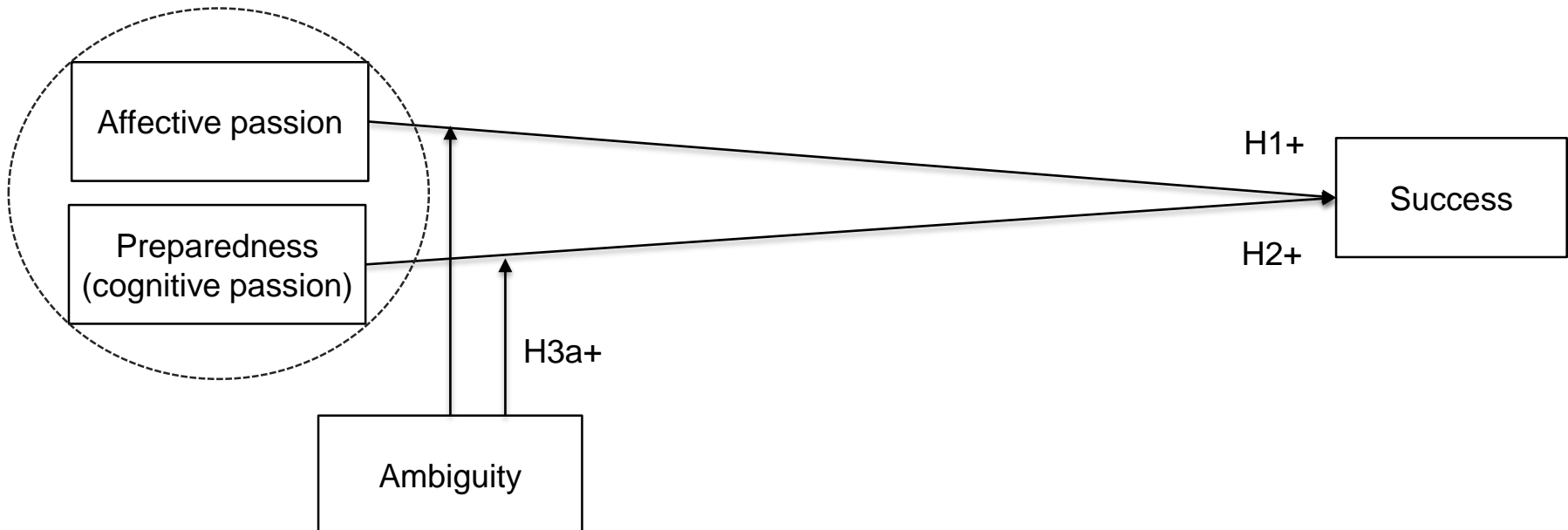


Theoretical framework

On the basis of ***affect-as-information*** theory the reliance on affective judgement depends on:

- the evaluative malleability of the judgment (i.e. the judgmental domain is rather unstructured, novel, ambiguous, or general) (Forgas, 1990; Fedorikhin and Cole, 2004; Bakamitsos 2006)

Entrepreneurial passion



Affective passion and preparedness are more likely to be associated to success in crowdfunding campaigns when the ambiguity on the outcome is higher

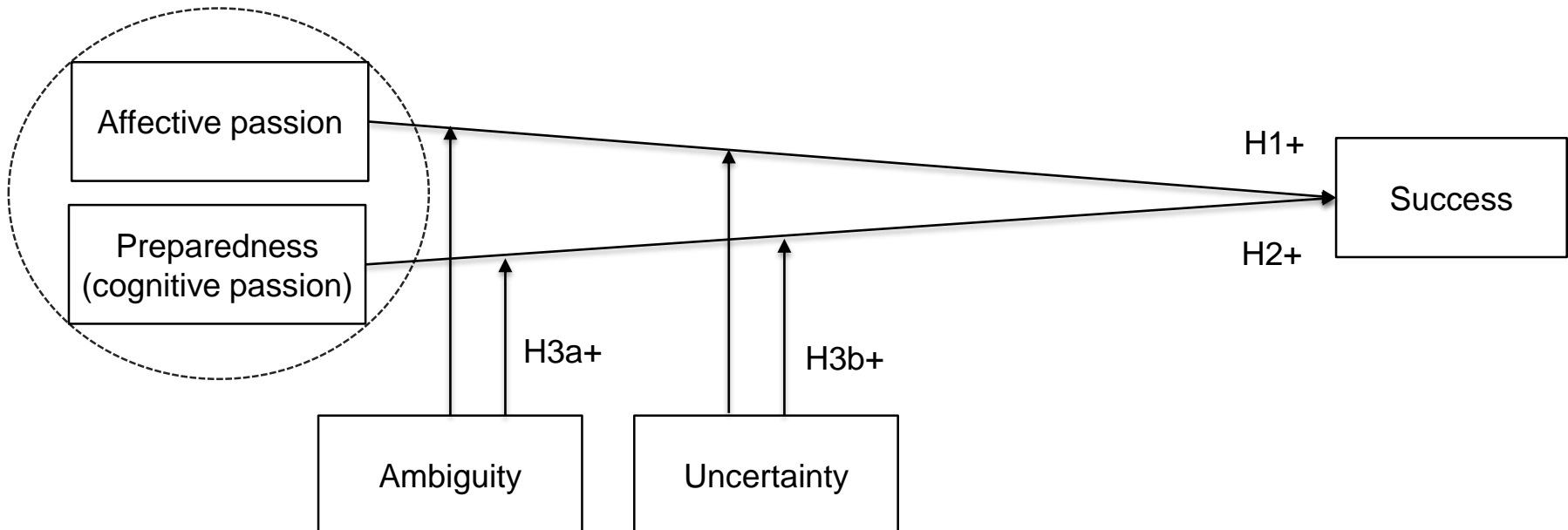


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Entrepreneurial passion



Affective passion and preparedness are more likely to be associated to success in crowdfunding campaigns when the the project is described in a context of high uncertainty

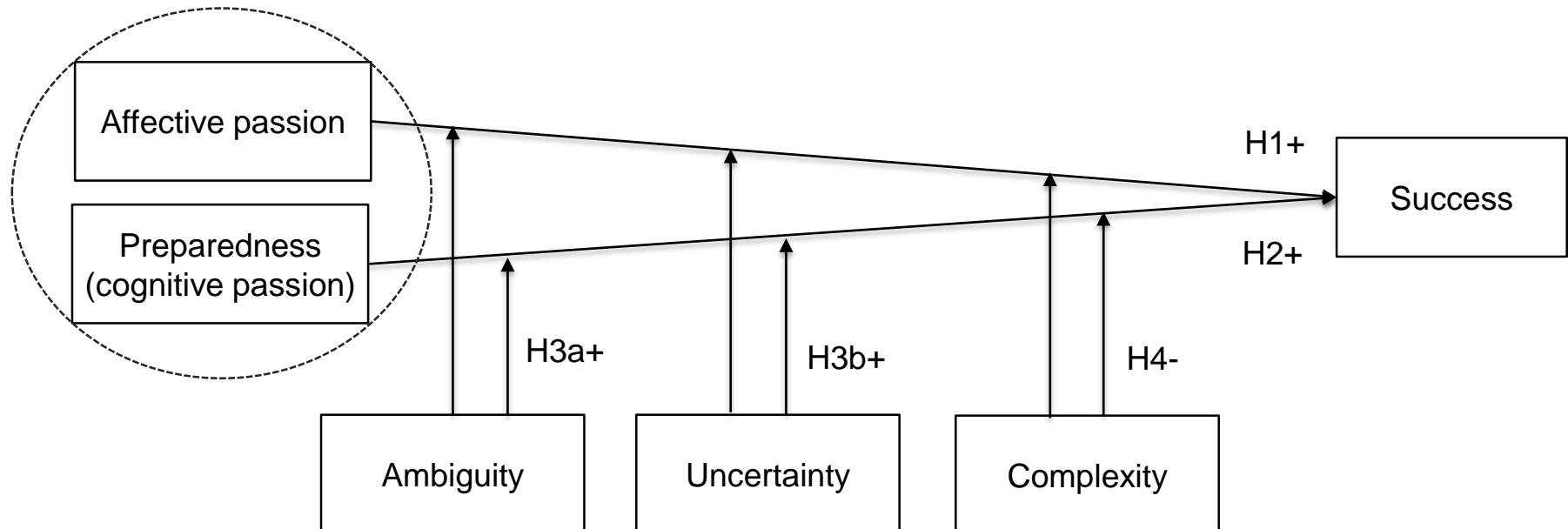


Theoretical framework

On the basis of ***affect-as-information*** theory the reliance on affective judgement depends on:

- the level of processing intensity (i.e. processing motivation and opportunity) (Martin and Stoner, 1996; Petty et al., 1993; 1999)

Entrepreneurial passion



Affective passion and preparedness are more likely to be associated to success in crowdfunding campaigns when the information provided is less complex



Sample

14,603 projects posted on **Kickstarter** Oct. 2009 – Sept. 2015

- restriction to the following categories: food, fashion, design, technology and games
- projects with a **target capital less than 500,000\$** or **larger than 5000\$**

Dictionary-based content analysis

- Use of built-in dictionaries: selected categories from Harvard IV Dictionary (HIVD)
- **Weighting scheme TF-IDF** (Manning & Shulze, 1989)

$$w_{i,j}^{tf.idf} = (1 + \log(tf_{i,j})) \log \frac{N}{df_i} \text{ if } tf_{i,j} > 0, \text{ and } 0 \text{ otherwise}$$

$$Score_j^{tf.idf} = \frac{1}{(1 + \log(a_j))} \sum_{i=1}^I w_{i,j}^{tf.idf}$$

$tf_{i,j}$ = raw count of the i_{th} word in the j_{th} document

N = total number of documents in the sample

df_i = # of documents containing at least 1 occurrence of the i_{th} word

a_j = document length normalization, i.e. the average word count in the document



Variables

Dependent variables

- Success: dummy equal to 1 if the project reached the target capital

Explanatory variables/Moderators

- affective passion→ from the categories “Pleasure”, “Strong”, “Feel”, “Arousal”, and “Emotion” of HIVD, words related to the tendency to display emotions, enthusiasm, commitment and energy: *affection, arouse, commitment, love, enjoy, excitement.*
- preparedness→ from the categories “Persist”, “Know”, “Think” and “Solve” of HIVD, sample words are: *coherence, conceive, logical, preparation, rationale.*
- ambiguity→ no_milestone: dummy equal to 1 if precise milestones are not set in the prj description
- uncertainty: Loughran and McDonald (2011) word lists from categories: uncertain, words like *assume, approximately, risk, believe,* and weak modals, like *may, could, depend*
- complexity:→fog index calculated on the prj description
→ $0.4 * (n \text{ words} / n \text{ sentence}) + 100 * (\text{complex words} / n \text{ words})$

MODEL → PROBIT



Variables

Control variables

- Projects:
 - *target_cap_class*: 4 class categorical variable based on the 25th, 50th, 75th perc. of target capital in each sub-category
 - *duration*
 - *ln_reward_number*: number of different levels of pledge amounts in exchange of which backers receive the corresponding
 - *ln_visuals*: number of visuals (video plus images) attached to the project description
 - *ln_prj_lenght*: the length of the verbal description
 - *d_foreign*: equal to 1 for project located outside the USA
 - dummy variables for the project sub-categories
 - dummy variables for the years
- Proponent:
 - *external social capital*: number of facebook fiends (*ln_facebook*), conditional to having a facebook account (*no_facebook*)
 - *d_company*: equal to 1 if the proponent is a company



Summary statistics (2/2)

Table 2 Mean values of the observation variables and the moderating factors across the sample of successful and unsuccessful projects

	Success=1	Success=0	
	Mean (Std dev.)	Mean (Std dev.)	diff
affective passion	30.6295 (11.1611)	24.3320 (13.1147)	6.2975*
preparedness	8.0193 (4.3009)	6.3980 (4.7358)	1.6213*
uncertainty	4.1720 (3.0475)	3.2383 (3.0614)	0.9337*
no_milestone	0.9041 (0.2945)	0.9459 (0.2262)	-0.0418*
complexity	2.6649 (0.2033)	2.6886 (0.2778)	-0.02378*
target_cap_size	2.3232 (1.0794)	2.5227 (1.1206)	-0.1995*
duration	34.4781 (9.3788)	37.4860 (11.8429)	-3.0079*
ln_reward	2.4571 (0.4137)	2.0349 (0.5521)	0.4222*
ln_visuals	2.4298 (0.9171)	1.6325 (0.9872)	0.7973*
no_facebook	3.6699 (3.0651)	2.9455 (2.9482)	0.7244*
ln_facebook	0.3972 (0.4893)	0.4798 (0.4996)	-0.0826*
d_foreign	0.0775 (0.2675)	0.1474 (0.3546)	-0.0699*
d_company	0.0300 (0.1705)	0.0231 (0.1503)	0.0069*
ln_prj_lenght	6.9149 (0.7527)	6.2315 (0.9644)	0.68348*



Results – Average Marginal Effects

	baseline	Interaction term: no milestone		Interaction term: uncertainty		Interaction term: complexity	
	1	2	3	4	5	6	7
affective passion	0.0413** (0.0177)	0.0430** (0.0178)	0.0405** (0.0177)	0.0542*** (0.0180)	0.0326* (0.0178)	0.0433** (0.0177)	0.0422** (0.0177)
preparedness	0.0460*** (0.0158)	0.0458*** (0.0158)	0.0481*** (0.0158)	0.0427*** (0.0158)	0.0640*** (0.0163)	0.0463*** (0.0158)	0.0472*** (0.0158)
uncertainty	0.0057 (0.0142)	0.0051 (0.0142)	0.0054 (0.0142)	0.0518*** (0.0158)	0.0332** (0.0153)	0.0048 (0.0142)	0.0051 (0.0142)
no_milestone	-0.1490*** (0.0468)	-0.2044*** (0.0510)	-0.1859*** (0.0464)	-0.1441*** (0.0469)	-0.1472*** (0.0467)	-0.1491*** (0.0468)	-0.1483*** (0.0468)
complexity	-0.0064 (0.0135)	-0.0069 (0.0135)	-0.0070 (0.0135)	-0.0067 (0.0137)	-0.0063 (0.0136)	-0.0061 (0.0137)	-0.0065 (0.0136)
target_cap_size	-0.2926*** (0.0139)	-0.2927*** (0.0139)	-0.2926*** (0.0139)	-0.2934*** (0.0140)	-0.2928*** (0.0139)	-0.2920*** (0.0139)	-0.2924*** (0.0139)
duration	-0.1437*** (0.0126)	-0.1439*** (0.0126)	-0.1440*** (0.0126)	-0.1443*** (0.0126)	-0.1445*** (0.0126)	-0.1437*** (0.0126)	-0.1434*** (0.0126)
ln_reward	0.4292*** (0.0180)	0.4291*** (0.0180)	0.4289*** (0.0180)	0.4253*** (0.0181)	0.4268*** (0.0180)	0.4288*** (0.0180)	0.4287*** (0.0180)
ln_visuals	0.3889*** (0.0182)	0.3885*** (0.0182)	0.3891*** (0.0182)	0.3899*** (0.0182)	0.3884*** (0.0182)	0.3873*** (0.0182)	0.3882*** (0.0182)
ln_facebook	0.6040*** (0.0521)	0.6030*** (0.0521)	0.6045*** (0.0521)	0.6070*** (0.0524)	0.6066*** (0.0522)	0.6025*** (0.0521)	0.6031*** (0.0521)
no_facebook	1.0471*** (0.1036)	1.0458*** (0.1036)	1.0483*** (0.1036)	1.0549*** (0.1042)	1.0524*** (0.1037)	1.0441*** (0.1036)	1.0455*** (0.1037)
d_foreign	-0.5544*** (0.0430)	-0.5544*** (0.0430)	-0.5537*** (0.0429)	-0.5535*** (0.0432)	-0.5503*** (0.0431)	-0.5529*** (0.0430)	-0.5543*** (0.0430)
d_company	-0.1477** (0.0743)	-0.1481** (0.0742)	-0.1492** (0.0743)	-0.1399* (0.0743)	-0.1437* (0.0742)	-0.1457** (0.0741)	-0.1461** (0.0742)
ln_prj_lenght	0.1472*** (0.0214)	0.1481*** (0.0215)	0.1484*** (0.0215)	0.1561*** (0.0217)	0.1524*** (0.0216)	0.1463*** (0.0214)	0.1464*** (0.0214)
d_subcategory	yes	yes	yes	yes	yes	yes	yes
d_year	yes	yes	yes	yes	yes	yes	yes
N obs.	14562	14562	14562	14562	14562	14562	14562
Log likelihood	-6910	-6908	-6908	-6890	-6899	-6908	-6908
McFadden pseudo R ²	0.3154	0.3156	0.3156	0.3174	0.3165	0.3156	0.3156



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uncertainty	0.0057 (0.0142)	0.0051 (0.0142)	0.0054 (0.0142)	0.0518*** (0.0158)	0.0332** (0.0153)	0.0048 (0.0142)	0.0051 (0.0142)
no_milestone	-0.1490*** (0.0468)	-0.2044*** (0.0510)	-0.1859*** (0.0464)	-0.1441*** (0.0469)	-0.1472*** (0.0467)	-0.1491*** (0.0468)	-0.1483*** (0.0468)
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Log likelihood	-6910	-6908	-6908	-6890	-6899	-6908	-6908
McFadden pseudo R ²	0.3154	0.3156	0.3156	0.3174	0.3165	0.3156	0.3156

H1 ✓ 1 s.d → +4.1%
H2 ✓ 1 s.d → +4.6%

+4.2% +4.9% +4.3%
+4.7% +5.0% +4.7%



aff. passion and prep simultaneously interacted



Results – marginal effects for ambiguity

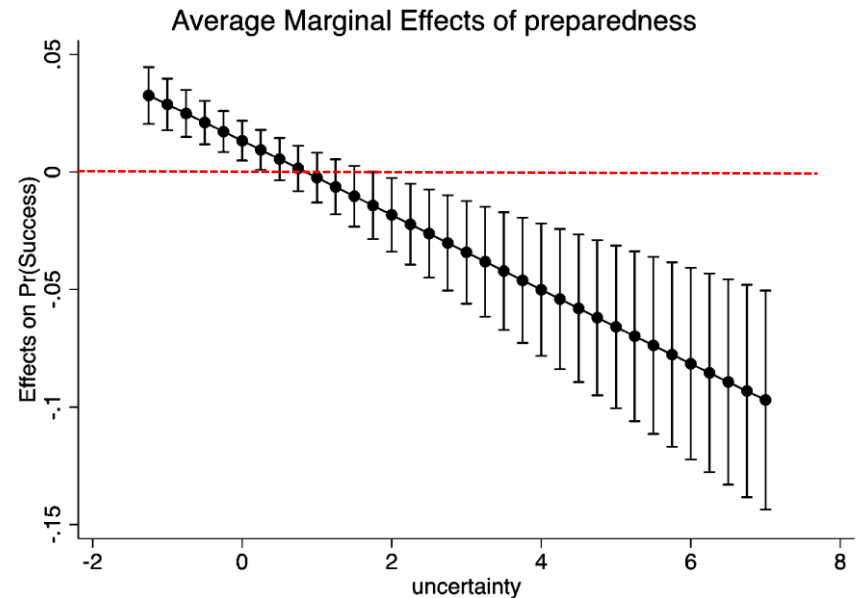
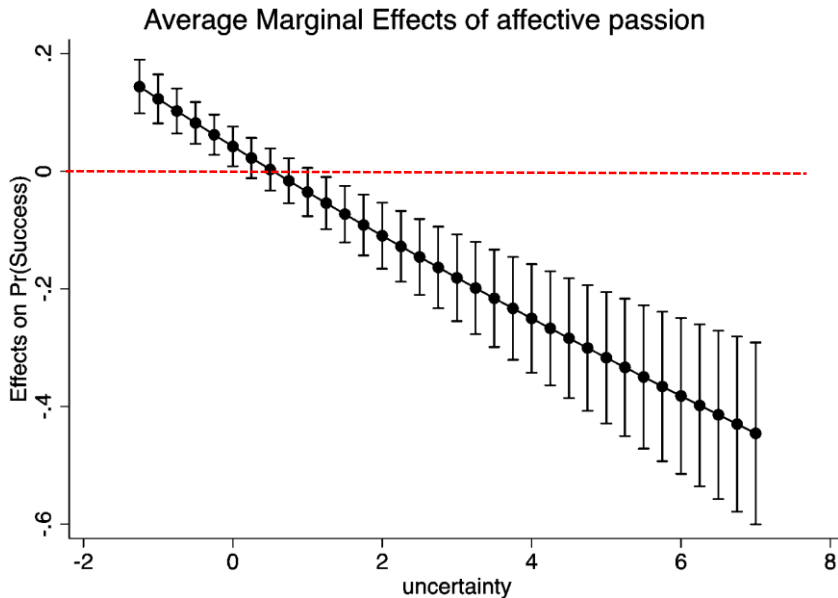
		ey/dx	Std. Err.	P>z	[95% Conf. Interval]
affective passion					
at no_milestone =					
	0	-0.037	0.043	0.393	-0.122
	1	0.054	0.018	0.003	0.019
preparedness					
at no_milestone =					
	0	-0.039	0.042	0.353	-0.122
	1	0.047	0.016	0.003	0.016

H3a ✓

Ambiguity positively moderates the relation between passion and success



Results – marginal effects for uncertainty



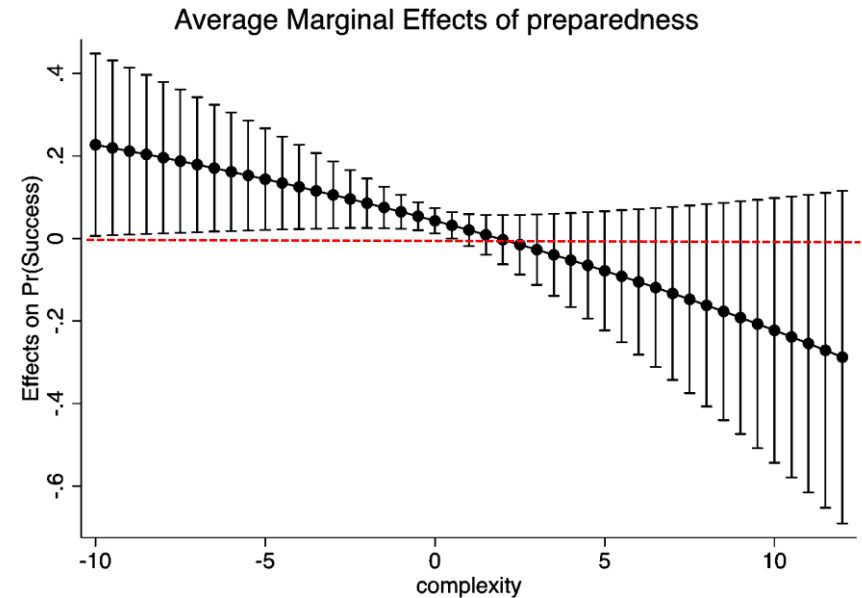
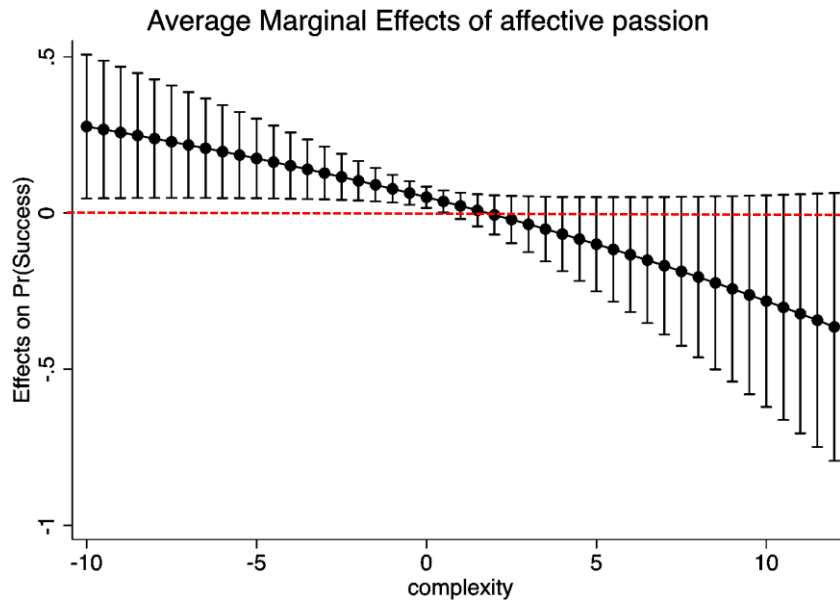
H3b X

The expected positive moderation effect of uncertainty is not confirmed

→unrealistic for the proponent to demonstrate high levels of preparedness or affective passion



Results – marginal effects for complexity



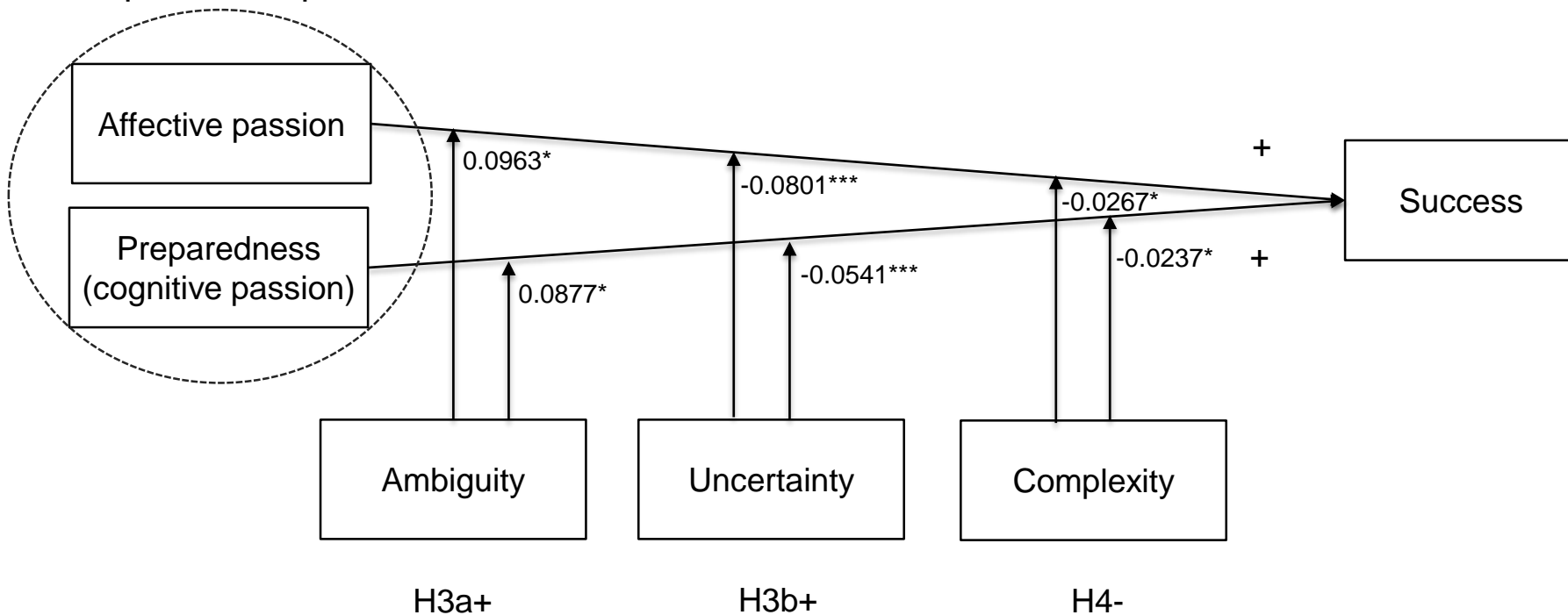
H4 weakly support

The expected negative moderation effect of complexity is not confirmed for high levels of complexity



Conclusions

Entrepreneurial passion





Conclusions (2/2)

Limitations

- No information on heterogeneous **backers' preferences**
- **Finer-grained** information **about proponents** and/or their motivations
- Evaluation of visual cues contained in the project video/images
- Apply the analysis to other platforms (equity-based crowdfunding)

Further steps

- Better development of hyp on moderators effects → possibly using different theories
- Different explanations for positive marginal effect of uncertainty



Q&A

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