

Fast or slow?

The impact of pace on the effectiveness of crowdfunding video

By

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Table of Contents

Abstract.....	3
Figures.....	32
Appendix.....	41
Chapter I: Introduction.....	4
Chapter II: Literature Review.....	6
Crowdfunding.....	6
Pace.....	8
Background Music.....	10
Humor.....	11
Chapter III: Methodology.....	15
Measurement.....	15
Study Design.....	17
Chapter IV: Empirical Results.....	18
Descriptive Statistics.....	18
Regression Results.....	20
Chapter V: Conclusion.....	36

Abstract

The effectiveness of videos in boosting crowdfunding campaign performance is highly touted in prior research. Using the theory of limited cognitive capacity, this research investigates how the pace of crowdfunding campaign videos influence campaign outcomes. We further examine the moderating effects of humour and background music on video effectiveness. Our findings suggest an inverted U shape relationship between video pace and campaign outcome, such that increased pace initially has a positive effect on campaign outcome, but this effect rapidly decreases as the backer experiences cognitive overload. In addition, humor strengthens the above relationship through its attention-grabbing ability.

I . Introduction

The most critical problem facing new business ventures is that of acquiring start-up capital. Many entrepreneurial ventures remain underfunded due to the reluctance of traditional venture capitalists to invest in risky, untested ideas (Fairchild, 2011; Kirsch et al., 2009). In response to these challenges, an increasing number of start-ups are turning to the emerging practice of crowdfunding, which targets the general public rather than professional investors. Online platforms such as Kickstarter, IndieGoGo, and RocketHub allow large numbers of ordinary people to contribute small, manageable sums, diffusing investment risk and allowing new ventures to rapidly raise funds. This form of investment is particularly common in the technology and media sectors, including music, film, and video gaming.

Despite its prevalence, the rapid expansion of crowdfunding has outpaced efforts to study it, and researchers have just begun to understand the dynamics of this emerging economic phenomenon. Past research has revealed a number of key factors that affect the outcome of crowdfunding campaigns, such as geography, the gender and the personal networks of a project leader(s), and social factors such as the decisions and behaviour of other funders (Agrawal et al. 2011; Greenberg and Mollick 2015; Kuppuswamy and Bayus 2013; Mollick 2014). One major key to success listed by all major crowdfunding platforms is the inclusion of a campaign video. According to Kickstarter, the largest Crowdfunding platform in the world, “projects with videos [are] more likely to succeed

(50% vs. 30%)”. In one of the few studies conducted on this subject, Mollick (2014) proposed that the presence of a video might serve as the signal of campaign’s quality. Campaign videos are the first thing potential backers will see on a campaign page and are the best, most direct means for project owners to engage their audience and convince them of their project’s value. Videos are a particularly flexible and effective form of audience engagement in that they allow project owners not only to promote their ideas and products, but also introduce themselves and talk about their passions and interests.

However, despite the key role of videos in the success of crowdfunding campaigns, no research has yet focused on the factors that determine the effectiveness of videos and how they influence backers’ decisions to invest. In this research, we are particularly interested in examining the effect of structural features of campaign videos on the campaign outcome. Structural features of televised program/commercials such as pace are known to influence viewers’ attention and message processing due to the limited cognitive resources of viewers (Lang, Bolls, Potter, & Kawahara, 1999; Lang et al. 2000). This research will primarily focus on the pace of a campaign video and investigate the effect of video pace on crowdfunding campaign outcome and hence to study how backers’ limited cognitive capacities affect their funding behavior. Furthermore, this research also examines the moderating effects of humor and background music on the relationship between video pace and campaign outcome.

II. Literature review and hypotheses development

- Crowdfunding

Crowdfunding is defined as “an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes (Schwienbacher and Larralde 2010, p.4)” This model differs from traditional capital investment in that investments are diffused over a large number of people (reducing individual risk) and investors are usually rewarded with gifts (such as themed merchandise) or product pre-orders rather than a share of company profits. Given the recent rapid emergence of crowdfunding, there is a significant lack of in-depth academic research on the topic. Most existing research focuses on the roles that project leaders and backers play in the crowdfunding process. For example, Gerber et.al (2012) conducted a qualitative study on the motivations of those who participate in crowdfunding campaigns, using interviews with project leaders and investors from the three largest crowdfunding platforms (Kickstarter, IndieGoGo, and RocketHub). They observed that, in addition to extrinsic factors such as securing funds for project creators and purchasing products for backers, numerous intrinsic factors significantly influence creators and funders’ decision to participate in a campaign. For example, feeling of connectedness with people who shares similar interests was a significant factor that motivates individuals to invest in crowdfunding campaigns. In the same vein, another qualitative research on motivations of funders

concluded that four value dimensions are associated with funders' intention to participate in a project: "financial value, quality performance value, social value and emotional value". (Michel Harms 2007). A study examining the geographic origins of those active on Sellaband, a crowdfunding platform exclusively designed for the music industry, discovered that "the average distance between artist-entrepreneurs and investors is about 3000 miles" (Agrawal et al. 2011 p.2). This research also revealed that people invest more quickly and readily in local campaigns, and that local investors are less influenced by the decisions of other investors. In particular, Kuppuswamy and Bayus (2013) underscore *social* information (i.e. the observed actions of other backers) as especially relevant to campaign success. Their research found that crowds are less likely to contribute to campaigns that have already received adequate funding, a phenomenon they attribute to Diffusion of Responsibility. Investors assume that their contribution is negligible and that a project will succeed with or without them. However, it has also been shown that investor support increases as the campaign approaches its deadline, as the added urgency counteracts the diffusion effect. A recent paper by Greenberg and Mollick (2015) empirically investigated the effect of the project leaders' gender to determine whether female entrepreneurs receive less startup capital than their male counterparts. They discovered that female-led projects actually enjoy higher success rates, primarily due to female investors' disproportionate support for women entrepreneurs. However, this effect only applies to the technology field, which is largely male-dominated.

- Pace

Decades of research have been devoted by the advertising industry to studying commercial avoidance in an effort to create more effective advertisements (Speck et al., 1997). But while these prior works primarily focused on the content of advertisements, the effect of structural features (e.g. graphics, cuts, sound effects etc.) is less well explored (Lang, Bolls, Potter, & Kawahara, 1999).

One major theory relevant to the advertising effectiveness is the Limited Capacity Model (Lang et al. 2000; Yoon et. al 2003).

According to this theory, humans' ability to absorb, process, and retain information (cognitive capacity) is finite, and watching a commercial constitutes a continuous allocation of limited mental resources on the part of the viewer (Baddeley, 1986; A. Lang, 2000).

The limited capacity model also proposes “three main subprocesses involved in message processing: encoding, storage, and retrieval” (A. Lang, 2000; Lang et,al 2009) In this context, the *pace* of a message is defined as “the speed at which information is visually presented to the viewer for cognitive processing” (Yoon et.,al 2003 p.18) and is quantified by counting the number of cuts in a video.

The rationale behind this definition is that every cut in a video presents new information for cognitive processing and hence an increase in pace (quicker cuts) requires viewers to process new information at a faster speed. Prior research on pacing suggests that increases in pacing trigger an orienting response in viewers, which gives rise to a short term increase in attention (Lang, 1990; Reeves, et al., 1985; Naatanen 1992). This response in turn forces the viewer to allocate additional cognitive resources to encoding and

storage, resulting in better recognition and retention of the message (A. Lang, 1990; A. Lang, 2000). Anderson and Lorch (1983) demonstrated that children learned and retained more information from faster-paced videos, while a study by Lang et al.'s (2005) on the effects of news story length and production pacing on channel-changing behaviour revealed that fast pacing led to more favourable evaluations than slow pacing in both long and short stories. Therefore it is expected that faster-paced crowdfunding campaign videos will elicit more attention and more favourable funding evaluation from potential backers. However, while fast pacing increases recognition and retention in the short term, research has also indicated that rapid cuts can exhaust the viewer's cognitive capacity and lead to information overload (Geiger and Reeves, 1993; Bolls *et al.*, 1995). Research on pacing posits that while increased pacing makes viewers allocate more cognitive resources to encoding, it also increases cognitive load among viewers. Decrease in overall recognition and retention occurs when increased cognitive load exceeds additional cognitive resources allocated to encoding. (Lang et.,al 2000) Thus, while fast-paced campaign videos will more immediately grab potential backers' attention and elicit more favourable funding evaluation from potential backers compared to slow-paced videos, they may overload backers' cognitive resources and hence make them unable to process the campaign message if it is too fast.

Hypothesis 1: The relationship between pace and campaign outcome is inverted U, such that increased pace will initially have a positive effect on campaign outcome, but this effect will rapidly decrease as the backer experiences cognitive overload.

- Music

A significant majority of crowdfunding campaign videos include background music. The role of music in advertising and its effect on viewers' affective and cognitive response has been extensively studied and is well documented in the literature (Dowling and Harwood 1986; Park and Young 1986). For example, a study conducted by Rohner and Miler (1980) demonstrated that calm music decreased participants' anxiety. In Gorn's study (1982), participants preferred to choose a pen that was shown with pleasant music than unpleasant music, suggesting that consumers make associations between music and the product being advertised.

Despite the generally positive effect of music, the same music played over two different campaign videos can have a vastly different effect. This phenomenon is associated with the concept of 'fit'. 'Fit' is defined by advertising scholars as "consumers' subjective perceptions of the music's relevance or appropriateness to the central ad message" (MacInnis and Park 1991 p.162). The idea that fit enhances information processing is consistent with Gestalt psychology, which proposes that people do not perceive a set of stimuli to be distinct if said stimuli complement each other, thus requiring fewer cognitive resources to process (Pomerantz 1981) Later studies have confirmed the positive effect of music's fit on viewer attention and message processing of the advertisement (MacInnis and Park 1991; Kellaris, Cox, and Cox 1993). Therefore, when the background music fits the campaign message, it should enhance backers' attention and message encoding. On the other hand, low fit should distract backers' attention from the campaign message as their

cognitive resources are devoted to resolving the incongruity.

Hypothesis 3: Fit between background music and campaign message strengthen the positive relationship between pace and campaign outcome.

- Humour

A large number of campaign videos contain humorous appeals. The practice of using humour is especially prevalent in the advertising industry, with approximately twenty percent of television advertisements designed to be humorous. (Beard 2005). A growing number of studies have focused on the role of humour in advertisement and demonstrated its superior effect on viewer's attention and attitude toward the advertisement and the advertised product or brand. (Duncan 1979; Weinberger and Gulas 1992). Many studies demonstrated that the use of humour enhances viewers' attitudes towards advertisements by inducing positive emotions. Empirical findings also suggest that positive emotions induced by humorous advertisement can be carried over to influence the advertised product or brand via a process called "affect transfer" (MacKenzie and Lutz 1989). For example, Duncan and Nelson (1985) suggest that humour reduces the irritation felt by viewers toward an advertisement and contributes to positive perceptions of the product being sold. Although the majority of research posits that the use of humour in advertisement leads to positive outcomes - including enhanced

attention and attitude toward the advertisement - others have failed to demonstrate such persuasive advantages. (Aaker & Myers 1987; Madden & Weinberger 1984). These inconsistent findings have led some researchers to point out the problems with generalizing the effect of humour and to stress the importance of identifying moderating variables that can explain the variation in prior findings (Chattopadhyay and Basu 1990). One recent study suggests that the effectiveness of humour in advertising depends on the consumer's prior evaluation of the brand. The finding shows that humorous advertisements are more persuasive when the consumers already have a positive evaluation of the brand in question. In the case of crowdfunding, potential backers rarely have prior knowledge of the campaigns they encounter, yet humour is still abundant in campaign videos. Its effectiveness in this context may be due to humour's effect on drawing backer's attention. A widely accepted theory is that humour serves as incentive to pay attention by eliciting arousal in viewers through unexpected novelty (Berlyne 1972). A meta-analysis on the effects of humour in advertising has revealed the strongest effect of humour on attention (Eisend 2009). In addition, Spotts, Weinberger, and Parsons (1997) discovered that humour greatly enhances a viewer's attentiveness and improves advertised brand recognition and recall. Laboratory studies conducted by Speck (1987) also revealed that humorous ads were superior to non-humorous ads in terms of holding subject's sustained attention.

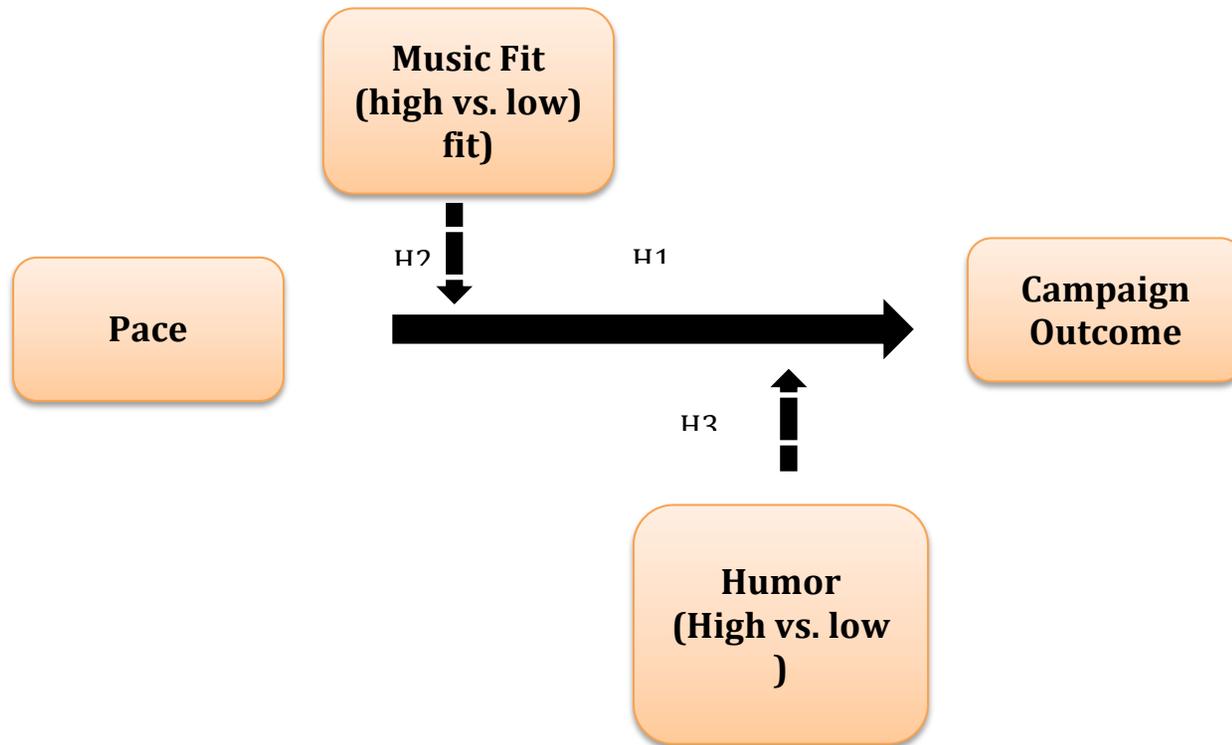
Research on pace suggests that an increase in pace gives rise to a short term increase in attention by triggering arousal and orienting responses in viewers and thus it is expected that humor can further reinforce the effect of pace on attention through its attention-

grabbing ability. While humor may immediately grab viewers' attention, substantial cognitive processing is required for them to comprehend the humorous stimuli. According to the theory of "incongruity-resolution", the processing of humour entails the detection of incongruity via three main sub-processes: encoding, incongruity detection, and incongruity resolution (Coulson & Kutas, 2001; Kluender & Kutas, 1993). Many studies have investigated the role of cognitive ability in comprehending humorous messages. For example, age was found to be negatively correlated with humour comprehension whereas educational level was positively correlated with humour comprehension (McGhee 1986; Mak and Carpenter 2007). We predict that the additional effort required to process humour in crowdfunding campaigns will deplete backers' cognitive resources and render them less able to process the campaign message. This is consistent with the idea that humour may function as "distraction from processing central benefits of the brand in advertisement" (Eisend 2011). Therefore, it is expected that humorous campaigns will enable backers to elaborate more on the campaign messages by grabbing backers' attention when pace is slow. On the other hand, humorous campaigns will facilitate the depletion of backers' cognitive resources and lead to less elaboration of the campaign messages when pace is fast.

Hypothesis 4: Humour will steepen the curvilinear relationship between pace and campaign outcome.

Research Model

To guide this process, I propose the following model and related hypotheses.



III. Methodology

Given the large number of crowdfunding campaigns online, data on campaign success is readily available. It would therefore be straightforward to simply measure the pace of campaign videos and compare this against the outcome of their respective campaigns. However, a large of number of factors affect campaign success and hence such a methodology would not adequately isolate the effect of video pacing. It is therefore necessary to conduct a laboratory experiment wherein all extraneous variables can be adequately controlled for.

- Sample and Participants

Campaign videos extracted from Kickstarter were used in this study. Campaigns on Kickstarter are categorized into a number of categories such as technology, film, art, and design. In this study, we specifically limited the sample videos to those from the technology and design categories, as campaigns in these categories come in the form of “pre-purchasing” by delivering finished products to the backers.

16 campaign videos (8 technology and 8 design) were selected for the experiment. Among technology/design campaigns, half were successful campaigns and half failed campaigns. 125 undergraduate students taking summer classes at a major university in Canada participated in the experiment in exchange for extra course credit.

- Study Design

In examining the effect of pace on campaign outcome, a two (technology vs. design) by two (success vs. failure) between-subjects factorial design was employed. Participants were divided into four groups and assigned to one of the four conditions (technology/success, technology/failure, design/success, design/failure).

- General procedure

Participants in each condition were required to watch four campaign videos and fill out survey questionnaires corresponding to each video. After watching each video, participants were asked to indicate their opinions on a series of statements in a seven-point Likert-type scale that measure their attitude toward the video. Perceived humour was measured using three metrics (not funny/very funny,

not humorous/very humorous, not amusing/very amusing) (Zhang 1996). The extent to which background music fit the campaign message was measured using five-item scale developed by Deborah et.,al (1991). Factors that are likely to influence the campaign outcome are also measured in the study. Perceived credibility of the presenter was measured by a nine-item scale (Ohanian 1990). Perceived warmth and competence of the presenter was also measured by using six-point scale, followed by 12-point scale that measured perceived passion and preparedness of the presenter (Chen, et al., 2009; Cardon et al., 2013). In addition, perceived clarity of the campaign message and perceived creativity of the product/idea in the campaign were also measured. Finally, participants were asked to provide basic demographic information for record-keeping purposes.

- Measurement

Independent variable: Pace

As noted above, pace is quantified by dividing the number of cuts in a campaign video by its total run time. A ‘cut’ is defined by previous research as “a camera change from one scene to a completely new visual scene”. (Bolls *et al.*, 1995)

Moderators: Background Music Fit and Humour

The extent to which background music fits the campaign message is measured by using a scale developed by Deborah et.al (1991). This scale consists of five questions evaluated on a seven-point scale, such as “The music was not what I would expect to hear in this kind of video” Perceived humour is measured using a three-point metric (not funny/very funny, not humorous/very humorous, not amusing/very amusing) on a seven point Likert-type scale (Zhang 1996).

Dependent Variable: Campaign Outcome

As the experiment using a sample of actual crowdfunding campaign videos, the number of backers each campaign attracted is measured to account for the campaign outcome.

- Control Variables

Factors that are likely to influence the campaign outcome and which are controlled in the study include the perceived credibility of the presenter, perceived warmth and competence of the presenter, perceived passion and preparedness of the presenter, and perceived creativity of the idea/project. We also controlled the category of the campaign project, the year the campaign was launched and the

length of the video,

IV. Empirical Results

Table 1. Sample campaigns

Campaigns	\$Pledged	\$Raised	#Backers	Cuts	Length	Pace	Category	Success
Formlab	100000	2945885	2068	80	3.55	22.54	Technology	Yes
Pixy	25000	274352	2802	58	5.83	9.95	Technology	Yes
Pine watch	100000	801224	2839	32	2.23	14.35	Technology	Yes
Ares	50000	62387	105	38	3.12	12.18	Technology	Yes
Renderbot	65000	20386	72	28	3.30	8.48	Technology	No
Arduimu	35000	32873	232	43	4.42	9.73	Technology	No
Hoop Tracker	100000	37609	119	55	3.48	15.80	Technology	No
Stabowmount	23000	2696	77	22	2.93	7.51	Technology	No
Relatedgarment	20000	28063	425	47	2.08	22.60	Design	Yes
The Agua	20000	182058	2182	81	3.98	20.35	Design	Yes
The tribal	6500	276164	3196	87	2.45	35.51	Design	Yes
Tidal Vision	17500	55664	764	72	2.73	26.37	Design	Yes
Jean Jack	14000	7395	58	68	2.68	25.37	Design	No
Causal 4	30000	2849	56	29	2.67	10.86	Design	No
The unique	10000	587	12	60	1.55	38.71	Design	No
Benchthstench	150000	32563	37	49	5.42	9.04	Design	No

Table 2. Descriptive statistics of the sample campaigns

Variable	Sample Campaigns					
	N	Mean	Median	S.D	Min	Max
\$Pledged	16	46313.13	25000	41721.16	6500	150000
\$Raised	16	252249.35	32873	648053	587	2945885
#Backers	16	886.65	119	1150	12	3196
Cuts	16	53.50	55	19.98	22	87
Length	16	3.25	2.93	1.12	1.55	5.83
Pace	16	18.47	15.80	9.69	7.51	38.71

Tables 1 and 2 list the key characteristics of the sample campaigns used in the study. The amount raised by the respective campaigns differs significantly, ranging from a few hundred dollars to a few hundred thousand dollars, with an average of \$252,000. Similarly,

the number of backers engaged in each campaign ranged from 12-3196 with an average of 886. The campaign videos had a mean length of 3:15 minutes and 54 cuts each on average.

Table 3. The comparison of the campaigns across the different conditions

Variable	Success			Failure			Difference (T test)	
	N	Mean	S.D	N	Mean	S.D	Mean-diff	T-value
\$Pledged	8	38508.55	34001.61	8	53310.34	46553.44	14801.8	4.00**
\$Raised	8	514813	871131	8	16847	14547	497966.34	9.235**
#Backers	8	1785	1123	8	80.9	62.68	1704.48	24.48**
Cuts	8	63.52	19.54	8	44.52	15.65	19	11.99**
Length	8	3.19	1.11	8	3.3	1.12	-0.11	1.06
Pace	8	21.34	7.85	8	15.90	10.44	5.44	6.49**

*, ** Indicate significance at the 5%, 1% level respectively.

Table 4. The comparison of the campaigns across the different conditions

Variable	Technology			Design			Difference (T test)	
	N	Mean	S.D	N	Mean	S.D	Mean-diff	T-value
\$Pledged	8	61568.89	31678.15	8	33600	44766.8	27968.9	7.87**
\$Raised	8	466746.19	911381.88	8	73501	95045	393244.20	7.05**
#Backers	8	937.43	1175.84	8	80.9	62.68	93.10	0.897
Cuts	8	43.63	17.52	8	61.73	18.11	18.11	11.24**
Length	8	3.60	0.98	8	2.95	1.14	-0.65	6.69**
Pace	8	12.32	4.54	8	23.61	9.84	11.29	15.86**

*, ** Indicate significance at the 5%, 1% level respectively.

Tables 3 and 4 compare the performance of the sample campaigns. Table 3 is the comparison between successful and failed campaigns. In general, successful campaigns received significantly more funding than failed campaigns with a mean difference of \$497966.34. They also attracted approximately 1704 more backers than failed campaigns on average. In addition successful campaigns had 19 more cuts per video on average and the difference is statistically significant ($p < 0.01$). Table 4 is the comparison between technology projects and design projects. Technology projects received significantly more funding and attracted more backers than design projects. Although they generated approximately \$393244 more on average than design projects ($p < 0.01$), they have

attracted only 93 more backers on average than design projects and the difference was not statistically significant. Interestingly, technology projects had approximately 19 more cuts per video and shorter run times compared to design projects ($p < 0.01$).

Table 5. Descriptive statistics of the key variables used in the experiment.

Variables	Observation	Mean	S.D	Median	Minimum	Maximum
Humor	495	3.33	1.54	3.33	1.00	7.00
Music	495	4.79	1.56	5.0	1.00	7.00
Clarity	495	5.00	1.56	5.00	1.00	7.00
Creativity	495	4.58	1.60	5.00	1.00	7.00
Attractiveness	495	4.27	1.23	4.33	1.00	7.00
Trustworthiness	495	4.97	1.11	5.00	1.00	7.00
Expertise	495	4.89	1.28	5.00	1.00	7.00
Warmth	495	5.01	1.07	5.00	1.00	7.00
Competence	495	5.05	1.16	5.25	1.00	7.00
Passion	495	4.34	1.30	4.40	1.00	7.00
Preparedness	495	4.74	1.19	4.83	1.00	7.00

Table 6. Correlation

	Success	Category	Length	Pace	Log Back ers	Music	Humor	Clarity	Creativ ity	Attractiv eness	Trustwort hiness	Expert ise	Warmth	Compe tence	Passion	Preparedn ess
Success	1.00															
Category	-.05	1.00														
Length	.05	-.29**	1.00													
Pace	-.48**	.45**	.02	1.00												
LogBackers	-.84**	-.12**	.16*	.50**	1.00											
Music	-.16**	.07	-.17**	.25**	.09*	1.00										
Humor	-.14**	.04	.24**	-.03	.07	.10*	1.00									
Clarity	-.15**	.13**	-.08	.20**	.02	.40**	.25**	1.00								
Creativity	-.04	.00	.17**	.19**	-.06	.27**	.34**	.51**	1.00							
Attractiveness	-.11*	.09*	-.13**	.17**	.01	.32**	.37**	.35**	.43**	1.00						
Trustworthiness	-.03	-.09	.15**	.00	.02	.30**	.27**	.34**	.46**	.55**	1.00					
Expertise	-.03	-.20**	.20**	.07	.04	.27**	.22**	.38**	.51**	.53**	.77**	1.00				
Warmth	.08	-.03	.13**	-.05	-.07	.34**	.24**	.28**	.35**	.42**	.68**	.53**	1.00			
Competence	.04	-.16**	.11*	-.04	-.05	.35**	.24**	.33**	.44**	.47**	.67**	.69**	.72**	1.00		
Passion	.04	.03	.07	-.16*	-.09	.19**	.38**	.21**	.27**	.38**	.42**	.33**	.49**	.51**	1.00	
Preparedness	-.13**	-.01	.07	.19*	.09	.47**	.35**	.51**	.59**	.53**	.60**	.65**	.53**	.67**	.49**	1.00

*, ** Indicate significance at the 5%, 1% level respectively.

Table 5 summarizes the key variables of interest in our experiment. Our data comprises 495 observations in total. Table 6 reports the correlation matrix of the main variables in our regression analysis

Table 7. The comparison of the descriptive statistics between two subsamples.

Variables	Success				Failure				T test	
	N	SD	Mean	Median	N	SD	Mean	Median	Meandiff	T value
Humor	234	1.55	3.56	3.67	261	1.52	3.13	3.00	0.43	3.13**
Music	234	1.28	5.07	5.00	261	1.6	4.54	5.00	0.52	4.0**
Clarity	234	1.42	5.25	5.75	261	1.65	4.77	5.00	0.48	3.47**
Creativity	234	1.60	4.66	5.00	261	1.60	4.52	5.00	0.14	0.94
Attractiveness	234	1.15	4.41	4.33	261	1.28	4.15	4.00	0.27	2.43*
Trustworthiness	234	1.16	5.00	5.00	261	1.07	4.94	5.00	0.59	0.59
Expertise	234	1.31	4.92	5	261	1.24	4.85	5.00	0.74	0.64
Warmth	234	1.05	4.92	5	261	1.08	5.09	5.01	-0.16	1.68
Competence	234	1.17	5.01	5.25	261	1.15	5.1	5.25	-0.09	-0.87
Passion	234	1.25	4.29	4.4	261	1.33	4.39	4.40	-0.10	-0.86
Preparedness	234	1.16	4.91	5	261	1.21	4.59	4.67	0.32	2.97**

*, ** Indicate significance at the 5%, 1% level respectively.

Table 8. The comparison of the descriptive statistics between two subsamples.

Variables	Technology				Design				T test	
	N	SD	Mean	Median	N	SD	Mean	Median	MeanDiff	T value
Humor	225	1.53	3.27	3.00	270	1.56	3.38	3.33	-0.11	-0.77
Music	225	1.46	4.72	5.00	270	1.49	4.86	5.00	-0.14	-1.05
Clarity	225	1.63	4.78	5.00	270	1.48	5.18	5.50	-0.40	2.83**
Creativity	225	1.60	4.59	5.00	270	1.59	4.58	5.00	0.001	0.009
Attractiveness	225	1.27	4.15	4.33	270	1.19	4.38	4.33	-0.22	2.02*
Trustworthiness	225	1.11	5.08	5.33	270	1.11	4.88	5.00	0.19	1.93
Expertise	225	1.27	5.17	5.33	270	1.24	4.65	4.67	0.52	4.58**
Warmth	225	1.05	5.05	5.00	270	1.09	4.99	5.00	0.06	0.64
Competence	225	1.14	5.25	5.50	270	1.16	4.89	5.00	0.36	3.50**
Passion	225	1.33	4.30	4.40	270	1.27	4.38	4.50	-0.84	-0.71
Preparedness	225	1.21	4.75	4.83	270	1.17	4.73	4.83	0.02	0.21

*, ** Indicate significance at the 5%, 1% level respectively.

Table 7 is the comparison of the participants' perception between successful campaigns and the failed campaigns. As expected, participants in the study evaluated successful campaigns more positively, perceiving them to be more humorous ($p < 0.01$) and to have better music and message fit than failed campaigns ($p < 0.05$). In addition, presenters in successful campaign videos were considered more attractive ($p < 0.05$), and prepared ($p < 0.01$) than the ones in the failed campaign videos. Table 8 compares the participants' perceptions of Technology vs. Design campaigns. These findings indicate that participants viewed the presenters of technology projects to be more expert than those of design projects. This discrepancy can be attributed to the nature of technological projects, which typically require a greater deal of expertise. Interestingly, presenters of technology projects were also considered more competent than those of design projects ($p < 0.01$).

Table 9. Regression Analysis

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Pace		6.479**	55.131**	-0.919	8.728**	46.223**	33.202**	55.418**	69.363**
Sq Pace			-98.583**			-91.740**	-61.345**	-101.358**	-133.888**
Humor				-0.389**		-0.306**	-0.654**		
Music					0.099			-0.133	0.095
Pace*Humor				2.822**		2.101**	6.172**		
Pace*Music					-0.478			0.289	6.489
SqPace*Humor							-9.504*		
SqPace*Music									
Category	0.861**	-0.003	-1.313**	-0.180	0.000	-1.357**	-1.383**	-1.372**	-1.386**
Length	0.112	0.400**	0.633**	0.495**	0.401**	0.694**	0.728**	0.636**	0.637**
Clarity	0.021	0.003	-0.092*	0.004	-0.004	-0.083*	-0.087*	-0.079	-0.073
Creativity	-0.229**	-0.273**	-0.187**	-0.268**	-0.270**	-0.187**	-0.187**	-0.186**	-0.190**
2012	-3.237**	-2.372**	0.053	-2.228**	-2.356**	0.006	-0.012	0.103	0.109
2013	-3.357**	-2.925**	-1.939**	-2.849**	-2.893**	-1.946**	-1.951**	-1.969**	-1.930**

2014	-0.594*	-0.150	0.960**	0.028	-0.139	1.030**	1.080**	0.974**	0.983**
Attractiveness	-0.025	-0.078	-0.121*	-0.094	-0.076	-0.122*	-0.118*	-0.121*	-0.117*
Trustworthiness	0.134	0.178	0.227**	0.182	0.175	0.226**	0.233**	0.234**	0.236**
Expertise	-0.046	-0.094	-0.058	-0.079	-0.094	-0.053	-0.076	-0.070	-0.067
Warmth	-0.103	-0.038	-0.070	-0.020	-0.042	-0.056	-0.046	-0.041	-0.043
Competence	-0.205*	-0.207*	-0.153	-0.242**	-0.199*	-0.184*	-0.178*	-0.158	-0.154
Passion	-0.142*	-0.032	0.061	-0.061	-0.030	0.037	0.025	0.058	0.060
Preparedness	0.528**	0.471**	0.245**	0.445**	0.455**	0.244**	0.259**	0.280**	0.274**
Intercept	11.566**	8.325**	-0.179	9.016**	7.889**	0.888	1.852	-0.074	-1.272
R square	0.412	0.443	0.602	0.495	0.445	0.629	0.633	0.605	0.607
Ad R square	0.395	0.426	0.589	0.477	0.425	0.615	0.618	0.591	0.592
F value	24.016**	25.441**	45.235**	27.533**	22.485**	44.788**	43.130**	40.579**	49.604**

*, ** Indicate significance at the 5%, 1% level respectively.

OLS regression was performed to determine the relationship between pace and campaign outcome as well as the moderating effects of humour and background music. Table 8 reports the result of the regression analysis. To examine whether the relationship between pace and campaign outcome is inverted U, we performed a regression of the dependent variable on the independent variable (pace) and its square. A significant and positive coefficient of pace and a significant negative coefficient of square pace in Model 3 suggest an inverted U shape relationship between pace and campaign outcome. Figure 1 illustrates the plot of the inverted U shape relationship between the pace and the number of backers. However, as indicated by Lind and Mehlum, a significant and negative coefficient of square pace alone is not sufficient to prove an inverted U shape relationship. Lind and Mehlum (2010) suggest a simple slope analysis to examine whether or not the slope is significantly steep at both ends of the data range. If only one end is significant, the relationship might be just one half of the inverted U shape rather than the full inverted U shape. We thus carried out a simple slope analysis of the relationship between pace and campaign outcome and the result (see Figure 2) shows that the curve is sufficiently steep at both ends of the data range. Therefore Hypothesis 1 is supported. These findings indicate that pace has a positive effect on campaign outcome, but that this effect decreases as pace becomes too high. In order to examine the moderating effect of background music fit on the above inverted U shape relationship, we added background music and its interaction term with pace and square pace into the regression. Significant interaction was not found and thus Hypothesis 2 is not supported. Likewise, we added humour and its interaction term with pace and square pace into the regression analysis to examine the moderating effect of humour. A significant positive coefficient of pace*humour and a significant negative coefficient of SqPace* humour suggest that there is a “steepening effect” of humour on the

inverted U curve (Model 7) Furthermore, we have conducted Johnson Neyman's analysis of moderating effect on curvilinear relationship and Figure 3 displays the plot of the moderating effect. When pace is low, the positive slope becomes steeper as humour increases. Likewise, when pace is high, the negative slope becomes steeper as humour increases. Thus, Hypothesis 3 is supported.

Figure 1. Simple slope analysis of the inverted U shape relationship

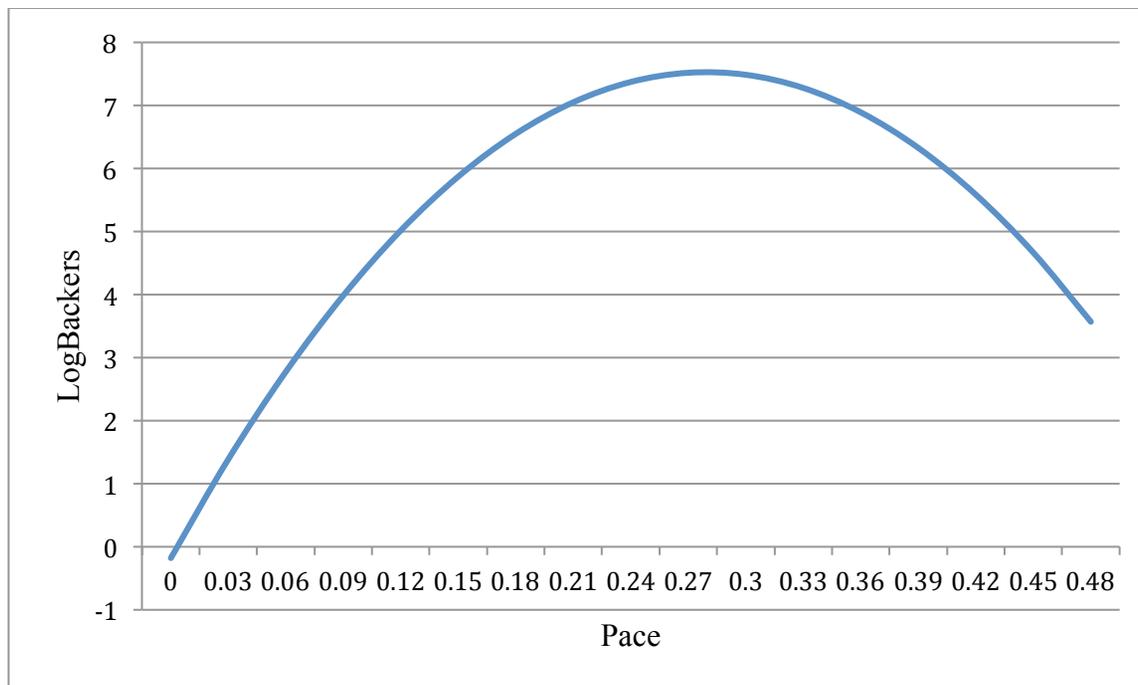
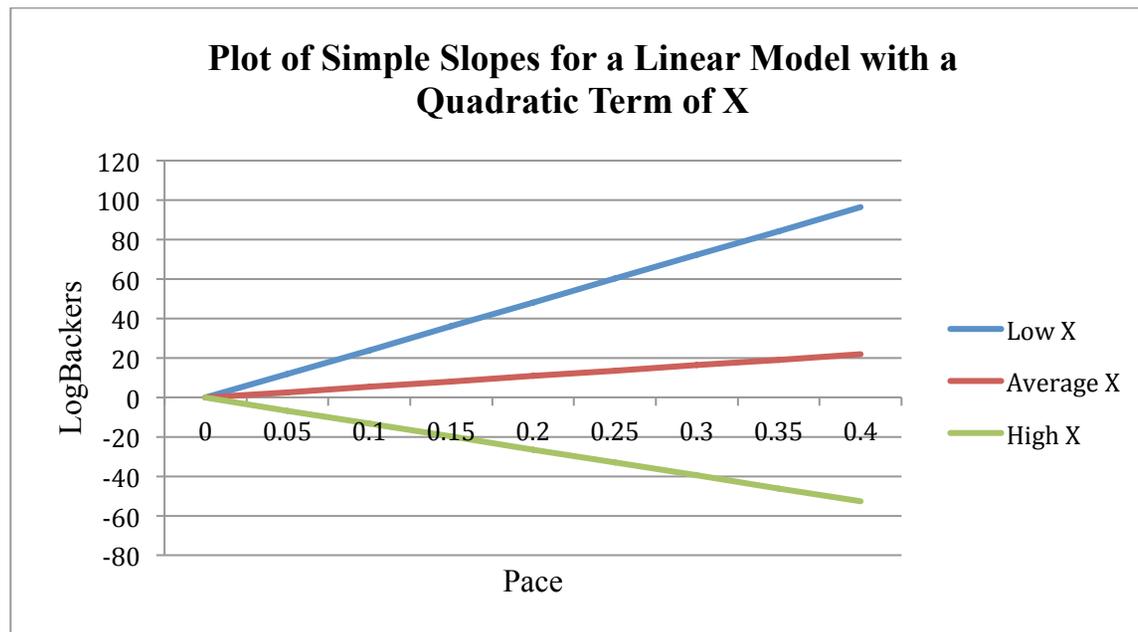
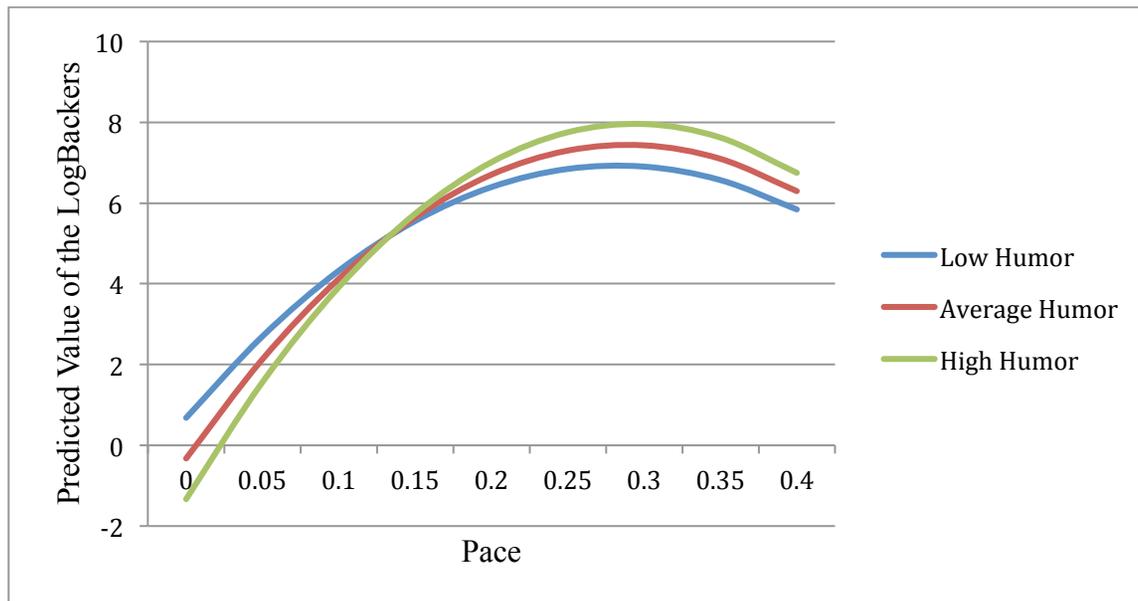


Figure 2. Testing the significance of slope at both ends of the inverted U shape.



	Simple Slope	Standard Error	t-test	Lower 95% CI	Upper 95% CI
Low Pace	241.453	17.040	14.169	207.951	274.954
Average Pace	55.131	3.676	14.999	47.905	62.357
High Pace	-131.191	10.020	-13.092	-150.891	-111.491

Figure 3. Pace and campaign outcome under high vs. low humor



v. Conclusion

This study investigated whether video pace influence campaign outcome in crowdfunding. The major findings of this study suggest that fast-paced campaign videos may have a positive effect on campaign outcome by capturing backers' attention, but they may also negatively affect campaign outcome by imposing cognitive burden on backers. In addition, humorous campaigns may be particularly effective for slow-paced videos as they attract potential backers' attention. Care should be taken for fast-paced videos in using humorous appeals as they will likely to deplete backers' cognitive resources and hence make them unable to process campaign message. To our knowledge, this study is the first to examine the effect of pace on the effectiveness of crowdfunding campaign videos. Prior research on video pace largely focused on its effect on viewers' attention and memory (Lang et al. 2000; Yoon et. al 2003) The findings of this study expands upon prior work by demonstrating its effect on funding behaviors. However, it is important to acknowledge that this study is subject to several limitations. First, prior research on pace and limited cognitive capacity indicates that motivation/involvement may influence cognitive resource allocation (Chaiken, 1980; Chaiken et al., 1989; Yoon et. al 2003). Student subjects in our study differ from real backers in terms of motivation and thus engagement with campaign videos. Also, unlike previous studies where electrical devices were used to measure the effect of pace on participants' attention and memory, this research assumes its effect on attention and memory based on the results of previous studies. This is mainly due to a lack of access to appropriate devices for physically measuring attention and memory. Future research should address this issue.

References

Aaker David, A., and G. Myers John. "Advertising Management." (1987).

Agrawal, Ajay K., Christian Catalini, and Avi Goldfarb. *The geography of crowdfunding*. No. w16820. National bureau of economic research, 2011.

Anderson, Daniel R., and Elizabeth P. Lorch. "Looking at television: Action or reaction." *Children's understanding of television: Research on attention and comprehension* (1983): 1-33.

Baddeley, A. "Oxford psychology series, No. 11. Working memory." (1986).

Beard, Fred K. "One hundred years of humor in American advertising." *Journal of Macromarketing* 25, no. 1 (2005): 54-65.

Berlyne, Daniel E. "Humor and its kin." *The psychology of humor: Theoretical perspectives and empirical issues* (1972): 43-60.

Belleflamme, Paul, Thomas Lambert, and Armin Schwienbacher. "Crowdfunding: Tapping the right crowd." *Journal of Business Venturing* 29, no. 5 (2014): 585-609.

Bolls, Paul D., Darrel D. Muehling, and Kak Yoon. "The effects of television commercial pacing on viewers' attention and memory." *Journal of Marketing Communications* 9, no. 1 (2003): 17-28.

Cardon, Melissa S., Denis A. Gregoire, Christopher E. Stevens, and Pankaj C. Patel. "Measuring entrepreneurial passion: Conceptual foundations and scale validation." *Journal of Business Venturing* 28, no. 3 (2013): 373-396.

Carson, David K., Lorie R. Skarpness, Ned W. Schultz, and Paul E. McGhee. "Temperament and communicative competence as predictors of young children's humor." *Merrill-Palmer Quarterly (1982-)* (1986): 415-426.

Coulson, Seana, and Marta Kutas. "Getting it: human event-related brain response to jokes in good and poor comprehenders." *Neuroscience letters* 316, no. 2 (2001): 71-74.

- Chaiken, Shelly. "Heuristic versus systematic information processing and the use of source versus message cues in persuasion." *Journal of personality and social psychology* 39, no. 5 (1980): 752.
- Chaiken, Shelly, and Alice H. Eagly. "Heuristic and systematic information processing within and." *Unintended thought* 212 (1989).
- Chen, Xiao-Ping, Xin Yao, and Suresh Kotha. "Entrepreneur passion and preparedness in business plan presentations: a persuasion analysis of venture capitalists' funding decisions." *Academy of Management Journal* 52, no. 1 (2009): 199-214.
- Dowling, W. Jay, and Dane L. Harwood. *Music cognition*. Academic Press, 1986.
- Duncan, Calvin P. "Humor in advertising: A behavioral perspective." *Journal of the Academy of Marketing Science* 7, no. 4 (1979): 285-306.
- Duncan, Calvin P., and James E. Nelson. "Effects of humor in a radio advertising experiment." *Journal of Advertising* 14, no. 2 (1985): 33-64.
- Eisend, Martin. "A meta-analysis of humor in advertising." *Journal of the Academy of Marketing Science* 37, no. 2 (2009): 191-203.
- Eisend, Martin. "How humor in advertising works: A meta-analytic test of alternative models." *Marketing letters* 22, no. 2 (2011): 115-132.
- Fairchild, Richard. "An entrepreneur's choice of venture capitalist or angel-financing: A behavioral game-theoretic approach." *Journal of Business Venturing* 26, no. 3 (2011): 359-374.
- Geiger, Seth, and Byron Reeves. "The effects of scene changes and semantic relatedness on attention to television." *Communication Research* 20, no. 2 (1993): 155-175.
- Gerber, Elizabeth M., and Julie Hui. "Crowdfunding: Motivations and deterrents for participation." *ACM Transactions on Computer-Human Interaction (TOCHI)* 20, no. 6 (2013): 34.

Gorn, Gerald J., and Marvin E. Goldberg. "Behavioral evidence of the effects of televised food messages on children." *Journal of Consumer Research* 9, no. 2 (1982): 200-205.

Greenberg, Jason, and Ethan R. Mollick. "Leaning in or leaning on? Gender, homophily, and activism in crowdfunding." *Gender, Homophily, and Activism in Crowdfunding (July 3, 2014)* (2014).

Harms, Michel. "What drives motivation to participate financially in a crowdfunding community?." *Available at SSRN 2269242* (2007).

Kellaris, James J., Anthony D. Cox, and Dena Cox. "The effect of background music on ad processing: A contingency explanation." *The Journal of Marketing* (1993): 114-125.

Kirsch, David, Brent Goldfarb, and Azi Gera. "Form or substance: the role of business plans in venture capital decision making." *Strategic Management Journal* 30, no. 5 (2009): 487-515.

Kluender, Robert, and Marta Kutas. "Bridging the gap: Evidence from ERPs on the processing of unbounded dependencies." *Journal of Cognitive Neuroscience* 5, no. 2 (1993): 196-214.

Kubovy, Michael, and James R. Pomerantz, eds. *Perceptual organization*. Lawrence Erlbaum Assoc Incorporated, 1981.

Kuppuswamy, Venkat, and Barry L. Bayus. "Crowdfunding creative ideas: The dynamics of project backers in Kickstarter." *UNC Kenan-Flagler Research Paper 2013-15* (2015).

Lang, Annie, Paul Bolls, Robert F. Potter, and Karlynn Kawahara. "The effects of production pacing and arousing content on the information processing of television messages." *Journal of Broadcasting & Electronic Media* 43, no. 4 (1999): 451-475.

Lang, Annie. "The limited capacity model of mediated message processing." *Journal of communication* 50, no. 1 (2000): 46-70.

Lang, Annie, Yongkuk Chung, Seungwhan Lee, Nancy Schwartz, and Mija Shin. "It's an arousing, fast-paced kind of world: The effects of age and sensation seeking on the information processing of substance-abuse PSAs." *Media psychology* 7, no. 4 (2005): 421-454.

Lang, Annie, Mija Shin, Samuel D. Bradley, Zheng Wang, Seungjo Lee, and Deborah Potter. "Wait! Don't turn that dial! More excitement to come! The effects of story length and production pacing in local television news on channel changing behavior and information processing in a free choice environment." *Journal of Broadcasting & Electronic Media* 49, no. 1 (2005): 3-22.

Lang, Annie. *The limited capacity model of motivated mediated message processing*. na, 2009.

Lind, Jo Thori, and Halvor Mehlum. "With or without U? the Appropriate Test for a U-Shaped Relationship." *Oxford bulletin of economics and statistics* 72, no. 1 (2010): 109-118.

MacKenzie, Scott B., and Richard J. Lutz. "An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context." *The Journal of Marketing* (1989): 48-65.

MacInnis, Deborah J., and C. Whan Park. "The differential role of characteristics of music on high-and low-involvement consumers' processing of ads." *Journal of consumer Research* 18, no. 2 (1991): 161-173.

Madden, Thomas J., and Marc G. Weinberger. "Humor in advertising: A practitioner view." *Journal of advertising research* 24, no. 4 (1984): 23-29.

Mak, Wingyun, and Brian D. Carpenter. "Humor comprehension in older adults." *Journal of the International Neuropsychological Society* 13, no. 04 (2007): 606-614.

Mollick, Ethan. "The dynamics of crowdfunding: An exploratory study." *Journal of business venturing* 29, no. 1 (2014): 1-16.

Näätänen, Risto. *Attention and brain function*. Psychology Press, 1992.

Ohanian, Roobina. "Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness." *Journal of advertising* 19, no. 3 (1990): 39-52.

Park, C. Whan, and S. Mark Young. "Consumer response to television commercials: The impact of involvement and background music on brand attitude formation." *Journal of marketing research* (1986): 11-24.

Reeves, Byron, Esther Thorson, Michael L. Rothschild, Daniel McDonald, Judith Hirsch, and Robert Goldstein. "Attention to television: Intrastimulus effects of movement and scene changes on alpha variation over time." *International Journal of Neuroscience* 27, no. 3-4 (1985): 241-255.

Rohner, Stephen J., and Richard Miller. "Degrees of familiar and affective music and their effects on state anxiety." *Journal of Music Therapy* 17, no. 1 (1980): 2-15.

Schwienbacher, Armin, and Benjamin Larralde. "Crowdfunding of small entrepreneurial ventures." *Handbook of entrepreneurial finance, Oxford University Press, Forthcoming* (2010).

Spotts, Harlan E., Marc G. Weinberger, and Amy L. Parsons. "Assessing the use and impact of humor on advertising effectiveness: A contingency approach." *Journal of advertising* 26, no. 3 (1997): 17-32.

Weinberger, Marc G., and Charles S. Gulas. "The impact of humor in advertising: A review." *Journal of advertising* 21, no. 4 (1992): 35-59.

Zhang, Yong. "The effect of humor in advertising: An individual-difference perspective." *Psychology & Marketing* 13, no. 6 (1996): 531-545.

Appendix

Study 1

Q1. Imagine that somebody gave you \$100 to invest in this company, how much are you willing to invest? (assuming that you will be keeping the remaining amount you choose not to invest)

your overall reaction to the video.

Bad	1	2	3	4	5	6	7	Good
Unfavorable	1	2	3	4	5	6	7	Favorable
Strongly Dislike	1	2	3	4	5	6	7	Strongly Like

Q3. Please indicate your agreement for the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1. This video is too long	1	2	3	4	5	6	7
2. This video is in optimal length	1	2	3	4	5	6	7
3. The presenter(s) is	1	2	3	4	5	6	7

speaking too fast

4. This video is very funny	1	2	3	4	5	6	7
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5. This video is very humorous	1	2	3	4	5	6	7
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6. This video is very amusing	1	2	3	4	5	6	7
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7. Regardless of how much I liked or disliked the background music, it did seem appropriate for this video	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

8. The background music and the message both seemed to evoke the same general mood	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

9. The background music and the message seemed to be well matched in this video	1	2	3	4	5	6	7
10. I understood the idea/product in the video very well	1	2	3	4	5	6	7
11. I grasped the idea/product in this video very well	1	2	3	4	5	6	7
12. I think the idea/product is very creative	1	2	3	4	5	6	7
13. I think the idea/product is very innovative	1	2	3	4	5	6	7

Q4. On each of the scales below, please check the space, which you feel best describes the presenter(s) in the video.

Unattractive	1	2	3	4	5	6	7	Attractive
Insincere	1	2	3	4	5	6	7	Sincere

Not expert	1	2	3	4	5	6	7	Expert
Not classy	1	2	3	4	5	6	7	Classy
Unreliable	1	2	3	4	5	6	7	Reliable
Inexperienced	1	2	3	4	5	6	7	Experienced
Not sexy	1	2	3	4	5	6	7	Sexy
Untrustworthy	1	2	3	4	5	6	7	Trustworthy
Unskilled	1	2	3	4	5	6	7	Skilled

Q5. Please indicate your agreement for the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1. The presenter(s) seems warm	1	2	3	4	5	6	7
2. The presenter(s) seems sincere	1	2	3	4	5	6	7

3. The presenter(s) seems good-natured

1	2	3	4	5	6	7
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4. The presenter(s) seems honest

1	2	3	4	5	6	7
---	---	---	---	---	---	---

5. The presenter(s) seems competent

1	2	3	4	5	6	7
---	---	---	---	---	---	---

6. The presenter(s) seems confident

1	2	3	4	5	6	7
---	---	---	---	---	---	---

7. The presenter(s) seems intelligent

1	2	3	4	5	6	7
---	---	---	---	---	---	---

8. The presenter(s) seems determined

1	2	3	4	5	6	7
---	---	---	---	---	---	---

1. The presenter(s) is very passionate about the project

1	2	3	4	5	6	7
---	---	---	---	---	---	---

2. The presenter(s) is very enthusiastic

1	2	3	4	5	6	7
---	---	---	---	---	---	---

3. The presenter(s) talked with varied tone and pitch

1	2	3	4	5	6	7
---	---	---	---	---	---	---

4. The presenter(s) had energetic body movements

1	2	3	4	5	6	7
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Q6. Please indicate your agreement for the following statements.

5. The presenter(s) had rich body language	1	2	3	4	5	6	7
6. The presenter(s) used a lot of gestures	1	2	3	4	5	6	7
7. The presenter(s)'s face lit up when he/she talked	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
8. The video is very persuasive	1	2	3	4	5	6	7
9. The video is very well prepared	1	2	3	4	5	6	7

10. I could see the time and efforts put into making this video	1	2	3	4	5	6	7
11. The presentation was thoughtful and in-depth	1	2	3	4	5	6	7
12. The presentation content had substance	1	2	3	4	5	6	7
13. The presentation was coherent and logical	1	2	3	4	5	6	7
14. The presenter(s) articulated the relationship between his/her business plan and the broader context	1	2	3	4	5	6	7
15. The presenter(s) cited facts to support his/her arguments.	1	2	3	4	5	6	7

Q7. Please use three words to describe your emotions.

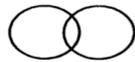
Q8. Please use the picture below to describe your personal connection with the PROJECT. One circle represents you and the other one represents the project from the video.



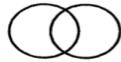
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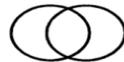
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(3)



(4)



(5)



(6)

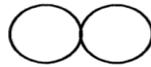


(7)

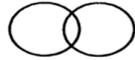
Q9. Please use the picture below to describe your personal connection with the Presenter(s). One circle represents you and the other one represents the presenter(s) in the video.



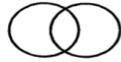
(1)



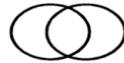
(2)



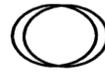
(3)



(4)



(5)



(6)



(7)