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**Bearing, Belittling or Befriending Doubt: Understanding
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Entrepreneurs' Early-Stage Idea Validation**

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Abstract:	Doubt in the early-stage entrepreneurial process is pervasive. However, we argue that our understanding of the types of doubt individuals experience during entrepreneurial action—and how their responses to these doubts affect their ability to refine their ideas and remain committed to their goal to validate them—remains incomplete. When entrepreneurs set out to validate their ideas, doubt is typically framed in one of two ways: either as corrosive or as generative. In both perspectives, the focus is on idea-related doubts, overlooking the possibility that once entrepreneurial action commences, self-related doubts about their abilities or motivation may still resurface. Furthermore, while the generative approach provides valuable insights into how entrepreneurs can engage with idea doubts, it tells us little about why some individuals can do so while others may not. To address these questions, we followed early-stage entrepreneurs weekly during an incubation program. We found that they experienced not only idea-related but also self-related doubts. Their responses to these doubts—namely embracing, downplaying, or normalizing them—shaped their ability to refine their ideas and influenced their commitment to their goal. Ultimately, this commitment was underpinned by the emergence of three distinct orientations toward expending further goal-directed effort: mastering, curtailing, or yearning.

**Bearing, Belittling or Befriending Doubt:
Understanding Doubt’s Generative versus Corrosive Effect on
Entrepreneurs’ Early-Stage Idea Validation**

Magdalena Cholakova
Erasmus University
cholakova@rsm.nl

Umut Yalcin
Erasmus University
u.yalcin@rsm.nl

Costantine Andriopoulos
City St George’s, University of London
costas.andriopoulos.2@citystgeorges.ac.uk

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3 **BEARING, BELITTling OR BEFRIENDING DOUBT:**
4 **UNDERSTANDING DOUBT'S GENERATIVE VERSUS CORROSIVE EFFECT ON**
5 **ENTREPRENEURS' EARLY-STAGE IDEA VALIDATION**
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8 **ABSTRACT**

9 Doubt in the early-stage entrepreneurial process is pervasive. However, we argue that our
10 understanding of the types of doubt individuals experience during entrepreneurial action—and
11 how their responses to these doubts affect their ability to determine the value of their ideas and
12 remain committed to this goal—remains incomplete. When entrepreneurs set out to validate their
13 ideas, doubt is typically framed in one of two ways: as corrosive or as generative. In both
14 perspectives, the focus is on idea-related doubts, overlooking the possibility that once
15 entrepreneurial action commences, self-related doubts about their abilities or motivation may
16 resurface. Furthermore, while the generative approach provides valuable insights into how
17 entrepreneurs can engage with idea doubts, it tells us little about why some individuals can do so
18 while others may not. To address these questions, we followed early-stage entrepreneurs weekly
19 during an incubation program. We found that they experienced not only idea-related but also
20 self-related doubts. Their responses to these doubts—namely *embracing*, *downplaying*, or
21 *normalizing* them—shaped their ability to make progress towards their goal and influenced their
22 commitment to it. Ultimately, this commitment was underpinned by the emergence of three
23 distinct *orientations* toward expending further goal-directed effort: *mastering*, *curtailing*, or
24 *yearning*.
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28 **INTRODUCTION**
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30 Entrepreneurs' journeys, especially in the very early stages of developing an idea, are
31 shrouded in Knightian uncertainty (Knight, 1921; Foss & Klein, 2012; Packard, Clark, & Klein,
32 2017; Rindova & Courtney, 2020). This can make doubt, understood as “uncertainty in the
33 context of action” (Lipshitz & Strauss, 1997: 150), a regular companion on their path (Zellweger
34 & Zenger, 2023; Alvarez, Barney, & Anderson, 2013; Shepherd, McMullen, & Jennings, 2007;
35 McMullen & Shepherd, 2006). Doubt has been addressed in the entrepreneurship literature
36 through two contrasting lenses, either painting it as something to be overcome (since its presence
37 can be *corrosive*) or as something to be engaged (since it can trigger inquiry and be *generative*).
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48 The *first* perspective on doubt (as corrosive) has been initially informed by opportunity
49 evaluation research (c.f., Wood & McKelvie, 2015), which argues that individuals need to first
50 *resolve* doubts about their abilities (*self-feasibility*) and motivation (*self-desirability*) to pursue an
51 idea, before any entrepreneurial action can commence (McMullen & Shepherd, 2006). Once the
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entrepreneur begins their pursuit, the focus of existing research shifts to idea-related doubts instead (i.e., whether the idea is technically feasible, desirable to the market and financially viable). Individuals are then expected to “wrestle” with these doubts as they “seek to determine whether their beliefs actually represent valuable opportunities” (Zellweger & Zenger, 2023: 384).

The *second* perspective on doubt (as generative) within entrepreneurship has been informed by pragmatist philosophy (Peirce, Hartshorne & Weiss, 1934). It argues that (idea) doubt serves to “energize inquiry” (Locke, Golden-Biddle, Feldman, 2008: 908) as it signals “a need to reconsider and revise our ways of understanding” (p. 910). Engaging with doubt in this way challenges our existing beliefs and helps refine our understanding of the idea and its potential value (Shepherd, 2015: 494; see also Golden-Biddle, 2020; Shepherd & Patzelt, 2017; Autio, Esmt, & Frederiksen, 2013).

Even though these two perspectives offer diverging views on the role of doubt in terms of how one should respond to it, they share two important commonalities. The *first* one is that they assume that the entrepreneur is to remain *confident in their ability* to engage in idea validation as they seek to understand the potential value of their idea. As argued earlier, given that self-feasibility doubts are expected to be resolved for entrepreneurial action to commence (McMullen & Shepherd, 2006), this assumption might have obscured the need to attend to the potential role of self-feasibility doubts again, once the entrepreneur starts engaging in idea validation. We understand such idea validation activities as the process, through which entrepreneurs can surface a proof of concept¹, namely the idea’s market desirability, technical feasibility and financial viability (which can then aid them in identifying the potential value of the idea).

¹ As the pursuit of the goal is not a one-off but longer-term journey, we consider their ability to surface some partial proof of concept at different points in time as an interim progress outcome towards their goal. Namely, as they

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3 Similarly, the work that highlights the *generative* role of doubt explicitly considers that
4 one should not “turn” doubt “into self-doubt - there’s something wrong with me” (Locke et al.,
5 2008: 911) for it to be generative. Thus, both perspectives on doubt exclude the possibility that
6 as I learn more about myself in the context of working towards identifying the value of an
7 entrepreneurial idea, doubts about my ability to do so might emerge again (yet, see Grimes,
8 2018). Instead, they remain largely focused on idea-related doubts.
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11 The *second* commonality between the corrosive and the generative perspectives on doubt
12 is that they expect the entrepreneur to *remain motivated* to continue engaging in idea validation
13 activities, as they seek to surface a proof of concept and better understand the potential value of
14 their idea. As a result, existing entrepreneurship research offers rich insights into the ways
15 entrepreneurs may approach their goal to “illuminate the value of a potential opportunity”
16 (Zellweger & Zenger, 2023: 381; see also Ries, 2011; Blank, 2013; Leatherbee & Katila, 2020;
17 Camuffo, Cordova, Gambardella, & Spina, 2020). Yet, it largely overlooks how entrepreneurs’
18 experiences, once they start working towards surfacing a proof of concept (in their broader quest
19 to identify the value of their ideas), may affect their commitment to this goal over time (see here
20 Combs, Gruber, & Zahra, 2024; Grimes, 2018). This expectation is also present in the generative
21 doubt perspective, which implicitly assumes that one is to be willing to “generate inventive
22 solutions, new ideas, explanatory propositions, and theoretical elements” (Locke et al., 2008:
23 909) throughout the course of engaging with their idea doubts. Yet, there is also a limit to
24 following the many conjectures that abduction as a logic of discovery can generate (see Paavola,
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26 engage in the idea validation activities over time, they may get some validation (proof of concept) related to any
27 given aspect of their idea (feasibility, desirability, or viability). This then helps refine their (interim) understanding
28 of where the potential value of their idea may lie (and thus offers them a sense of progress towards the overall goal).
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2004) and to the capacity that one may have to follow abduction sequences “in the face of crises requiring immediate action” (Golden-Biddle, 2020: 1972).

Finally, we also argue that by nature of its focus on ways in which one can *engage with* idea doubts in a generative manner, work within the generative doubt tradition has not occupied itself with the question of what explains whether one is able to do so, as opposed to fall prey to alternative (corrosive) responses instead (Locke et al., 2008). We argue that altogether this has left us with *incomplete problematization* (Locke & Golden-Biddle, 1997) of doubt’s presence and role once action towards identifying the value of an entrepreneurial idea commences. We have therefore set out to study: 1) *how different types of doubt emerge in the course of validating one’s entrepreneurial idea* and 2) *how and why one’s response to these doubts might play a corrosive or a generative role in their ability to identify the value of their idea and in sustaining their commitment to this goal*.

To address these questions, we conducted an inductive qualitative study with a grounded theory approach (Strauss & Corbin, 1990; Langley, 1999). We followed six consecutive cohorts of entrepreneurs engaged in an early-stage idea incubation programme, conducting weekly interviews with them about their experiences and the progress they had made in pursuit of their idea. We found that depending on how individuals interpreted their ongoing goal progress (or lack thereof), they experienced and attended to different doubts. We then observed three distinct mechanisms through which they regulated their focal doubts, namely *normalizing*, *embracing* and *downplaying*. Engaging in one of these doubt regulation mechanisms then influenced the way and extent to which individuals could engage in validation activities and refine their understanding of the value of their ideas over time (perceived progress towards the goal), as well as their commitment to the goal. Iterating between our data and recent theory in goal striving and

self-regulation (Brandstätter & Bernecker, 2022; Ghassemi, Bernecker, Herrmann, & Brandstätter, 2017; Carver & Scheier, 1998, 2017), we found that limited progress over time translated into gradual goal disengagement and led to the development of a *yearning* or a *curtailing* orientation to investing new efforts towards the goal. In contrast, progress in refining their understanding of the value of the idea served to reaffirm one's commitment to the goal, expressed in the development of a *mastering* orientation instead.

Our research offers several key contributions. First of all, we show that doubt about one's ability (self-feasibility) to pursue the entrepreneurial idea can re-surface as one commences with entrepreneurial action, alongside doubts directed at the idea alone (c.f., Zellweger & Zenger, 2023). We argue that this is important, as the presence of such *self*-related doubts can affect whether individuals can engage with their *idea* doubts in ways that help surface some proof of concept (and thus refine their understanding of the value of the idea), or not. Secondly, by drawing on the self-regulation and goal-striving literatures (Carver & Scheier, 2019; Gollwitzer, 2012), we are also able to demonstrate the effect of gaining such refined understanding of the value of their idea over time on their sustained commitment to the goal. We therefore enrich prior work (c.f., Ries, 2011; Zellweger & Zenger, 2023) by demonstrating the limits to entrepreneurial motivation. Finally, we integrate existing diverging accounts on the role of doubt during entrepreneurial action, by developing a doubt regulation process model, which shows the conditions under which and the mechanisms through which doubt may have a generative or a corrosive effect on their ability to identify the potential value of their idea and remain committed to this goal.

THEORETICAL BACKGROUND

Doubt in the Early-Stage Idea Validation Process

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3 While doubt plays a central role in the early-stage entrepreneurial process (Zellweger &
4 Zenger, 2023; Packard, Clark, & Klein, 2017; Shepherd et al., 2007; McMullen & Shepherd,
5 2006), we have argued that the present literature offers divergent and partially incomplete
6 accounts of the kinds of doubt, and the impact that such doubts can have on one’s ability
7 determine the potential value of their business idea and sustain their commitment to this goal.
8 We begin by reviewing these two main streams of literature on doubt and outline where further
9 investigation may be merited.

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11 ***Doubt as corrosive.*** The primary body of literature that has focused on doubt as *corrosive*
12 to one’s entrepreneurial action comes from opportunity evaluation research, which is defined as
13 the “judgments and beliefs regarding the degree to which events, situations and circumstances
14 construed as an entrepreneurial opportunity represent a personally desirable and feasible action
15 path” (Wood & McKelvie, 2015: 256). It assumes that for entrepreneurial action to commence,
16 one must first resolve any doubts about the self-feasibility (i.e., “whether this opportunity could
17 feasibly be enacted by the actor”) and self-desirability (i.e., “whether successful exploitation of
18 the opportunity would adequately fulfill some personal desire”) of an opportunity (McMullen &
19 Shepherd, 2006: 133; Wood & McKelvie, 2015; Haynie, Shepherd, & McMullen, 2009).
20 Because such self-doubt “prevents action by undermining the prospective actor’s beliefs” in their
21 personal abilities and in the personal attractiveness of an opportunity, it *corrodes* their
22 motivation to start pursuing their idea (McMullen & Shepherd, 2006: 133).

23
24 These assumptions about doubt are rooted in “classical expectancy-value conceptions”,
25 which consider individual behavior as driven by goals and argue that “the motivation to select
26 and work persistently on a goal (task) depends on its subjective probability of success
27 (expectancy) and its attractiveness (value)” (Brandstätter & Bernecker, 2022: 276). Expectancy
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3 in this context is understood as rooted in one's perceived abilities, whereas attractiveness relates
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5 to how personally valuable achieving a goal is to the individual. A key assumption in such
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7 approaches is that "once a goal decision has been made", self-related doubts should be resolved,
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9 namely "feasibility and desirability-related issues should no longer matter" (Gollwitzer, 2012:
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11 529). Consequently, "hardly any empirical work has been carried out on doubts in goal striving"²
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13 (Ghassemi et al., 2020: 2), since it is assumed that while in action, individuals "shield themselves
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15 from inner states that may threaten goal attainment, such as doubts" (Ghassemi et al., 2020: 2).
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19 This assumption has similarly found its way uninterrogated in current approaches to
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21 entrepreneurial action. They offer rich and valuable insights on how to validate one's idea (c.f.,
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23 Ries, 2011; Blank, 2013; Leatherbee & Katila, 2020; Camuffo et al., 2020), yet do not attend to
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25 the possibility that, as one does so and 'wrestles' with *idea*-related doubts (Zellweger & Zenger,
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27 2023), *self*-doubts may also re-surface. Iterating between our data and recent developments
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29 within the goal striving literature, we observed that contrary to the static understanding of self-
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31 related doubt in the process of goal-striving outlined earlier, recent studies in this field have
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33 shown that such doubts may actually "fluctuate in daily goal pursuit" (Ghassemi et al., 2020: 2;
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35 see also Brandstätter & Bernecker, 2022). In particular, research on goal disengagement has
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37 shown that if no progress is made (despite one's efforts) towards a goal, this can lead to "a
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39 substantial loss in the perceived desirability of the goal" and can leave the individual "caught
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41 between further goal pursuit and disengagement from the goal" (Brandstätter, Hermann, &
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43 Schuler, 2013: 1668), causing "impulses to quit, and deliberating the pros and cons of holding
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45 on to the goal versus letting it go" (Ghassemi et al., 2020: 1).
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53 ² Goal setting, which can correspond to the opportunity evaluation phase, has been defined as "what goals people
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55 find attractive and feasible, and thus choose for themselves", whereas goal pursuit (used interchangeably with goal
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57 striving) as the "thoughts and behaviour directed toward existing goals", which corresponds to the entrepreneurial
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59 action phase in our work (Gollwitzer, 2012: 527).
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Even though this shows that self-related doubts can resurface throughout one’s goal pursuit and affect one’s commitment to the goal, these developments remain unaccounted for in our present theorizing on the role of doubt within the entrepreneurial action literature. This is further surprising, since as Bandura (1997) has argued, when “performing activities, people may discover new things about the task as well as about themselves” (Bandura, 1997: 83), which seems especially pertinent when operating under conditions of high uncertainty (Knight, 1921). The importance of mapping how the idea and the individual pursuing it may evolve in the process of validating an opportunity has already been demonstrated in Grimes’ study of early-stage entrepreneurs’ pivoting decisions. There, he shows that as “ideas change in response to feedback”, “these changes affect creative workers’ identities” and thus idea and self should be researched “in tandem” (2018: 1695). We argue that this is an important consideration when studying one’s doubts in the early-stage idea validation as well.

Doubt as generative. The literature, which has informed our understanding of doubt as *generative*, on the other hand, is rooted in pragmatist philosophy, specifically in the works of Charles Peirce. Doubt here is similarly understood as that which makes our beliefs “unsettled” and our “action paralyzed” as it triggers a state in which “we know neither how to act nor what to believe [...] (Peirce, Houser, & Kloesel, 1992: EP 1:115)”. However, rather than focusing on how to avoid this unsettled state, scholars in this tradition have argued in favour of *engaging* with one’s doubts instead. In particular, it “matters *how* participants respond to surprise: their response can ignite discovery and potential re-orientation of prevailing habits, or not.” (Golden-Biddle, 2020: 1971). Doubt’s generativity therefore lies in showing us “the breaks and breaches” in “the current organization of our experiences and observations” and in helping us motivate inquiry “until new concepts or patterns are generated that productively satisfy our doubt” (Locke

et al., 2008: 909-910). For example, Golden-Biddle has shown that engagement with an indeterminate situation through so called “abduction sequences” could fuel “participants’ discovery of novel ways of doing things” (2020: 1953). Strike and Rerup (2016: 894) have discovered that “inserting doubt” by means of a mediated sensemaking process “enabled a shift between frames by initiating a search for understanding”. Cunha, Rego, Clegg, and Lindsay (2015: 10) have argued that mutually balancing preparation and an openness to novelty can trigger a “purposeful search for understanding”, which can then make doubt “actionable” and “supportive of further learning”. Finally, Grimes and Vogus (2021: 4) have underlined the importance of “rigorously and systematically” applying, as opposed to removing, doubt in the context of complex collective goals and challenges.

A call to consider doubt’s potential generative properties within the field of entrepreneurship has also been made (see Shepherd, 2015; Shepherd & Patzelt, 2017), proposing that doubt can motivate “activities that inform (through changes in the individual's mind) the refinement of the entrepreneurial idea” (Shepherd, 2015: 494). To illustrate, Shepherd has argued that entrepreneurs’ engagement with other stakeholders (referred broadly as a community of inquiry), might help them entertain “some level of doubt over the veracity of the entrepreneurial idea”, which can bring about a state of “not knowing” and can serve to trigger further inquiry (2015: 494). Yet, the entrepreneurial literature has so far had more limited engagement with this idea. For example, some recent work has begun theorizing the characteristics of such a community of inquiry and the type of engagement that may refine one’s understanding of the idea and its potential (Shepherd, Sattari, & Patzelt, 2022). Even though the authors do not directly discuss the presence or influence of doubt in such exchanges, they highlight the role of using “disconfirming conjectures” (Shepherd et al., 2022: 14), which we argue can similarly

contribute to questioning one’s existing understanding, and as a result, to engaging with one’s doubts by triggering a subsequent inquiry.

Similarly, Zellweger and Zenger’s (2023) theory of entrepreneurial action explicitly addresses how different kinds of idea-related doubts might influence (i.e., bias) entrepreneurs’ early validation efforts. While they do not directly refer to the generativity of such doubts for refining one’s understanding of the value of the idea, and instead consider them as something that one needs to “wrestle with” (p. 384) and overcome, they do propose a wide range of effective reasoning strategies aimed at coping with such doubts, which we argue similarly offer the potential to *engage* the idea doubts generatively. Finally, research that taps at firm-level processes has also begun to engage with how an entrepreneur’s community can refine one’s understanding of the idea (c.f., Chatterji, Delecourt, Hasan, & Koning, 2019).

The focus of the works outlined above, however, has similarly remained on idea-related doubts. While the generative doubt perspective does not exclude the possibility of self-related doubts to emerge during action, it explicitly states that if one is to “turn” their doubt into “self-doubt – there’s something wrong with me” or “dismiss it as unimportant”, this will preclude the individual from generative engagement with it (Locke et al., 2008: 911). As a result, this approach also expects that individuals should perceive themselves as both persistently able and willing to engage with their idea doubts - an assumption, which as we argued earlier, might merit further interrogation.

Integrating the Insights from Each Perspective on Doubt

We have argued above that presently both the corrosive and the generative approach to doubt leave us with incomplete understanding of the role of self-doubt in the early-stage idea validation process. While the corrosive perspective to doubt does so indirectly, by simply carrying this assumption forward from opportunity evaluation research (McMullen & Shepherd,

2006), the generative doubt lens does so more explicitly by arguing that one should not “turn” their doubts into “self-doubts” if they were to enjoy their generative effect (Locke et al., 2008: 911). Even though research within the generative perspective to doubt has already offered us a very valuable set of techniques how to *engage* our idea doubts (such as nurturing hunches, embracing not knowing, and disrupting the existing order), specifying what determines whether one is indeed able to do so (or not), has not been the focal point of their inquiry. The key open questions for us therefore became to 1) understand the kinds of doubt that an entrepreneur may experience as they strive to determine the value of their idea and 2) to explore how and why the way one regulates these doubts may affect their ability to identify the potential value of their ideas and to remain committed to this goal.

METHOD

To begin addressing the issues outlined above, we conducted an inductive, qualitative study, with a grounded theory approach (Straus & Corbin, 1998). Given our present lack of insight on the role of self-related doubt on one’s idea validation, as well as on the question why some individuals may be able to engage generatively with idea doubts while others may not, conducting a qualitative study gave us an opportunity to collect rich, longitudinal insights into individuals’ experiences as they strived to determine the value of their business ideas. During our analysis of this data, the interrelationship emerged between individuals’ interpretation of their progress towards their goal and the kinds of doubts they experienced, as well as between the way they regulated these doubts and their ability to refine their understanding of the value of their ideas, and remain committed to their goal. This allowed us to ‘see’ and ‘articulate’ (Klag & Langley, 2013) the *doubt regulation process model* we outline in this paper.

Research Context

To study the experiences of very early-stage entrepreneurs, we oriented ourselves towards early-stage incubation initiatives with a low barrier to entry, where individuals could enroll based on a short description of their idea, requiring limited or no prior market validation. The first author engaged in purposeful sampling (Patton, 2002; see also Grimes, 2018), reaching out to several early-stage incubation programme managers about the possibility to use their programmes for this research. As the goal was to collect data over the entire incubation period (and ideally over multiple iterations of the programme), the selection criteria we used included having frequent access to the participants and their activities, as well as access to their deliverables and final presentations (if available). We therefore chose to conduct our research in collaboration with a medium-sized entrepreneurship centre in Europe, whose bi-annual incubation programme ran over a 10-week period. We followed six consecutive editions of this programme over a three-and-a-half-year period between 2018 and 2021, after which the original design and content of the programme were modified³. The authors’ team was not involved in the design or delivery of any of the trainings given to the incubation participants, nor in the provision of mentorship or sponsorship to their ideas before or after the incubation.

Participants

We conducted 308 interviews with 35 entrepreneurs in the programme, however, our primary sample consisted of 29 entrepreneurs, whom we were able to follow consistently with a minimum of five and a maximum of fourteen weekly interviews per participant throughout the incubation period and shortly thereafter. Our sample tended to be at an early stage with limited prior experience and limited prior validation of their ideas. An overview of the participants’ characteristics and approaches is available in Table 1.

³ During this period, there was also one pilot collaboration with participants from a related incubation center in order to increase participant outreach.

Please insert Table 1 about here

Procedure and Data Collection

The incubation programme informed all participants of a given cohort about the research prior to the start of the programme. It was also presented to them by the lead author in order to answer any questions and to clarify that the information gathered would be used for research purposes only, and that while engaged in it, participants should not expect to use the interviews as opportunities for advice on their ideas. Rather, participants were encouraged to use the weekly calls as an opportunity to reflect and keep a ‘living diary’ of their progress.

Participation in the research was therefore introduced as an independent part of the programme, and it included an initial intake interview and weekly follow-up interviews about participants’ progress, all of which were conducted by a team consisting of the lead author and a research assistant per cohort. The interviews were recorded and transcribed in waves as they were being collected. The intake interviews lasted from 45 to 60 minutes and aimed at understanding the entrepreneur’s background, how their idea originated, and what motivated them to pursue it. The weekly follow-up interviews lasted between 15 and 30 minutes and invited participants to reflect on their activities during the previous week. Specifically, we asked for a brief recount of what they did, with a focus on what went well, what went less well, and what they planned to work on in the following week. We kept the structured part of the interviews to several main questions to ensure we gave the participants ample opportunity to highlight what was salient to them in any given moment. The follow-up interviews were kept relatively brief so that participants could commit to them every week, thus accepting a trade-off between uninterrupted data collection across multiple weeks over richer reflections in fewer weeks. The research assistants, supporting the interview data collection, were blind as to the

main goal of the research and were informed that we wanted to collect participants’ weekly thoughts and experiences in order to study their goal-setting approach.

The primary data, which informed our analysis and findings, consisted of our weekly interviews with the participants. We also initially triangulated our data collection with participant observation during common trainings or events (such as workshops or final pitches). These observations served largely to familiarize ourselves with the experiences of the participants in the programme and to exclude the possibility that any important “behind the scenes” (Grimes, 2018: 1696) activities may have influenced their experiences and responses. We also collected any available archival data in the form of the training materials used by the incubator, the external communication from the incubator’s newsletters about participants’ success stories and any related social media updates by the entrepreneurs. These materials helped us track whether participants were actively following the incubation training, as well as whether they reported any notable progress milestones (i.e., winning a local competition, etc.) (please, see Table 2 for an overview of our data sources and how those informed our analysis).

Please insert Table 2 about here

Data Analysis

We engaged with our data in multiple ways during the analysis in order to make sense of the rich experiences that were shared with us and to begin organizing them in meaningful ways. Our approach to analyzing and sensemaking of it was highly iterative, though we aim to describe it along a few primary steps.

In our first step, we engaged in open coding using NVivo. We started by focusing on longer segments of text and kept in-vivo quotes, in order to immerse ourselves in participants’ experiences as they engaged in validation activities and strived to refine their understanding of

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3 their idea and its potential value. This allowed us to maintain enough “context around each coded
4 piece of data” (Rouse, 2016: 1610; see also Boje, 2001) and to support our own sensemaking as
5 we began identifying first-order codes. Some of the initial themes that emerged revolved around
6 having a *sense of progress* (or lack of it) and a drive or *motivation* towards the goal (or lack
7 thereof). We used the constant comparative method (Strauss & Corbin, 1998) to support our
8 emerging understanding of individuals’ weekly reflections and regularly compared the new data
9 we collected with our already existing interviews to help surface any new aspects of the idea
10 validation process that could inform our protocol. Here, we started noticing that in the weeks
11 where participants felt short in terms of perceived progress, they often reflected not only on their
12 main concerns, but also on how this made them *feel*. We therefore adjusted our interview
13 protocol to capture themes around their ‘feelings’ in response to their perceived progress. We
14 treated all our participants as individual cases, even if they had a co-founder in the programme,
15 since our focus was on the practices of the individual entrepreneur (see Grimes, 2018).
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33 As a next step, we began searching for links among the key categories that emerged from
34 our first-order codes, moving towards axial coding (Strauss & Corbin, 1990). We sought to
35 explore whether and, if so, how, our emerging categories might connect to one another. Based on
36 our earlier insight that perceived goal progress seemed to elicit a range of feelings in our
37 participants, we turned our attention to research on self-regulation of goal-directed action
38 (Carver & Scheier, 1998, 2017) and began iterating between existing theory and our data to help
39 us understand how individuals made sense of the perceived presence or absence of desired goal
40 progress. We also prepared short, mostly descriptive, summaries of the issues that a participant
41 experienced within a given week, across all weeks, maintaining some in-vivo quotations about
42 how participants felt about their progress and how they aimed to respond to it. To support our
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3 sensemaking process, we then used these summaries to initially depict the emerging core
4
5 categories of feelings, motivation and perceptions of progress using visual mapping (Langley,
6
7 1999). This allowed us to move easily back and forth through the entire span of relevant codes
8
9 across participants' weekly reflections, and helped us identify some "similarities, patterns and
10
11 differences" (Strike & Rerup, 2016: 888) that the entrepreneurs showed with respect to how they
12
13 evaluated their *goal progress*, how they felt about it, and how they sought to deal with it. We
14
15 retained our initial 'hunch' (Locke et al., 2008) that what we coded broadly as 'feelings' held
16
17 relevant information to help us identify patterns in the way individuals responded to challenges
18
19 to their goal progress. Informed by insights from both our data and the self-regulation theories
20
21 we mentioned above, we realized that these codes contained expressions of hesitation (doubt) or
22
23 validation of one's beliefs (confidence). Following existing literature, we considered such doubt
24
25 and confidence on a continuum (thus as opposites to one another) (Carver & Scheier, 2017). A
26
27 key difference contained in these expressions, which we only recognized upon receiving comments
28
29 in the review process, was that doubt could be directed at the *self* (in terms of their abilities to
30
31 pursue their ideas and their motivation) and/or at the *ideas* themselves (is there a market
32
33 potential for it, etc.). This triggered an "analytic shift" in our focus (Golden-Biddle, 2020: 1958)
34
35 as it prompted us to distinguish the direction of one's doubts (*self* versus *idea*) and how
36
37 individuals regulated these doubts as they strived towards identifying the value of their business
38
39 ideas. This shift also led us to focus our research question further by additionally capturing the
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41 types of doubt that one experiences.
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49 To help us further understand the impact of the experience of doubts, we also engaged in
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51 temporal bracketing (Langley, 1999: 703), focusing on episodes of lower than desired goal
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53 progress, which constituted "comparative units of analysis". This allowed us to explore, both
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3 within and across participants in our sample, the interpretation that participants gave themselves
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5 for any perceived progress gap and how they intended to address it. Given our longitudinal data,
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7 we could then also trace with what effect they followed up on any plans made. We observed that
8
9 while some participants tended to deemphasize any perceived progress challenges, others quickly
10
11 felt resigned and overwhelmed by them, while yet a third group did not dwell on them at all, and
12
13 was quick to reorient their attention towards ways how to improve. This observation helped us
14
15 distinguish the three doubt regulation mechanisms that we observed in our data, namely
16
17 *downplaying* doubt as unimportant, *normalizing* the emotional experience of it, or *embracing* it
18
19 and working towards ways of improvement. Iterating between our data and existing theory, we
20
21 also realized that what solidified these doubt regulation patterns was an underlying *attribution*
22
23 *process* (Weiner, 1985, 2010, 2018). We noted that depending on the attribution they would
24
25 make for their perceived lack of goal progress, individuals would experience different types of
26
27 doubt, which affected the extent of further goal progress they could make. Specifically, as these
28
29 attributions remained relatively stable within participants, their doubt regulation approach would
30
31 persist, which consistently influenced their goal progress. Building on the goal disengagement
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33 literature (Carver & Scheier, 1998; Brandstätter & Bernecker, 2022), we then realized that the
34
35 continued obstruction to one's goal progress for some entrepreneurs led to different forms of
36
37 (mental) disengagement from the goal as a way of reducing their commitment to it. This insight
38
39 helped inform our understanding of what we label as *orientations* to exerting further goal-
40
41 directed effort, namely *mastering*, *curtailing* and *yearning*, which we observe in our data.
42
43 Bringing these insights together allowed us to eventually construct our emerging *doubt*
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45 *regulation process* model. In it, we show how individuals' attribution of their perceived progress
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47 shortfall makes different types of doubt (self/idea or both) salient, and how depending on the
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way individuals regulate these doubts, this regulation response can influence the way and extent to which they could engage in idea validation activities (as a means to surface a proof of concept and thus better understand the value of their idea), as well as their overall commitment to their goal. Our doubt regulation process model is presented in Figure 1.

Please insert Figure 1 about here

Finally, we relied on an insider-outsider coding procedure (Gioia, Corley, & Hamilton, 2013), whereby the authors who were engaged in the data collection and/or the coding of the data, in their position of being an ‘insider’, discussed any emerging themes with the author who was not directly involved with this. This helped us refine and revise our emerging understanding of the data, as it stimulated critical questions about the core components of the process we observed.

FINDINGS

We organize our findings following the key trigger in our doubt regulation model, namely the perceived lack of desired goal progress, as it is a shared starting point for our participants. We then outline how individuals’ attributions of it would make different self/idea-related doubts/beliefs salient, and we discuss how the way they regulate such doubts would have a *generative* or a *corrosive* effect on the extent of progress they could achieve towards identifying the value of their business idea and on their *commitment to this goal* overall. We outline each of these paths below by first providing a brief description of their shared trigger.

Trigger: Perceived Lack of Desired Goal Progress

To capture participants’ reports of a perceived lack of desired goal progress, we coded instances where they would talk about a (notable) slow-down or setback. For example, one of our participants, whom we refer to as Aleks (P19), was working on creating an immersive tech

customer experience store. He faced setbacks in securing some financing for the store, and a rejection from a potential partner who would design the store's interior:

"We were really excited, and we were really thinking that he could be our investor. Well, he didn't want to go through since [...] he thought it was too early stage. As many people do. So that was really bad." (P19-W4)

"It was disappointing also for the interior designs ...in the previous week, we had a conversation with some interior designers [...]. Then on Monday evening, they were like: 'Oh, I'm sorry, we are too busy. We've no place for you anymore'. [...] So yeah, that was kind of a setback twice this week." (P19-W4)

Another participant, whom we refer to as Julie (P34), and her team, were working on a smart bracelet that would have features like communicating seamlessly with others (e.g., the police, parents) when they feel unsafe. As she was developing the prototype, she faced several technical issues and noticed that the process was taking longer than she had initially thought, which limited her perception of progress:

"It's not that I haven't worked on it, it's just more time-consuming than I thought it would be. So I definitely haven't properly finished the prototype." (P34-W4)

Similarly, an entrepreneur we call Nick (P24), was developing sleeping capsules for university campuses and realized that he underestimated the effort it would take to find a supplier:

"Finding suppliers is a little bit slow, especially with the time difference with China [...] finding a supplier can prove to be more tricky than what I had expected." (P24-W5)

Yearning Path

The entrepreneurs on this path attributed any perceived lack of desired goal progress to an inherent lack of personal ability (*internal and uncontrollable attribution*). This triggered self-doubts (*self-feasibility doubts*) and since they felt unable to address the lack of ability, the self-doubts recurred becoming *ruminative*. As such, they would consume their cognitive capacity, while preventing them from attending to idea-related doubts. In response, they would *seek external reassurance* and try to *accept their struggles* as a 'part of the game' (*normalizing*), which only brought temporary emotional relief. Yet, as their self-doubts persisted, they remained

unable to actively engage with their idea doubts, resulting in *limited understanding of the value of their idea (limited proof of concept over time)*. Gradually, as the goal of determining the value of their ideas felt increasingly unattainable (lack of perceived progress), they would begin to question its personal relevance and attractiveness (*self-desirability doubts*). This would lead to early disengagement, marked by passively *hoping for future progress* and *indulging in positive fantasies* about the goal (*yearning orientation*). We outline this cycle and its recurrence in the sections below.

Internal and uncontrollable attribution - ruminative self-doubts. This group of entrepreneurs tended to attribute their perceived lack of progress to an inherent lack of abilities (internal and uncontrollable). For instance, as Julie (P34) reflected on the difficulties that she had faced so far, she emphasized the role of following through and persisting with her goals as an entrepreneur. She then went on to suggest that she lacked this fundamental skill:

“I mean, you need to really be able to do what you set yourself to do, and that is not something that I necessarily am good at.” (P34-W1)

In a similar fashion, P8 attributed her inability to reach her audience to her lack of marketing skills:

"The main doubt is if I would be able to actually reach the people that are going to buy it. That's a real problem I have, because I suck at marketing." (P8-W2).

This attributional tendency remained relatively stable over the weeks. For example, later in her journey, when Julie experienced some problems in developing her Minimum Viable Product (MVP), she admitted to focusing on her personal shortcomings and being “very critical” of herself (P34-W4). Even though she shared that her team had worked hard on the MVP, she attributed the lack of progress to her personal lack of technical skills (seemingly something outside her control):

1
2
3 “But yeah, it takes me a long time and I'm technically not a technical founder [...] I enjoy doing
4 it, but it's still, I mean, I haven't studied graphic design or anything like that.” (P34- W4)
5

6 Unsurprisingly, the attribution to lack of abilities would lead these participants to question their
7
8 ability to successfully validate their idea, triggering *self-feasibility doubts*. Yet, as they would
9
10 feel unable to improve upon these personal shortcomings, such self-doubts would linger over
11
12 time and turn into *reflective*. For example, instead of seeing herself as capable of tackling the
13
14 problems she faced in developing the MVP, Julie questioned whether she was even “the person
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16 for that part”:
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20 “So I'm just thinking like: ‘Okay, am I actually the person for that part?’” (P34-W4)
21

22 Such doubts accumulated over time and eventually made her question whether she could become
23
24 an entrepreneur at all:
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26
27 “So then you're like, okay, can I actually do that? Can I actually be a CEO? Et cetera.” (P34-W8)
28

29 Another entrepreneur in this group, P27, had similar persistent self-doubts over the course of our
30
31 interview period. Early in the process, she started questioning her abilities to develop her idea
32
33 further:
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36 “Every time I'm more convinced that this can work. But then, I really think that I have to go and
37 do more. Just today I was thinking like: ‘Oh my God, this is like, it's too much information!’
38 Sometimes I cannot manage to do things, it is too many things to manage.” (P27-W2)
39

40 These self-doubts persisted over the weeks with increasing emotional intensity. For example,
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42 P27 shared:
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45 “It’s more about the size of the idea. It’s big, and sometimes it scares you a little, like:
46 ‘Can I really manage this?’” (P27-W4)
47

48 She even vividly described the visceral sensation that accompanied this doubt:
49

50 “...like some people say ‘flies in your belly,’ you feel like ‘I cannot do this’.” (P27-W4)
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52 As the above series of quotes from different participants shows, yearning entrepreneurs
53
54 demonstrated a tendency to attribute a perceived lack of goal progress to internal and
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uncontrollable causes. These attributions would trigger ruminative self-doubts, which would occupy the entrepreneurs’ attention for extended periods and leave them unable to attend to their idea doubts, thus blocking them from making progress towards their goal.

Normalizing doubt regulation response and limited surfacing of a proof of concept. To alleviate the discomfort of such ruminative self-doubts, these entrepreneurs adopted what we refer to as a *normalizing doubt* regulation response. Such a response captures entrepreneurs’ efforts to accept the difficulties they experience by viewing them as shared by other entrepreneurs, or as a standard part of the entrepreneurial journey, and to seek external reassurance from close others about the validity of their ideas and their ability to realize them. For example, in response to her self-doubts, Julie talked with her “acquaintances” about the difficulties she had been experiencing, which gave her an “ego boost”, and encouraged her by alleviating some of the discomfort caused by her ruminative self-doubts:

“I think that, again, usually when you get acquaintances saying that they think that your idea is good, et cetera, it’s always an ego boost.” (P34-W4)

P18, on the other hand, faced repeated setbacks in securing interviews with municipalities, who were their target customer group. In response to these setbacks, he reassured himself by accepting that it was okay that he struggled after seeing other entrepreneurs at the incubation program going through similar experiences:

"but I think it kind of reassured things when I went to the [incubator] and I saw it's okay, it's okay that you struggle." (P18-W4)

In Week 2, P27 similarly accepted her problems as a normal part of the process, hoping they would gradually resolve on the way, and that she would “just have to keep going with things” (P27-W2):

“The things are going to fix, little by little. You have to find and check problems on the way. Now my problem is just to find maybe funding or something like that. But yes, I live my life and you just have to keep going with things and then you will find a way to solve it.” (P27-W2)

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4 She also sought external reassurance from close others to help her cope with these struggles:
5

6 “I was really thinking if this could work, and if I am doubting a bit about the whole thing. But
7 then you talk with some people that know you, who are working in business. If they say: ‘You
8 can do this!’ or say some positive things about you, then you say ‘yes, I can make it,’ and you go
9 on.” (P27-W4)
10

11
12 Given these entrepreneurs’ inability to directly act on the causes of their struggles, the
13
14 ruminative self-doubts that ensued continued to interfere with their capacity to attend to and
15
16 engage with their idea doubts. Over time, they struggled to surface any proof of concept and had
17
18 limited understanding of the potential value of their ideas (lack of progress). We observed this as
19
20 entrepreneurs struggled to gain clarity about the building blocks of their ideas, and to define any
21
22 concrete action steps that could help them guide their validation process further. For instance, in
23
24 Week 4, when we asked Julie about her action plans for the following week, she told us that she
25
26 was not certain about her next steps, as they depended on different factors:
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28

29
30 “I can't really answer that because it depends on the prototype and our meeting with [my co-
31 founder]. [...] technically next week I was supposed to have done the video, for which the
32 prototype needs to be done. So yeah, it depends, to be honest.” (P34-W4)
33

34 This vagueness in action steps hindered her capacity to gain clarity about the prototype later on:
35

36
37 “Honestly, this week has been very slow, or just slow in general [...] So right now, I basically
38 didn't do anything last week relating to the prototype at least.” (P34-W7)
39

40 Similarly, in Week 3, P8 was feeling the need to clarify the details of the game she wanted to
41
42 produce and determine how to bring it to market, but spoke very vaguely when laying out her
43
44 action plans for the following week:
45

46
47 “I plan to make two plannings, like I said last week. I want to make a planning for the game, and
48 a global planning for my company.” (P8-W3)
49

50 The limited clarity with which P8 understood the building blocks of her idea hurt her ability to
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52 make further progress towards validating it:
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3 “I finished the planning for the game in no time. And then I was making my planning for the
4 business and then halfway through I had a bit of a breakdown because I had no idea what I was
5 doing.” (P8-W4)

6 Overall, these entrepreneurs were primarily preoccupied with their self-doubts and sought ways
7
8 of comforting themselves by normalizing their struggles. Such preoccupation with ruminative
9
10 self-doubts, and the emotional discomfort associated with them, continuously hindered their
11
12 capacity to engage with their ideas and to make progress towards identifying their value.
13

14
15 *Emerging self-desirability doubts and decreasing goal commitment, marked by a*
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17 *yearning orientation.* The doubt regulatory process described in the preceding sections repeated
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19 over time, given participants’ perceived inability to address the cause of the ruminative self-
20
21 doubts. The experience of self-doubt continued hijacking their attention and cognitive resources
22
23 away from the goal at hand, thus re-confronting them with limited progress. Eventually, this led
24
25 them to perceive the goal of illuminating the value of their ideas as increasingly unattainable. At
26
27 this point, participants began questioning the importance of this goal for themselves, thus
28
29 experiencing *self-desirability doubts*. As Julie shared towards the end of the programme, she
30
31 started even doubting how passionate she truly was about her goal:
32
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34
35
36 “I’m like, okay, am I actually really passionate?” (P34-W8)

37
38 The diminishing self-desirability of the goal, because of the perceived lack of goal progress, was
39
40 even more evident for P18, for whom the lack of a “concrete” understanding of their offering
41
42 made pursuing the goal no longer “exciting enough”:
43

44
45 “We’re motivated to make and do business and to work in the public sector, but it’s just not
46 exciting enough because we don’t have a concrete, yet tangible product and service we deliver
47 right now. [...] I guess for us, this is a bit of a wake-up call because of things not working well
48 [...]” (P18-W5)
49

50
51 Similarly, as we showed previously, not gaining clarity about what she was doing created a sort
52
53 of breakdown for P8, which led her to start having questions about whether becoming an
54
55 entrepreneur was even desirable at all:
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3 “And then I had a conversation with someone and they were like: ‘Well, why do you want to be
4 an entrepreneur?’ It’s like, I don’t want to be an entrepreneur, I just want to make games.” (P8-
5 W4)
6

7 Perceiving the goal of determining the value of their idea as less and less desirable over time, we
8
9 noted that these entrepreneurs would begin to gradually disengage from their goal, which
10
11 manifested in the development of a *yearning orientation* towards investing any further efforts
12
13 towards it. This resulted in passively hoping for future progress and in indulging in positive
14
15 fantasies about the goal itself. For example, towards the end of his journey, P18 had grown
16
17 discouraged by his lack of progress and clarity on the idea, which translated into passively
18
19 hoping for progress:
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21
22

23 “I still think in some way or another, I hope, we will continue [with the idea] maybe as a project,
24 or maybe as a project just to learn about the public sector and to learn about service delivery and
25 to give feedback to municipalities and to governments, to hopefully have some sort of
26 impact.” (P18-W5)
27
28

29 In the same week, he also started indulging in positive fantasies by imagining how his co-
30
31 founder would also feel more committed to the project:
32

33 “I thought maybe if we were a bit further along with some exciting meetings instead of all those
34 hard barriers all the time, I think there would be more motivation for her to still, in one way or
35 another, commit to the project.” (P18-W5)
36
37

38 In the following week, however, they actually disengaged from their goal pursuit:
39

40 “we decided it would be best to stop the project after tomorrow. And of course, due to
41 the difficulties in the team and the difficulties with the project itself and the difficulties in what
42 we all want.” (P18-W6).
43

44 Julie’s reflection below similarly offers an instance of indulging in thoughts about what could
45
46 have been, which, in this case, was having ‘more capable’ friends working on her idea:
47

48 “But I feel like if maybe I had friends who I believe have the capabilities to do so, and they were
49 doing that, I would absolutely believe in the idea. So, in that sense, maybe if I take the personal
50 out of the idea, then I definitely have a stronger belief factor in it.” (P34-W8)
51
52

53 This orientation then also brought about a personal detachment from the goal, which facilitated
54
55 her eventual disengagement from it:
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“I think that the less I work on it, the more detached I become of it. So in that sense, maybe I get more doubt if it's actually going to work, and if we should even proceed.” (P34-W8)

Mastering Path

Entrepreneurs on the mastering path attributed performance shortfalls to insufficient effort (*internal and controllable attribution*). By searching for causes internally, while maintaining a sense of control over their environment, they identified both personal shortcomings (*aspirational self-doubts*) and aspects of their idea that needed attention (*idea-related doubts*). As they felt capable to address the aspirational self-doubts, those doubts did not linger, leaving entrepreneurs enough cognitive capacity to *embrace* their idea doubts—by *following hunches, questioning their understanding and anticipating challenges*. This enabled them to *refine their understanding of the value of their idea (surfacing a proof of concept over time)*. Making such progress sustained their satisfaction and interest in the goal (*self-desirability beliefs*), reinforcing their commitment to it (*goal commitment*). Their continued engagement was sustained by their perceived *ability to overcome challenges* and their sense of *enjoyment from the learning process (mastery orientation)*.

Internal and controllable attribution – aspirational self-doubt and idea doubts. Just like the yearning cases, this group of entrepreneurs tended to attribute the causes of their perceived lack of progress to themselves. In contrast to them, however, they saw this as a result of not investing sufficient effort, which unlike ability, is under one’s immediate control. We consider this type of attribution *internal and controllable*. Aleks’ (P19) thought process following an unfavourable conversation with a potential investor illustrates this type of attribution. Following this setback, he experienced a strong feeling of responsibility and started ‘blaming’ himself. Yet, he still perceived this failure to be under his control and thought he just needed to “deal with it”:

1
2
3 “I kind of blamed myself because I am the one in charge of raising funding. [...] well
4 obviously it’s like a, like a small bump. I need to get up and go up again; go on again,
5 let’s deal with it.” (P19-W4)
6

7
8 Another founder, P25, perceived the setback he faced during the customer interviews as
9
10 something that he could overcome through “a lot of work” and “effort”:
11

12 “I found that this is the challenge that I have to overcome and continue. [...] I am still
13 doing the things that I know have to be done and it takes effort, it takes a lot of work.”
14 (P25-W4)
15

16 This attributional tendency remained relatively stable over the weeks. For example, Aleks
17
18 said “I keep on blaming myself” (P19-W5) when he was reflecting on the persisting lack of
19
20 progress on the funding front in a different week. Furthermore, he had the same attribution
21
22 tendency on other issues, such as his troubles in getting enough responses from potential
23
24 partners, which he thought needed “a lot of time and effort” (P19-W6).
25
26
27

28 In contrast to the yearning cases, however, the mastering entrepreneurs would not dwell
29
30 on such self-doubts. They would instead maintain an effort towards improving on them, which
31
32 would help them stretch their skills (*aspirational self-doubts*) in order to keep their focus on the
33
34 goal. For example, P20 observed early on that he always wanted to be in control of all aspects of
35
36 his business, and this was causing him to progress at a slower pace. He mentioned that he felt
37
38 physically and mentally exhausted from “controlling the details of how the product is created”
39
40 (P20-W1). Yet unlike the entrepreneurs on the yearning path, he did not consider his controlling
41
42 attitude as something he would be unable to change and suggested he was already working on it:
43
44
45

46 “I am very guilty of this, of being controlling of the details of how the product is created. I am
47 working on myself to be less control freak.” (P20-W1)
48

49 As a result, he could also take small proactive actions to address the perceived self-feasibility
50
51 doubt (such as delegating some accounting-related tasks), which eventually brought some relief:
52
53

54 “and now I feel a release because someone else is taking care of it” (P20-W5)
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Aleks, who “blamed himself” after a conversation with an investor, similarly quickly recovered from this failure experience by maintaining a belief that he could learn to be better at this task:

“I am just trying to work as hard as possible ...But on the other hand, I think everything can be learned and if you just work hard and have your goals for the future, very clearly in sight, then, it must be doable, right?” (P19-W4)

As we illustrate, this group of entrepreneurs held a sense of personal responsibility, which is indicated by their internal and controllable attributions. This helped them recognize the shortcomings in their abilities, which they felt they needed to improve on in order to better engage with their idea doubts, and they constructively acted to address them.

Embracing doubt regulation response and surfacing of some proof of concept. Having identified areas for improvement, as opposed to ruminating over an inherent lack of abilities, these entrepreneurs retained the cognitive capacity required to attend to any doubts pertaining to their ideas, and *embraced* them. As a result, they would engage in questioning their existing understanding of the various elements of their product-market beliefs, generating hunches in response to surprising events, and/or anticipating challenges through future-oriented thinking. For example, although he had been making good progress in negotiating contracts with producers, Aleks still engaged in questioning whether the producers would eventually “sign the contract”:

“We still need to validate how much do they really want to pay? They say everything is fine, that looks good or sounds good, but is that really true when they still need to sign the contract?” (P19 - W3)

P7, on the other hand, understood that figuring out the commercial value of his technology was key, and he identified a range of potential future challenges that he would need to tackle first. He focused initially on the value that a noise-cancelling solution would create to commercial projects:

1
2
3 “How do these commercial projects perceive the value added in terms of mitigating the noise
4 effects? How much financially are they willing to invest in order to support this problem? Or if
5 there's a solution already, how much is their spending capacity in order to realize that solution in
6 their buildings?” (P7-W2).
7

8 In helping him move forward, he also relied on different hunches that informed his
9
10 understanding of the idea over time:
11

12
13 “I thought it would be a much harder market, and it looks like if we can really do a good project
14 with them, it will help us build our credibility.” (P7-W11)
15

16 Having the capacity to embrace their idea-related doubts brought these entrepreneurs a
17
18 greater sense of clarity around the building blocks of their ideas and helped them identify *core*
19 *priorities*, which could inform their immediate steps (concrete action steps). Engaging in the
20
21 validation activities, informed by such action steps, helped them to regularly *surface some*
22
23 *interim proof of concept* (goal-directed progress). To illustrate, embracing his idea-related doubts
24
25 helped Aleks identify several core priorities to further develop the idea, namely ‘securing
26
27 partnerships’ with key producers for their store, the ‘design of the store’, and ‘having enough
28
29 funding’ to create the initial concept. Those then served to inform his immediate action steps.
30
31 For instance, when we asked about his activities in Week 5, Aleks shared with us that he
32
33 continued to talk with producers he had originally thought might decide not to collaborate with
34
35 him:
36
37

38
39 “We also talked with some more producers and we also got some validation over there. So, that
40
41 was really useful and we were exactly on the same page on how to, how to promote their
42
43 products.” (P19-W5)
44
45

46 He also solidified his team’s engagement with specific partners during the following week and
47
48 reported that his activities gave him some validation:
49

50
51 “What else went really well is that we managed to get in contact with a lot of producers
52
53 everywhere in the world. [...] So every time it gives some validation, but also we just need to
54
55 work very hard in order to achieve all goals.” (P19-W6)
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3 Similarly, P7, after meetings with various parties such as architects, described the state of his
4
5 idea development as “slowly narrowing [it] down”:

6
7
8 "I think we are slowly narrowing down exactly where it's going to add value" (P7-W7)
9

10 P25 also reflected on how his concrete focus on app development in his activities, which was
11
12 guided by his idea-related doubts, helped him in his efforts to determine the value of the idea:
13

14
15 "... the more I focus on the application (see the shape of it), the clearer things become, the more
16 confident I am, and then the process repeats, like a spiral." (P25-W5)
17

18 As they embraced their idea doubts, these entrepreneurs were able to gain clarity about the
19
20 building blocks and core assumptions of their ideas. This allowed them to identify concrete
21
22 actions steps, which guided their subsequent validation efforts and helped them surface some
23
24 proof of concept over time. This ensured a regular sense of progress and maintained their
25
26 commitment to the goal.
27

28
29 ***Self-desirability belief maintenance and goal commitment, marked by a mastering***
30
31 ***orientation.*** Perceiving a sense of progress after engaging in idea validation activities (and
32
33 surfacing some interim proof of concept) reinforced these entrepreneurs’ belief that continuing to
34
35 work on their ideas is interesting and important for them (self-desirability belief). For example,
36
37 Aleks emphasized that the idea became “more concrete, so not abstract, but just touch-able” and
38
39 “that's what motivates me still every day.” (P19-W5). The goal pursuit remained highly desirable
40
41 to him, as he shared with us that despite the challenges, he had faced up to Week 8, he still
42
43 thought it was the “coolest thing” he had ever done and re-affirmed his motivation to continue
44
45 working on the idea.
46
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48

49
50 Similarly, P20 told us that his current entrepreneurial pursuit was aligned with his
51
52 overarching goal for his life:
53

54
55 “Because I know that this is what I have to do. Because it feels like this is aligned with the end
56 goal that I have in mind for my life.” (P20-W9)
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4 Successfully engaging with their doubts helped these participants develop a *mastering*
5
6 *orientation* that sustained their commitment to the goal. This orientation entailed an enjoyment
7
8 from the learning process itself, as well as a belief in their abilities to tackle whatever obstacles
9
10 obstructed their way forward. A vivid illustration of this point comes from P20, who regularly
11
12 admitted that his journey would not be ‘an easy road’ but maintained confidence in his ability to
13
14 ‘figure it out’.
15
16

17
18 “And the other thing that I feel good about is that I know that I can figure it out. I know that it’s
19 going to be hard. I know that there is going to be ups and downs. But at the end I know that this is
20 something that I can figure out and make it work.” (P20-W6)
21

22 In his reflections about his time in the incubator, it became very clear that he believed such
23
24 challenges brought him an opportunity to learn, which he felt “quite positive about”:
25
26

27 “But I’ve learned so many things. [...] And yeah, it’s been, of course, not easy. Because growth is
28 most of the time painful. But yeah, I’m quite positive about it.” (P20-W10)
29

30 Aleks also expressed a willingness to continue working on his idea, despite the challenges he
31
32 would continue facing:
33
34

35 “[...] you get a lot of no’s and a lot of people that don’t really trust in you. But you should just
36 work hard and continue doing a good job. That’s my overall opinion on the journey.” (P19-W8)
37

38 As a result, the maintenance of their self-desirability beliefs and their emergent mastering
39
40 orientation sustained these entrepreneurs’ interest and efforts towards the goal.
41

42 **Curtailing Path**

43
44 Entrepreneurs on this path attributed performance shortfalls to *external, uncontrollable*
45
46 factors, which preserved their self-confidence (*self-feasibility beliefs*) and enabled them to attend
47
48 to idea doubts. However, their high confidence made the goal feel within reach, leading them to
49
50 exert lower effort and to adhere more rigidly to their existing approach. As such, they
51
52 *downplayed* idea doubts, by *minimizing their importance* and by *basking in previous successes*.
53
54

55 Over time, this lack of engagement with the idea doubts hindered their ability to gain a *more*
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refined understanding of the value of the idea (limited proof of concept over time) and to maintain progress. As a result, they began questioning the goal’s importance (*self-desirability doubts*), and started to gradually disengage from its pursuit by *conditioning effort on external factors* and *procrastinating action (curtailing orientation)*. This reinforced the cycle as it further hindered goal progress and sustained their disengagement.

External and uncontrollable attribution – self-confidence and idea-doubts. As outlined above, these entrepreneurs tended to attribute their perceived lack of goal progress primarily to external causes beyond their control. For example, when sharing his inability to get clarity around potential hygiene issues surrounding his sleeping pods, Nick (P24) attributed it to his dependency on others:

“A lot of that will depend on how others feel about this because I’m dependent on other people.” (P24-W3)

Another entrepreneur, P12, who was focused on creating awareness about societal issues through art, similarly blamed life circumstances as the cause of her perceived lack of progress in Week 2:

“There’s not much progress this week due to personal circumstances as well.” (P12-W3)

Having freed themselves from direct responsibility for the setbacks, entrepreneurs here faced limited doubts about their competencies to pursue their ideas. Instead of experiencing aspirational or ruminative self-doubts, they reported high levels of self-feasibility beliefs instead (which we interchangeably refer to as self-confidence). For instance, Nick told us in Week 4 that he was “practically ideal”. His self-confidence was persistent also over subsequent weeks:

“Because I’ve got very good people working on it. I’ve got an amazing person working on the app development, another really good guy working on the concept drawings, who draws incredibly well, and then I’m good at writing and I’m doing the writing part about scientific benefits [...]. So, I think we’re going to be able to deliver a file that’s quite good.” (P24 – W5)

Similarly, P12 told us that she and her co-founder are “confident” they can “do good competition” (W2).

1
2
3 “Because I know it's possible and I'm confident we could develop and do good competition
4 within the market that's already there for us.” (P12-W3)
5

6 These entrepreneurs' tendency to attribute setbacks to external causes helped them maintain their
7 beliefs in their abilities. Such external attributions and high confidence in their abilities, in turn,
8
9 formed the basis of their doubt regulation response.
10
11

12
13 ***Downplaying doubt regulation response and limited surfacing of a proof of concept.***
14

15 While such self-confidence would inhibit any opportunity for the kind of self-development that
16 the aspirational self-doubts promoted, not having any self-related doubts in their focal attention
17 gave these entrepreneurs sufficient cognitive resources to attend to their idea doubts. However,
18 unlike the mastering cases, the downplaying entrepreneurs would commonly opt not to engage
19 with these doubts. Having externalized the cause of their lack of goal progress and re-affirmed
20 their self-confidence, they would *downplay* their idea doubts by minimizing the importance of
21 any negative feedback and basking in past achievements. For example, in Week 4, Nick
22 generated a range of potentially inquiry-triggering idea doubts that could facilitate further goal
23 progress, but then he immediately minimized their importance by referring to them as “just these
24 little things” and reinforcing the belief that “everything is good”:
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38 “Well, it is a question of, will the students want to clean the capsules by themselves? How long
39 would it take to manufacture the mattresses? Will we have to order a prototype or will we be able
40 to immediately just order and then assemble and sell?” (P24-W4)
41
42

43 “So just these little things that need answering. But, the big lines, everything is good.” (P24-W4).
44

45 The same pattern recurred in later weeks, where Nick similarly generated a list of idea-related
46 questions only to then close them off by both externalizing the responsibility about addressing
47 them and downplaying the need to attend to them:
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50

51 “Are the prices that I made high enough to cover the costs but also low enough to be considered
52 competitive by the university? [...] Do I need to go to China? If I ordered them [nap pods], won't
53 they get lost while being shipped from China? [...]” (P24-W9)
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3 “I mean that’s kind of out of my hands. I am confident, I put some work in it, I know the
4 university is interested, so I don’t see a reason that it won’t work”. (P24-W9)
5

6 Similarly, P12, first expressed some concerns “that no company is going to want to sell our
7 products” (P12-W3). However, she immediately dismissed them by re-affirming her confidence
8 that they “can actually sell the thing”, and she felt they do not have “many obstacles”:
9
10

11
12
13 “So I think that now I feel very confident that we can actually sell the thing, sell or give a
14 percentage of our products to a larger company that can sell for us. [...] I don’t think we have
15 many obstacles.” (P12-W3)
16

17 The same participant also compensated for the lack of goal progress in Week 4 by basking in the
18 previous week’s achievements, suggesting how much she and her co-founder “have already done
19 in comparison to their peers”. Therefore, they thought that “not doing anything for two weeks”
20 was “okay” (P12-W4).
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26 Such downplaying responses, along with high self-confidence, led these entrepreneurs to
27 either exert less effort (as they would consider the goal still fairly attainable) or to hold on to
28 their original idea beliefs more rigidly. As a result, since they dismissed their idea doubts, they
29 would fail to gain additional clarity about the building blocks of their ideas and remain unlikely
30 to set, and follow through with, specific action steps that could help refine their understanding of
31 the value of their ideas (lack of goal progress). For example, Nick’s primary goal throughout
32 most of the incubation period remained at a fairly high level and was expressed as preparing “a
33 PDF that covers basically every single aspect” (P24-W3). Since he downplayed his idea doubts
34 as “little things”, he did not prioritize steps that could help him make further progress:
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47 “Preparing the documents and being able to offer a real clear idea of the product, how it's going to
48 look, have some concepts” (P24-W4).
49

50 This pattern continued over time. In Week 9, for example, despite raising a range of potentially
51 valuable questions that could support his validation activities, Nick downplayed them again, and
52 as a result, he did not pursue any further action steps:
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3 “I don’t have much work to do anymore from the idea itself, so right now I didn’t set myself any
4 specific path. I did not really choose any just because you know it’s more of a passive mode right
5 now.” (P24-W9)
6

7 “I need to wait for the answer, I need to wait for the return of the correct person [...] there’s no
8 specific real path that I have to follow.” (P24-W9)
9

10 This loss of momentum in surfacing some proof of concept was similarly visible for P12, who,
11 already in Week 4, shared she could not commit to specific action steps due to missing her
12 previous progress commitments:
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15
16
17 “But we’ll see. I’m not going to say I’m going to do it for sure because that’s what I said last
18 time, last month, and then last week and it didn’t really happen.” (P12-W4).
19

20 Eventually, she realized that they (she and her venture’s co-founder) had not done enough work
21 on clarifying the “business aspect” of their ideas. As such, they themselves did not know how to
22 “phrase” their proposition, which solidified her lack of clarity on how to proceed:
23

24
25
26 “So how do we show the business aspect of our idea? There is a business aspect. We just don’t
27 know yet how to phrase it and how to sell it.” (P12-W6)
28

29
30 Overall, even though they could attend to their idea doubts, these entrepreneurs failed to engage
31 with them and to validate their ideas further as they chose to ignore or dismiss them instead
32 (downplaying). As a result, they were not able to gain sufficient clarity about their ideas and to
33 set clear action steps, which could guide their next idea validation activities and bring some
34 progress towards refining their understanding of the value of their ideas. Next, we show how
35 stalling their progress led to the emergence of self-desirability doubts and decreased goal
36 commitment overall.
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47 ***Emerging self-desirability doubts and decreasing goal commitment, marked by a***
48 ***curtailing orientation.*** Not having made clear progress in terms of surfacing some proof of
49 concept and increasingly feeling dependent on external parties and events, these entrepreneurs
50 began perceiving the goal of validating their ideas as unattainable. They would accommodate
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3 this perception by questioning the desirability of the goal for themselves (*self-desirability*
4
5 *doubts*), a pattern that we have observed also in the yearning cases (albeit as a result of perceived
6
7 lack of abilities instead). For example, towards the end of our interview period, not having made
8
9 progress in surfacing some proof of concept for his sleeping pods idea, Nick thought that it was
10
11 going to be increasingly difficult to continue and questioned how desirable it was for him to
12
13 proceed with it:
14
15

16
17 “So, I mean they are the most suitable person [the university], the party for a first customer. Well,
18 I guess it will be hard and then it's summer and then will I be motivated to go on with the
19 idea once that academic year starts again?” (P24-W8)
20

21 P12 also realized that the experience of working towards the goal was becoming increasingly
22
23 unsatisfying for her:
24
25

26 “It takes away so much energy from me that I just don't have time to spend on something else and
27 that is not that nice at the moment.” (P12-W7)
28

29 Perceiving the goal of determining the value of their idea as less and less desirable over time due
30
31 to external constraints, these entrepreneurs would slowly disengage from idea validation
32
33 activities. Contrary to the yearning cases, however, this disengagement was underpinned by a
34
35 *curtailing* orientation, which entailed conditioning the investment of further efforts on specific
36
37 external factors and procrastinating on further goal-directed action. For example, conditioning
38
39 his further efforts on obtaining a positive response from the university, Nick admitted that he did
40
41 not feel the need to take further actions at that point:
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43
44

45 “... once I get a customer that signs something and I get to register the company, then the real
46 journey as an entrepreneur will start because then I will have a duty to perform” (P24-W8)
47
48

49 P22, on the other hand, tried to excuse his lack of progress in terms of idea validation activities
50
51 by saying that he just didn't take doing market research very seriously that week:
52
53

54 “That's one thing I would say didn't go well. I was thinking, but I was not really 100% serious on
55 it.” (P22-W6)
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3 Similarly, towards the end of her journey, P12 became aware of her own procrastinating
4 tendencies and told us she was taking a “very passive” approach, acknowledging that she was too
5 “laid-back” and that there were things that she “could have done”. She then explicitly referred to
6 these issues as “commitment problems”:
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8
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12 “The last thing I think of is the start up at this point in time, you know? [...] The problems that I
13 see are commitment problems for both sides [her cofounder and her].” (P12-W7)
14
15

16 For her, this disengagement went beyond adopting a passive approach, or procrastinating, and
17 manifested as an explicit decision to stop working on her idea at least in the short-term:
18
19

20 “But for now, it's like next year. So we're not really talking about it in detail.” (P12-W7)
21
22

23 Overall, because of their emerging self-desirability doubts and the resulting curtailing orientation
24 to investing further efforts, these entrepreneurs gradually began disengaging from their pursuit,
25 by limiting or dropping any further validation activities altogether.
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29 **Positive Goal Progress and Further Goal-Directed Activity**

30

31 We also observed an interesting dynamic that accompanied participants’ positive goal
32 progress responses, which are not focal to our analysis but still complement it as *supporting*
33 events. Even though positive progress rarely triggers the need to search for a causal attribution
34 (Weiner, 1985) – and we did not observe it in our data – we did identify a relevant pattern of
35 different responses to such positive events. In particular, for individuals who regulated their
36 doubts by *normalizing* them, encountering instances of positive goal progress served as much
37 needed reprieve from the emotional impact of their self-doubts. As such, it comforted
38 participants but did not trigger any goal-directed activity towards the idea. Instead, P27 took her
39 progress as evidence of her ability to finally gain clarity of her business proposition as whole:
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52 “I'm very glad with what I did. I'm very, very glad with what I did this week. Normally I feel like,
53 ‘Oh my God, I never finish the full idea’ [...]. But now, I was like ... Yesterday I was really
54 happy and said, ‘Yes, it's all there.’ So it's more or less what I want. (P27-W6)
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On the other hand, for individuals who regulated their doubts by *downplaying* their significance, positive goal progress further solidified their sense of how well they were doing. For P6, for instance, such progress served to reinforce his belief in his value proposition:

“Definitely. Yeah, definitely. I don't know if it's blind optimism, but I just think with people reacting to it so positively this way, I really think I should just get the content as soon as possible, as good as possible out there, and start growing with YouTube and with my website, and then I'm on.” (P6 – W4)

A very different pattern characterized those who *embraced* their idea doubts, however, as positive goal progress served to maintain their engagement with their idea doubts. Instead of just celebrating the ‘wins’, they quickly shifted their attention to any other core aspects of their idea that they perceived still required validation. For example, even though he experienced some success with securing partnerships for his experience store, P19 immediately shifted his attention to funding, prioritizing it as the area that needs attention next:

“It's just that once you get to a platform and you think you've made some progress, you realize, ah, this and this still needs to happen. And then there's always a lot more” (P9 - W10)

This helped maintain momentum towards the goal, as well as their ability to keep a keen eye on any core priorities that they still need to address as they strived to identify the value of their idea.

DISCUSSION

Our focus in this paper has been on understanding the types of doubt that entrepreneurs may experience when seeking to identify the value of their ideas, and how the way they regulate such doubts may affect their ability to make progress towards this goal and remain committed to it over time. We distinguish between *idea*-related doubts (Zellweger & Zenger, 2023), understood as the feasibility and desirability of one’s idea from a technical and a market perspective, and *self*-related doubts, linked to questioning one’s own capacity, knowledge or skills to achieve the goal (self-feasibility doubt) or questioning the goal’s personal attractiveness (self-desirability doubt) (McMullen & Shepherd, 2006). We also engage with two divergent

streams of research on doubt, which consider it either as *corrosive* (McMullen & Shepherd, 2006) or as *generative* (Locke et al., 2008) and strive to integrate and complement their insights in developing our doubt regulation process model of early-stage idea validation. We conceive of idea validation as the process by which entrepreneurs surface a proof of concept, namely its market desirability, technical feasibility and financial viability, which contributes towards the goal of identifying the potential value of their ideas (a goal, whose full achievement certainly extends beyond the timespan of our study). To make sense of the emerging findings from our data, and to develop our process model, we have drawn on research within attribution (Weiner, 1985, 2018), self-regulation (Carver & Scheier, 1998) and goal-striving (Brandstätter & Bernecker, 2022) literatures. We adopt the notion from self-regulation research that individuals' goal-directed behavior is driven by feedback loops, which signal their rate of progress towards a desired goal, and consider that perceived lack of desired goal progress triggers doubt, where doubt and confidence are understood as two opposites on a continuum (Carver & Scheier, 2017).

Resurfacing of *Self-Feasibility* and *Self-Desirability* Doubts During One's Idea Validation

The first contribution that our work offers to existing research on doubt during entrepreneurial action, is that we empirically demonstrate that doubts directed at one's self do resurface well after the initial action towards the validation of the entrepreneurial idea has commenced⁴. With reference to self-feasibility doubts (i.e., ability), we observed that while for some entrepreneurs (the *normalizing* cases), such self-doubt had a *corrosive* effect on their goal progress and commitment, for others it helped stretch their existing skills (the *embracing* cases) and helped maintain their engagement with the goal. Building on attribution theory, we observed

⁴ This is also in line with Wood and McKelvie's (2015: 267) conjecture that the opportunity evaluation stage, during which one decides whether an idea is personally feasible and desirable, is most likely "a process that unfolds over time", and is "very probably iterative", as opposed to a purely mentally simulated assessment prior to any action.

that, in the first case, when an individual attributes their lagging goal progress to a lack of ability (considered as an internal, stable and uncontrollable cause, which they feel unable to resolve) (Weiner, 1985), it triggers *self-(feasibility) doubts* (normalizing cases). Those doubts are expressed as “negative thoughts about oneself, one’s competence, or one’s ability to cope with challenging or threatening demands” (Schwarzer, 1996: 106). Once triggered, and if left unregulated, self-feasibility doubts during goal striving become “maladaptive in attaining goals” (Schwarzer, 1996:107), as they “focus attention on the self, undermining any easy engagement with a task at hand” (Braslow, Guerrettaz, Arkin, & Oleson, 2012: 473). As our *normalizing* cases felt unable to resolve their self-doubts (lack of ability), the doubts transformed into *ruminative*, which consistently hijacked their attention from their idea doubts and hurt their goal progress.

If an attribution is made to insufficient *effort*, on the other hand, as in our *embracing* cases, this “internal, unstable, and controllable cause” leads to “the maintenance of expectancy”, and a motivation for the individual to try “harder in the future” (Weiner, 2010: 33). As those individuals felt empowered to improve on any shortcomings they identified (related to the self and to the idea), they transformed the self-doubt into *aspirational*, which helped maintain their goal progress (as the self-doubt no longer took attention away from the task at hand). This lesser-known role of self-doubt is captured in social cognitive theory, where Bandura (1997) shows that “some self-doubt about one’s efficacy” serves as an incentive to “acquire the knowledge and skills needed to function successfully” (Bandura, 1997: 76). Finally, attributions to external causes such as task difficulty (stable, and controllable (by others)) as with our *downplaying* cases, (Weiner, 1985), led to lower expectancy that the present (negative) outcome is likely to be maintained in the future and thus protected individuals’ self-confidence. Therefore, our research

shows that self-feasibility doubts do resurface during entrepreneurial action and influence one's ability to engage with idea doubts. This in turn affects the extent to which they can surface some proof of concept and thus refine their understanding of the value of their ideas, or not.

Secondly, we have also shown the limits to one's motivation to pursue the goal by observing the resurfacing of *self-desirability doubts*. This is important, as most existing work in this area treats entrepreneurs' motivation to engage in various validation activities (c.f., Camuffo et al., 2020; Ries, 2011), and 'wrestle' with (Zellweger & Zenger, 2023) or 'engage' with (Locke et al., 2008; Shepherd, 2015) their idea doubts as a given. This issue has also recently been captured in Combs, Gruber, and Zahra's (2024: 3117) critique of the "mechanistic view" that presently describes many of our accounts of entrepreneurial action (i.e., "If you fail, then you pivot!"), as they do not consider the "paralyzing emotional and behavioral consequences" that failing (also as perceived by the individual) may have on their motivation to continue (see also Grimes, 2018). By interrogating this assumption, we have shown that as individuals strive to identify the value of their idea and evaluate their progress towards this goal (Carver & Scheier, 2017), the extent to which they can attend to their idea doubts differs. While some could embrace their idea doubts and continue to make progress towards the goal (embracing cases), others could not (normalizing cases) or chose not to attend to them (downplaying cases). As the normalizing and downplaying cases could not make progress, this triggered self-desirability doubts and affected their commitment to the goal overall, leading to eventual disengagement. These insights are in line with recent work in goal-striving theory, which shows that "while initial goal choice (and the subsequent initial goal–performance discrepancy) generally motivates effort and persistence", individuals "may choose to withdraw this effort upon gathering performance feedback" as it could lead them to "expect to not meet" its demands "in the future either"

(Eberly, Liu, Mitchell, & Lee, 2012: 35). Similarly, other scholars within the goal-striving field have emphasized that self-related doubts should no longer be considered “atypical” (Ghassemi et al., 2020: 2; Gollwitzer, 2012) during goal pursuit, as they can be “a normal part of goal striving when setbacks or obstacles are encountered” (Ghassemi et al., 2020: 10; see also Brandstätter, Hermann & Schüler, 2013).

Integrating The Generative and Corrosive Perspectives on Doubt

While Locke and colleagues (2008) have offered us a rich theoretical account of doubt’s generative potential, and the practices through which we can make doubt generative, what explains *why*, and *how* individuals may successfully *engage* with their idea doubts, as opposed to ignore them or turn them into self-doubts, has remained outside the scope of their work. Our emerging *process model of doubt regulation during early-stage idea validation* contributes to addressing this question by highlighting the conditions under which and the mechanisms through which doubt may play a corrosive or a generative role for one’s ability to identify the value of their idea and remain committed to this goal (Weiner, 1985; Carver & Scheier, 1998). As outlined in the previous section, we observed that individuals made different attributions for their perceived lack of goal progress. Even though the same individual could make different types of attributions across different settings (in terms of their locus/controllability), we noted that participants exhibited fairly consistent attributional tendencies throughout the incubation period⁵. As such attributions tend to influence one’s “future success expectations” (Eberly et al., 2012: 39), we saw that they also had a direct impact on individuals’ ability to make goal progress. As prior work has shown, individuals with internal uncontrollable attributions expect the cause (lack of ability) “to remain the same in the future”, and thus “the outcome (i.e., failure to reach their

⁵ A similar tendency is observed by Feldman and Kahn (2019) while studying protegee’s ‘prevailing coping approach’.

goal) to recur” (Eberly et al., 2012: 39). As a result, these individuals end up “reducing effort while remaining committed to a goal”, and they get “stuck in the bind of not trying, yet being unable to turn away psychologically” (Wrosch, Scheier, Carver, & Schulz, 2003: 4-5). We noted this pattern amongst our entrepreneurs with a *yearning orientation*. Even though they initially maintained their desire for the goal, their perceived inability to invest efforts towards it, led them to exhibit signs of gradual mental disengagement (as a way to decrease their commitment). As this pattern recurred, it precluded them from any generative engagement with their idea doubts. Individuals who attributed externally, on the other hand, were similarly unable to make progress, largely as they felt dependent on external input and/or dismissed any relevant feedback. As this recurred, they found this experience dissatisfying over time and started rationing their efforts, referred also in existing literature as “scaling back the goal (giving up in a small way)” (Carver & Scheier, 1998: 190). This similarly led them to disengage as just “spending an extended time with no behavioral effort toward a given goal would yield a continuing loss of commitment to it.” (Carver & Scheier, 1998: 203). We observed this amongst entrepreneurs with a *curtailing orientation* who similarly failed to engage with their idea doubts. Finally, for those who “believe that causes for failure are controllable”, existing research shows that “they will probably continue or renew their effort and commitment to their original goals” (Eberly et al., 2012: 39). These entrepreneurs were characterized by a *mastering orientation* and remained engaged with the goal because they were drawn to the continued experience of overcoming challenges along the path to it, which maintained both their interest and commitment (Bandura, 1997). Our work therefore offers some initial evidence that depending on how individuals perceive and attribute their goal progress, they will experience different focal doubts. The way they would regulate these doubts would then play a role in the extent to which they can refine their understanding of

the value of their ideas and maintain their “eagerness to engage” with their goal (Locke et al., 2008: 911), or become subject to goal disengagement forces instead.

Future Research and Limitations

When focusing on the idea validation process, and how entrepreneurs need to deal with idea-related doubts, Zellweger and Zenger (2023) have theorized several classic decision-making biases that an entrepreneur may fall prey to, including but not limited to the endogeneity of one’s initial beliefs about the opportunity, and the likelihood of committing Type I and Type II errors in responding to incoming feedback. Questioning one’s beliefs and nurturing hunches, as well as simulating future challenges, are amongst some of the existing reasoning tools that prior work has identified as ways to *embrace* doubts (Locke et al., 2008) and reduce one’s likely reliance on biasing heuristics. Yet, further longitudinal research is needed as we are presently not able to demonstrate whether participants who *embraced* their idea doubts (thus benefitting from triggering generative inquires and refining their understanding of the value of their ideas), might still not fall prey to some of the classic biases as they continue pursuing their ideas in the long term. Engaging with the literature on effective reasoning strategies under uncertainty (c.f., Felin & Zenger, 2009; Foss & Klein, 2012; Grandori, 2010; Hintikka, 2007), might offer further insight into how to support one’s doubt regulation process as it unfolds over time. As Grimes (2018) has also pointed out, there could be other challenges to entrepreneurs’ abilities to develop their entrepreneurial ideas over time. In particular, he shows that the process of “psychological ownership reappraisal” can play an important role in “constraining” or “enabling” the extent of idea work individuals may be willing to make in response to validation activities (p.1714). As greater idea work may lead to a revision that deviates too far from one’s initial idea, it could actually hurt entrepreneurs’ commitment to their ideas. We can then speculate whether this ‘market-approved’ representation of one’s idea would hold enough personal desirability to

warrant further efforts into pursuing it, or it might, at least for some, contribute to disengagement and a reorientation to other pursuits.

Our findings also have implications for our understanding of strategy formation in entrepreneurial settings. For example, our study may offer helpful directions for the emerging stream of work that looks at the pre-entry period, in which entrepreneurs “are much more likely to abandon their ideas and return to traditional employment as a result of their struggles” (Dumont, 2024: 337). As Bennet and Chatterji have shown, prospective entrepreneurs may stop pursuing their ideas because they “might not know the next activity to undertake in the pre-entry period” (2023:96), which leads to a ‘perceived difficulty with execution’. We believe that failing to engage with one’s idea doubts (as with our *yearning* and *curtailing* cases) can explain such an inability to execute, as entrepreneurs remain unable to identify concrete action steps (due to continued lack of clarity about the idea). Our findings might therefore inform future intervention-based research designs in the pre-entry learning period by exploring how entrepreneur’s doubt regulation approach might be influenced to prevent premature decisions to stop pursuing an idea.

The importance of being able to develop one’s understanding of the core building blocks of an idea, and to work towards updating one’s knowledge of them, has also been expressed in the work by Shepherd and colleagues (2007) who defined it as ‘gist’ formation and updating. Similarly to our *embracing* doubt regulation process, the theorized process of gist updating entails that even if certain successes are experienced in validating one aspect of the business idea, entrepreneurs should be able to quickly shift focus and turn their attention to other (unresolved) aspects of it (Shepherd et al., 2007). Interestingly, however, we observe that not all entrepreneurs are able to benefit from such a generative ‘gist’ updating process. While our embracing doubt cases respond to *positive* goal progress by immediately shifting efforts to other

aspects of their ideas that need attention, the ones who normalize or downplay doubt simply treated it as reinforcing their existing beliefs, which is in line with the notion that success “breeds complacency more quickly than failure spurs action” (Greve, 1999: 606).

A further consideration for future research also rests with founders’ prior background and levels of experience with entrepreneurship. Such individual differences are well-documented and expected to play an important role in the evaluation of an opportunity’s personal attractiveness (see here Shepherd et al., 2007, as well as Wood et al., 2014 on the influence of ‘individuation processes’). We can speculate that differences in prior background and experience can influence individuals’ perceptions of what constitutes ‘insufficient’ goal progress in response to their validation efforts. The existing literature suggests that some of these differences can be attributed to individuals’ “own usual progress rate”, which includes whether “the current progress rate” is “higher or lower than usual” and “higher or lower than that of others” (Ghassemi et al., 2020: 10). It can therefore be interesting to understand how these intra- and interindividual comparisons play out, and whether their timing plays a relevant role in the doubt regulation process as well. While we did not observe any immediate differences in what constitutes a trigger for goal progress reflections in our sample, this might be because our sample is mostly composed of novice entrepreneurs (with few of them having any prior entrepreneurial experience) or because the triggers may be an artefact of the milestones set by the incubator. Future research can address whether individuals consider similar types of setbacks as equally triggering and what factors determine their actions on these triggers. As research within the generative perspective on doubt has argued, it is the experience of surprise that triggers doubt and then it “matters *how* participants respond to surprise: their response can ignite discovery and potential re-orientation of prevailing habits, or not.” (Golden-Biddle, 2020: 1971). Thus, an

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3 additional lens that can help better understand the potential differences in what makes a progress
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5 shortfall a trigger, could also be the emotions that accompany such experiences. As Golden-
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7 Biddle has argued, discovery itself is “infused with feelings of discomfort, enthusiasm, passion,
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9 irritation, and joy throughout the process” and future research could explore “the expression and
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11 experience of these and other emotions in surprise, doubt, and inquiry” (2020:1972).
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15 Finally, while we can presently speculate about the origins of individuals’ attributions in
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17 our data, existing theory tells us that they may be influenced by individuals’ perceived self-
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19 efficacy. Self-efficacy beliefs are expected to “influence the perceived causes of successes and
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21 failures”, such that “those who regard themselves as highly efficacious tend to ascribe their
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23 failures to insufficient effort or situational impediments, whereas those with a low sense of
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25 efficacy view the cause of their failures as stemming from lack of ability” (Bandura, 1997: 124).
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27 Notably, both individuals who attribute their progress shortfall to “situational impediments” or
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29 “insufficient efforts” exhibit a sense of high self-efficacy (Bandura, 1997: 124). However, self-
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31 efficacy can sometimes act as “too much of a good thing” (Gielnik, Bledow, & Stark, 2020:
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33 488). At higher levels, it can lead to “reduced subsequent performance” if individuals infer that
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35 “continued success could be achieved easily” (Beck & Schmidt, 2012: 196), which occurs more
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37 commonly when the “immediate” assessment of one’s performance is “unknown” or
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39 “ambiguous” (Vancouver et al., 2001: 607). In such cases high levels of self-efficacy may cause
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41 one to have “higher inferred levels of performance” (Vancouver et al., 2001: 607), which
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43 “reduces the apparent shortfall that is driving behavior, and so decreases behavior” (Powers,
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45 1991:152). Therefore, we could argue that participants who *downplayed* idea-related doubts in
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47 our study were likely characterized by greater levels of self-efficacy, as a result of which they
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49 perceived a lesser need to act on the progress shortfall and close the performance gap. On the
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other hand, participants who embraced their idea doubts, kept their feet on the ground as they continuously learned more about their ideas (expressed in a *mastering orientation*), which prevented them from getting complacent with their goal progress. These differences can have important implications for the design of effective interventions aimed at supporting entrepreneurs in their early-stage efforts. In line with such type of approach, recent work by Chen, Elfenbein, Posen, and Wang (2024) has argued in favour of developing a ‘program of experimentation’, which can be tailored to the decision-making characteristics of different entrepreneurs.

Zooming into education and clinical psychology, we could also see benefits from interventions oriented at building entrepreneurial self-efficacy by supporting effort-based attributions for one’s outcomes (c.f., Perry, Hechter, Menec, & Weinberg, 1993; Wichman & Hermann, 2010). Future research addressing ways to foster growth mindsets may also be at play here, as people with a growth mindset (as opposed to a fixed one) have been shown to make effort-based attributions of failure (Dweck & Yeager, 2019) and to “perceive effort as being more positive, because it helps them grow their abilities”, thus framing “difficulties and invested resources in a more positive light in terms of aiding persistence” (Brandstätter & Bernecker, 2022: 288).

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Table 1. Overview of Participant Characteristics and Approaches

Partici- pant	Gender	Age	Number of Interviews	Prior Educational Background	Founder Expertise	Domain of business idea	Time Spent on Idea prior to Incubation	Prior Engagement with ENT	Causal Attribution	Doubt Reg	Orientation to further validation efforts
1	Male	30	8	Aviation	Generalist	Art & Crafts	3-4 months	No	Ext/UnC	Down	Curtailing
2*	Female	22	4	Industrial Design	Generalist	Medical	6-9 months	No	n/a	n/a	n/a
3	Male	31	8	Psychology	Generalist	Film	1 year	No	Int/C	Emb	Mastering
4*	Male	23	4	Management	Generalist	Art & Crafts	4 months	Yes, within the family business	n/a	n/a	n/a
5	Female	25	8	Marketing	Specialist	Sustainability	2 months	No	Int/C	Emb	Mastering
6	Male	28	7	Logistics	Generalist	Entertainment	None	No	Ext/UnC	Down	Curtailing
7	Male	28	11	Engineering	Specialist	Architectural Design	8 months	Yes, tried starting another company	Int/C	Emb	Mastering
8	Female	22	6	Animation	Specialist	Education/ Entertainment	10 months	No	Int/UnC	Norm	Yearning
9	Male	24	7	Finance	Generalist	Industrial Design	9 months	Yes, built ideas for different competitions	Int/C	Emb	Mastering
10*	Male		4	Management	Specialist	Retail	1 month	No	n/a	n/a	n/a
11	Female	25	9	Art	Generalist	Sustainability and Design	10 months	Yes, enjoys inventing things	Int/C	Emb	Mastering
12	Female	21	10	Politics	Generalist	Art & Design	3-4 months	No	Ext/UnC	Down	Curtailing
13	Male	41	9	Law	Generalist	AI	10-12 months	Yes, started two other businesses before	Int/C	Emb	Mastering
14	Female	24	8	IT	Specialist	IT & Fashion	7-8 months	Yes, started a company before	Ext/UnC	Down	Curtailing

15	Male	23	8	Graphic Design	Generalist/ Specialist	Industrial Design	6 months	Yes, enjoys creating things	Int/C	Emb	Mastering
16*	Female	27	4	Ecology	Specialist	Agriculture	3-4 months	No	n/a	n/a	n/a
17	Female	25	10	Graphic Design	Generalist	HR & IT	8-9 months	No	Int/UnC	Norm	Yearning
18	Male	24	7	Public Admin	Generalist	Digital transformation	10 months	No	Int/UnC	Norm	Yearning
19	Male	24	11	Econometrics	Generalist	Tech & Entertainment	7 months	No	Int/C	Emb	Mastering
20	Male	32	12	Electrical Engineering	Specialist	Tech & Education	1-2 years	Yes, tried to set up three companies before	Int/C	Emb	Mastering
21	Male	35	11	Marketing	Specialist	Marketing	12-15 months	No	Int/C	Emb	Mastering
22	Male	32	11	Supply Chain	Generalist	Entertainment	10-12 months	No	Ext/UnC	Down	Curtailing
23	Female		9	Entrepreneur ship	Generalist	Entertainment & Tech	7-8 months	Yes, worked for other start-ups	Int/UnC	Norm	Yearning
24	Male	23	10	Sustainability Entrepreneur ship	Generalist	Industrial Design	10-12 months	Yes, tried setting up a business before	Ext/UnC	Down	Curtailing
25	Male	24	10	Economics; Engineering	Generalist	IT/Tech	6 months	Yes	Int/C	Emb	Mastering
26 *	Male	30	8	Architectural Engineering	Specialist/ Generalist	Industrial Design	> 2 years	Yes, started the company 4 years ago	n/a	n/a	n/a
27	Female	28	7	Sustainability	Generalist	Tech & Sustainability	10 months	Yes, ran her own office	Int/UnC	Norm	Yearning
28	Male	28	8	Business/ Management	Generalist	Entertainment & Sustainability	1- 2 years	Yes, set up two other companies over the span of 6 years	Int/C	Emb	Mastering
29	Male	29	14	Software Engineering	Generalist/ Specialist	Tech	3-4 months	Yes, tried setting up a	Ext/UnC	Down	Curtailing

								business before			
30	Female	37	14	Business/ Management	Generalist /Specialist	Agriculture	10 months	Yes, followed other incubation programmes	Int/C	Emb	Mastering
31	Female	21	12	Computer Science	Specialist	Blockchain & Agriculture	6 months	Yes, tried working on another idea	Ext/UnC	Down	Curtailing
32	Female	22	13	Communicati ons & Media	Generalist	Sustainability & Tech	6 months	No	Int/UnC	Norm	Yearning
33	Female	21	11	Communicati ons & Media	Generalist	Marketing	<1 year, on and offs 2 years prior	Yes, small ENT jobs	Ext/UnC	Down	Curtailing
34	Female	21	12	Liberal Arts & Management	Generalist	Tech	7-8 months	No	Int/UnC	Norm	Yearning
35*	Male	> 25	3	Engineering	Generalist	Healthcare	1 year	Yes	n/a	n/a	n/a

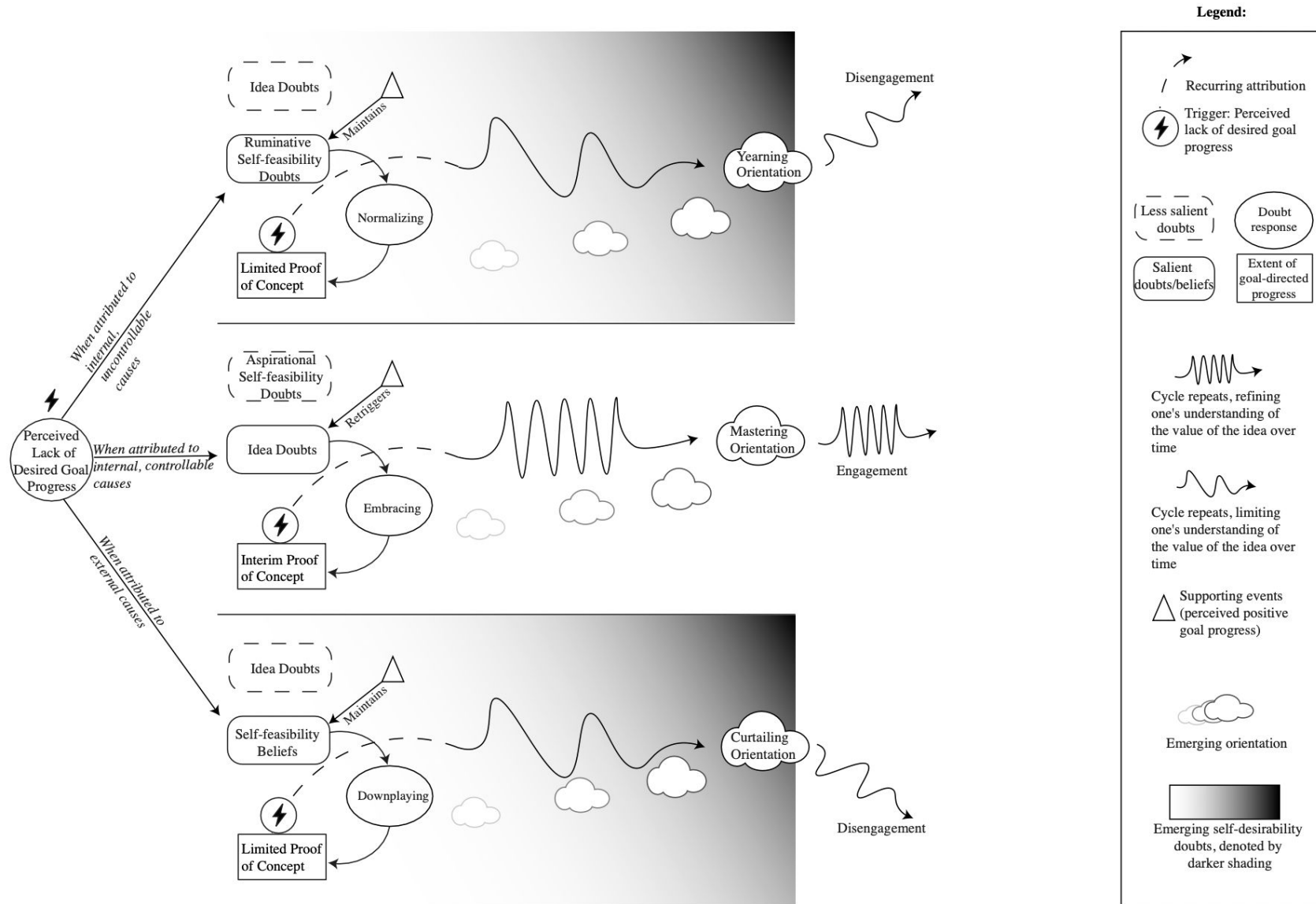
Legend: *Attribution:* Int/C – internal and controllable; Ext/UnC – external and uncontrollable (by the individual); Int/UnC – internal and uncontrollable; *Doubt Regulation Mechanism:* Emb – Embracing; Down – Downplaying; Norm – Normalizing;

- Unless specifically stated, a ‘Yes’ in response to *Prior Engagement with ENT* does not entail having a running company (at present) or a successful previous exit.
- When addressing the *Founder Expertise*, we refer to whether or not their prior background is related (specialist) or not related (generalist) to the domain of their present business idea.
- * Indicates that the participant is excluded from the primary data analysis

Table 2. Data Inventory

Data Type	Amount	Role in Analysis
Interview Data		
Interviews with 35 entrepreneurs	308 interviews, equal to approx. 134 h of recorded audio	To make sense of entrepreneurs’ weekly experiences and how they reflect on them
Archival Data		
Presentations and various workshop training materials	979 slides 844 pages	To familiarize ourselves with the content, to which the entrepreneurs were exposed
Various interim participants’ deliverables	57 weekly progress storyboard photos; 15 cohort reflection journey storyboard photos; 28 pages of participants’ profiling	To understand how incubator participants discussed their interim progress during cohort meetings
BMC and related tools for idea development	83 BMC/related tools/canvases	To note individual participants’ progress and track active involvement with the incubator
Press articles	Monthly blogs and updates	To attend to notable participants’ successes, such as competitions won, etc.
Participant Observation Data		
Memos/sketch notes	116 pages	To understand any ‘behind the scenes’ dynamics; to clearly map all relevant action moments and how key stakeholders are engaged; to clarify any questions for the researchers

Figure 1. A Process Model of Doubt Regulation During Entrepreneurial Idea Validation



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Magdalena Cholakova (cholakova@rsm.nl) is an associate professor of strategy and entrepreneurship at the Rotterdam School of Management, Erasmus University. She received her PhD in Business Administration from Bocconi University. Her current research interests include the cognitive and affective foundations of effective entrepreneurial reasoning, entrepreneurial learning and competence development, and decision making heuristics under uncertainty.

Umut Yalcin (u.yalcin@rsm.nl) is a PhD candidate at the Rotterdam School of Management, Erasmus University. He received his MSc from The University of Manchester. His current research mainly explores the psychological underpinnings of early-stage entrepreneurial action, focusing on activities such as ideation, validation, and customer involvement.

Constantine Andriopoulos (costas.andriopoulos.2@citystgeorges.ac.uk) is a professor of innovation and entrepreneurship at Bayes Business School, City St George’s, University of London. He received his PhD from the University of Strathclyde. His research focuses on the management of creativity and innovation paradoxes, organizational ambidexterity, entrepreneurship, and curiosity.

Supplementary Materials

Table A1. Illustrative Examples of Theoretical Dimensions and Second-Order Themes

Aggregate dimension	Second-order categories	Illustrative quotes
Trigger	Perceived lack of goal progress	(P9 - W3) "I think sometimes it bothers me if things don't go quickly enough. Like, if I have to email suppliers or things like that and I want an answer today, then that's not something I get to choose. I think having patience is maybe the biggest frustration." (P8-W3) "For me it's going very, very slowly, and I expected it to go faster. [...] I expected the game development to go faster. I also expected the marketing to go faster." (P33-W7) "I wasn't, or I'm not progressing as fast as I would like to."
Attribution	Internal controllable	(P25-W7) "So the dots, ultimately, I mean you could trace it back to oneself if you want to. And sometimes I find myself, I don't want to say procrastinating, but I could work harder, for example, in reaching out to people and customers." (P15-W4) "In the middle is your goal and then on the right is the set of things that you don't control, and on the left - what you do control. And for now, I noticed that there were a lot of things that I do control."
	External uncontrollable (by self)	(P29-W6) "I guess there was not anything I could do about it, because things happened. Yeah." (P1-W6) "So we decided to visit some stores in [cities' names] and I tried [city] during the weekend, but because it was weekend, the stores were all very busy, so I couldn't have the time that I needed to talk with the store owners. And I was going to go to [a second city] today, but I couldn't, I had to stay to work, so that was what Saturday was planned and I couldn't do it."
	Internal uncontrollable	(P18-W4) "... you know, we are trying to start a consulting business, but without being consultants ourselves and without the knowledge of consulting really." (P8-W3) "If I could get that [business model] straight. That really worries me, because I am not a marketing expert, and I know nothing about finance."
Beliefs	Self-feasibility beliefs (Self-confidence)	(P31-W3) "I think we are a good team and we are working well and it's, I think it's so, so good." (P33-W3) "I think I also mentioned it last time, but just that I'm very good at spotting opportunities and really seeing what could work and what doesn't work. And then once I set to do it, then I really pursue it."
	Self-desirability beliefs	(P25-W7) "What gives me a lot of confidence is that I know exactly that I want to do that. I know exactly that I don't want to work for someone else in the future. So I set myself out to do that [...] And that's like my, my personal motivation that this is what I'm going to do." (P23-W5) "Because I just want to do this. It's really fun and I want to continue."

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Doubts	Ruminative self-feasibility doubts	(P17-W1)“But it’s all depending on myself and how well I’m doing it, because I don’t have partners now. So yeah, I think that’s the biggest fear. And also, seeing if all the ... 'cause I know there’s going to be some things that are going to go wrong, if I can actually overcome them by making the right decisions” (P17-W7) / <i>same doubt lingers on</i> / “I don’t have a partner and I don’t feel confident enough to do this all by myself. I don’t have the knowledge to start up a company and also, I don’t know if I want to do it because of that.” (P32-W1)"But I don't always feel confident in my own capabilities of being able to do it or having the feeling that I've done enough. So I have confidence in the idea, but I'm not sure if I'm confident in the way I'm executing it.” P32-W5) / <i>same doubt lingers on</i> / “[...] but also me thinking, do I have enough knowledge to pull this off? Do I know well enough how to do this, how to build this? So I think it's also that. Yeah, there's a little bit of personal doubt but that's the general doubt that I always have.”
	Aspirational self-feasibility doubts	[<i>identifying personal shortcomings</i>] (P23-W1) “it's talking a lot to potential customers, interviews, et cetera, and I don't think I'm the best at that part [...] when it comes to, okay, this is where we could go and gather all the different information we need now. I think that I'm better at that.” (P5-W4) “I've always had it tough for me. Studying, projects at school, I always do last minute. The longer I have, how can I say... The longer preparation time I have, the less productive I become.” [<i>reflecting on one’s efforts to address their shortcomings</i>] (P23-W8) “I think, so me as a person, I'm a bit more of a thinker than a doer, but to be a good entrepreneur you need to be more of a doer. I feel like I've grown in that, just the execution aspect rather than just the creative, like let's come up with an idea aspect. I've become less, let's call, conflict avoidant. Which I think is really useful. I tend to not want to, I kind of run away from conflicts when they happen. But I realize that I need to not do that in a startup.” (P5-W4) “Just something I'm doing... Also, I'm reminding myself like how I felt this week - just by doing that, it gave me this good feeling, and I felt like I accomplish something... Yeah, to try to remind me of that rather than always thinking of "Is this the right thing? Should I talk to more people? Should I even do this and so on?"
	Self-desirability doubts	(P33-W7) “I noticed it last week and a bit the week before already that I wasn't really feeling the idea [...] Maybe that I was pushing myself to do something that I didn't really want” (P32-W10) “I'm also not very sure how long this motivation is going to stick or how rough it's going to be to keep going.”
	Idea-related feasibility doubts	(P26-W8) “It's mostly the development of the market, which is still so young that there are so many moving pieces that nobody really knows who's going to do what. And it could also be that engineering firms are going to do the production preparation. There's a little uncertainty in that.” (P15-W2) “I would guess that I would also repeat the same thing that I don't know much about calculating the materials and stuff. So I'm still doubting, is it the solution, can I make this work?”

Idea-related desirability doubts	(P9 - W3) "I think for the last couple of weeks, it's always just been the same kind of like doubt in the back of my mind of, ehm, 'What if no one wants it?'" (P29-W1) "But we need to sort of determine their exact location up to a couple of meters. That's technically becoming easier and easier, but privacy related issues may arise. And that could resist people from adopting it while they would actually like it. So we may have the problem that to provide people the best solution, we may actually not reach them because they are concerned about something else."
Doubt Regulation Responses	Embracing <i>[questioning one's existing understanding]</i> (P13-W4) "And not only, "What is my value proposition, but where do I want to go with the business? Where is my horizon? Where is the sun? What is the... Why do I not want to focus only on cybersecurity right now? Why do I want to focus on awareness but not really selling the products? I want to be there for the long term. Why do I want to be there for the long-term?" (P20-W5) "Are customers in the US going to order from a company in Europe and wait like five days to get their order?" <i>[generating hunches]</i> (P7 – W8) "So there are some, as I mentioned, it's a pretty complicated business. So there are some ways to get in there. And I think consulting companies in the construction business would be one and we'll find out. But definitely going directly to the construction company, it's not going to work." (P30-W3) "So we might have to look to get the potato cuts that are left, extract starch from them or something. [...] So you just blow it in a blower and then you, ehm, it separates the soil from the skin. So that, I think, will save water." <i>[anticipating challenges]</i> (P9-W8) "in the last year or two there's been some unfortunate deaths related to a lack of safety and the structures used. So in my opinion, I think the regulators will change fairly soon. So we need to see how we can be proactive about it... Like perhaps tackling some of the issues that they want to see in the products, and there, it definitely is ultimately, "Is that product the right fit already, or does it need to change slightly?" (P30-W5) "The only thing that we have to figure out is how to transport it [potato cuts] to them after washing it, because it will be quite wet. So we will have to discuss with the food technologist if we have to take it to some other facility, how much do we need to dry it before we give it to [the transport company]." Downplaying <i>[minimizing the importance of problems]</i> (P31-W5) "What didn't work ... it's not very important, but we have a problem with the Blockchain platform and yeah. It's not important, very important, but yeah." (P6-W3) "Right now I've just interviewed a few people testing if they would pay for my services and people I interviewed, which aren't that many yet, like three, they said they weren't able to or they didn't want to pay for a solution. [...] Well, I think they're not the early adopters or it is just like people are not willing to acknowledge the fact." (P33-W9) "And not all are willing to actually get the product, but they're interested in just following me along the journey and just seeing where I can help them. So, I think that's very positive."

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		<i>[basking in past glory]</i> (P31-W7) “I think that was good. Yeah, I think that [validation] was good. [Int: Did something specific give you this feeling of validation?] No specific things. That depended on the other weeks, previous weeks.” (P6-W5) “I am just waiting for the documents and then at the end of the program my website goes live with a few videos, so now I need to make another few videos and my website is basically finished. I just need to load up the content and the documents, the legal stuff. The website is finished and that is pretty amazing.”
	Normalizing	<i>[emotional acceptance]</i> (P27 – W3) “Another thing is personal instability maybe. But I talked with different entrepreneurs last Friday, and everybody talks about the same situation more or less. Like if you are a foreigner, you come here to [country], then you have to find a place to live and then you move, and then all the instability... Well, we were like seven on the table, and the seven were more or less like me, in some ways moving or leaving their family, or things like that. [...] I hope it is all worth it at the end.” (P17-W11) “we're all in the same boat compared to the progress that we're making. Everybody really wants to go fast, and everybody wants to go faster than they're going. So it was good to see that the struggles from everybody were the same as the ones that I'm having, or at least the ones that I'm close to in the [incubation] program.” <i>[external reassurance]</i> (P17 – W3) “Whenever people tell me that they really believe in my solution, that really motivates me to keep on going because then I feel like I'm not the only one believing in this anymore.” (P8-W4) “I really need that security, to know that what I'm working on will actually go somewhere. And that really motivates me to make the thing.”
Perceived Goal-Directed Progress (interim outcomes)	Surfacing some (interim) proof of concept	<i>[gaining clarity on the idea]</i> (P5 - W6) “Also since I have something tangible right now, the first four or five weeks it was all kind of vague and I felt like I couldn't really do something. And now I can make a huge to-do list because there are so many things I can do and I want to do.” (P13-W5) “I think with the more I get, the more information I get, the more knowledge I get, and the more secure I get about the direction that I'm heading.” <i>[prioritizing knowledge gaps and generating concrete action steps]</i> (P3-W2) “First of all, I want to have an appointment with a producer. That's what I'm talking about right now. I would need a producer because of funding and getting this connection in the media world. So I want to have at least one or two appointments with a producer.” (P9-W3) “It's also the reason that we're maybe building this model to begin with because we feel like just turning up with a piece of paper isn't enough to be taken completely serious [...] through the model and the intellectual property itself, it would alleviate those doubts.”
	Limited surfacing of a proof of concept	<i>[lack of clarity on the idea]</i> (P33-W11) “I think that I, because I didn't speak to potential customers, that I didn't get any feedback and that means that I wasn't able to further develop my idea. So it's basically still at the same place where it was last week, two weeks ago, I mean.” (P27 – W5) “Every time I keep reading and searching and I found so much information, so much business ideas. But they are so confusing [...] Even for me, that I'm a professional in this topic, it's confusing.”

		<i>[generating vague action steps without clear priorities]</i> (P17-W8) "Also I have no idea where to start or what to do. Sure I need to have a prototype, and sure I know the basics, but whatever comes next to that is like a big black hole."
		(P33-W2) "The other main thing is that I am indeed contacting the people in my network and I don't exactly know how I'm going to do it."
Goal Commitment	Mastering orientation	<i>[believing in one's abilities to overcome challenges]</i> (P9-W3) "I think it also is to build something that doesn't exist and the journey that comes with it. The fact that I have to tackle every problem myself, like there's no one I can turn to offload some work and say "I can't do this, can you do this?" is something I really enjoy about it. Every day is just something entirely different." (P25-W5) "I believe... It's hard to put it into words, but I would say that the ongoing confrontation with challenges and to overcome those. I think that's a pretty big motivation." <i>[enjoying the learning process]</i> (P11-W5) "you have good days and you have bad days, and in your bad days you have to see your power, find your power to go to the next day, and to make small steps to move further and further and further, and it does not have to be a big step [...] So, yes, I think that is very interesting, that you learn" (P5 - W6) "These are reasonably small steps but it kind of feels like a victory. Like you learn something new. I can also see that I'm making progress. Probably most important for me as well." (P25-W6) "I like to read books about entrepreneurship and it's also the outlook and the journey itself that I'm into that I set myself to do. And there's struggle involved and I think throughout this process [...] just to be in there for the process, I think, I would learn a lot."
	Curtailing orientation	<i>[conditioning commitment on external factors]</i> (P12-W3) "I don't know if I would continue for much, much longer let's say. I don't know how long, but I would not continue if we don't get accepted into a large store as soon as possible" (P24-W5) "And once I have a confirmed order, let's put it that way, then I'll be an entrepreneur" (P31-W7) "I think if we can earn more money and we can solve our financial problems and then we can have a more, ehm, better progress." <i>[procrastinating on goal-directed activities]</i> (P33-W11) "Not in the long term, but in the short term because it has happened more often that I didn't make enough time for it [the idea]" (P22-W4) "So I have to do what I can do only during the time I have available. [...] So I don't know. I mean, yeah, for now, I only set the goal for the week. So I'm more focused on seeing if I can do whatever I commit to in a week or not."
	Yearning orientation	<i>[passively hoping for future progress]</i> (P27-W2) "if I really get funding to have professional people to help me do this and just have enough time to calm my life and find my place. And you know, it makes me hope." (P8 - W2) "I'm actually hoping that through the crowdfunding, just one guy will come like, "I know planning. I can help." I hope that will work."

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		<i>[indulging in positive fantasies]</i> (P17 – W7) “[...] if I would have a partner or social surrounding, for instance a company would offer me a job and then continue working on this with me, then it would be something I would really want to put a lot of time and effort in.”
		(P32-W9) “I just wish it would be a little easier. But I knew what I got myself into. I decided to start a business [...] It was very ambitious, and I still think I can do it, but I need a little... I don't know, I need a little pick me up. [Int: Where would this come from?] Me, telling myself I can do it even though I think I can't, because if you say it five times it becomes true.”
Supporting Events	Perceived positive goal progress	(P19-W7)"So I think that [partnerships] is something that's [going] really well and we could potentially fill the stores with the coolest products. But on the other hand, now, in terms of funding, I just, I just went to [name]. I want to close the deal as soon as possible. So yeah, that’s something that still remains a big, a big challenge for me obviously. So I know that I just need.., well, to put in as much time as possible there now” (P24 – W2) “It is going great since the last call I had with the university. Now they are willing or they want to talk with me about setting it up on campus. So we have an appointment ... and I'm working on setting it up.” (P18-W2) “I was quite surprised to see that quite a lot has been done in terms of layout, in terms of research as well. That makes me very happy.”