Pre-start-up internationalization mindsets trigger action
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Pre-start-up internationalization mindsets trigger action

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ABSTRACT
We propose that internationalization mindsets – the configuration of ability and willingness to internationalize – of entrepreneurs in the pre-start-up phase predict later internationalization behavior. Moreover, we suggest that internationalization mindsets may exist before a company is established and that different configurations of mindsets lead to different internationalization behaviors. Using a multiple correspondence analysis with data from 213 early stage entrepreneurs, this study extends our understanding of individual-level antecedents of internationalization by developing a taxonomy of entrepreneurial internationalization mindsets. Our results show that pre-start-up internationalization mindsets are predictive of internationalization behavior two years later. These findings provide a starting point for theorizing on pre-venture antecedents of internationalization behavior, for exploring different configurations of individual-level antecedents, and for comparing how these may evolve into internationalization behavior.

KEYWORDS
Early internationalization; entrepreneur; intention-behavior gap; taxonomy

Introduction

Explaining why some entrepreneurs take their firms into international markets during the start-up process while others focus on local markets has attracted much attention from entrepreneurship scholars (for example, Hughes et al., 2019). Research has looked at three different levels of analysis to find factors that explain differences in internationalization intention and behavior. First, some have examined environmental factors such as pressures in current markets as predictors of internationalization (for example, Kamakura et al., 2012) or context-dependent factors to explain rapidly internationalizing ventures (for example, Cesinger et al., 2012). Second, others have focused on the firm level and have studied factors such as the resources and capabilities that firms control as determinants of internationalization decisions (for example, Lin & Si, 2019; Matthews & Zander, 2007; Monaghan et al., 2020). Third, another group of scholars has focused on individual-level factors
(for example, Bringmann & De Cleyn, 2018; Freeman & Cavusgil, 2007; Harveston, 2000), finding that the entrepreneurs’ cognitive processes (Zahra et al., 2005) and attitudes play a key role in a firm’s internationalization activities and strategies. From a practical perspective, it is problematic that there is a lack of understanding of the cognitive antecedents of internationalization behavior. This makes it difficult to develop evidence-based approaches that can enable entrepreneurs to become aware of what will best aid them in their internationalization endeavors (for example, specific training, competencies development or simply being aware of their motivations and intentions with regard to internationalization). However, the existing literature has not yet addressed the link between these important individual-level variables and actual internationalization behavior. In this paper, we aim to address this relationship, which could demonstrate the importance of pre-start-up mindset to internationalize and subsequent de facto internationalization behavior. By understanding the internationalization mindset of entrepreneurs as the interplay between their willingness and ability to internationalize, we provide important insights for policymakers, entrepreneurship activity supporters, and entrepreneurs, who can gain a better understanding of their own characteristics and how they can use them to pursue their internationalization ambitions and intentions.

Studies calling attention to factors that can explain early internationalization behavior often focus on existing firms that recently internationalized (Katz et al., 2021). However, by focusing on existing firms, these studies are unable to capture pre-start-up factors that may influence internationalization intentions and behavior (Evald et al., 2011). In the early start-up stage, there may not yet be a firm in existence, and the entrepreneur or entrepreneurial team is at that moment the only available source of information about what may later develop into a venture. Studies focusing on finding explanations at the individual level may be able to tap into some of these pre-start-up or very early-stage start-up factors, such as personality or personal values, as these factors are likely to remain stable over time (for example, Bolzani & Foo, 2018). However, they often do not explain a link, if any, between these variables and actual internationalization.

Several studies that examined antecedents of early internationalization behavior collected data retrospectively (for example, Harveston et al., 2000; Kundu & Katz, 2003). In such studies, entrepreneurs are asked to recall their past ambitions and intentions after the actual internationalization behavior has already happened. Relying on entrepreneur recollections likely results in less accurate measurement of internationalization antecedents (Coughlin, 1990) and, therefore, limits the research’s ability to address the link between internationalization antecedents and behavior. Other studies have tracked early internationalization over time but these tend to be based on case studies (for example, Hagen & Zucchella, 2014; Nummela et al., 2014), thereby
limiting generalization. Addressing the link between intentions and behavior from an individual and cognitive perspective over time (prospectively) is therefore valuable, as it provides a better understanding of how internationalization behavior can be predicted based on entrepreneurs’ pre-start-up characteristics without the risk of retrospective bias.

Although many studies have examined the antecedents of early internationalization, these antecedents remain a topic of debate among scholars (Baronchelli & Cassia, 2014; Cavusgil & Knight, 2015; Martineau & Pastoriza, 2016; Zucchella et al., 2007) and to a certain extent the debate has not been resolved conclusively (see, for example, Ciravegna et al., 2018). One reason for finding inconclusive results is that using research methods that follow a causality logic approach is difficult due to the large heterogeneity among entrepreneurs (Gartner, 1985; Wennberg et al., 2010). A causal research approach assumes homogeneity across samples, and that the findings from empirical testing can be applied transversally to other observations (Khelil, 2016; Meyer et al., 2013). As a consequence, we apply a configurational approach (Meyer et al., 2013), which is becoming more popular in the entrepreneurship research domain (for example, Harms et al., 2009) and in international business research in particular (for example, Ciravegna et al., 2018). The underlying assumption of a configurational approach is that homogenous configurations can be found in samples that may differ from each other (Ketchen et al., 1997; Khelil, 2016). Because internationalization intentions, behaviors, and strategies vary widely across different types of entrepreneurial ventures (Cavusgil & Knight, 2015), it makes sense to look at this phenomenon from a configurational perspective.

In this study, we propose that entrepreneurs’ internationalization mindset, as the interplay between the ability and willingness to internationalize at the pre-start-up phase, is a good predictor of different internationalization behaviors. Whereas most existing research looks at internationalization in existing firms (for example, Ciravegna et al., 2018; Muzychenko & Liesch, 2015; Zucchella et al., 2007), our study starts in pre-start-up stages and uses a configurational approach to uncover different categories of internationalization mindsets. We then track these firms for two years to see how different categories of internationalization mindsets of entrepreneurs in the pre-start-up stage predict later internationalization behavior.

Our study contributes to a deeper understanding of internationalization behavior and its individual-level antecedents and predictors. To conceptualize the internationalization mindset, we use a logic based on elements of the Theory of Planned Behavior. In doing so, we explore the links between different configurations of ability and willingness to internationalize at the pre-start-up phase and the actual internationalization behavior two years later. We thereby contribute to the literature by showing that internationalization behavior can be predicted using individual-level factors that are already in
existence before the start-up was founded. This approach is in contrast to the implicit assumption in the literature that internationalization intentions do not exist before the firm exists, as evidenced by the fact that internationalization intentions are only studied after the firm has been founded (for example, Bolzani & Foo, 2018; Sommer & Haug, 2011; Wright et al., 2007). Instead, we argue that internationalization behavior is not only the result of (a combination of) environmental-level, firm-level, and individual-level factors at the time that the firm exists, but also of individual-level factors that are in existence before the firm has been founded, such as ability and willingness to internationalize.

**Theoretical foundation**

**Different types of internationalization behavior**

There are many different typologies and approaches to explaining internationalization behavior (for example, Aspelund & Moen, 2005; Bell et al., 2003; Johanson & Vahlne, 1977; Knight & Cavusgil, 2004; Oviatt & McDougall, 2005). However, these can be reduced to three distinct approaches to internationalization. First, the majority of entrepreneurs do not internationalize but focus on their local or domestic market (that is, Blomstermo et al., 2004; George et al., 2005). Many of these entrepreneurs are not interested in internationalization, do not have any experience in international markets, or are not committed to internationalizing. Instead, they prefer to serve a local, domestic market.

Second, some entrepreneurs start domestically, and then adapt to the international market (Aspelund & Moen, 2005; Johanson & Vahlne, 1977). The idea behind this approach to internationalization is based on the firm’s gradually increasing commitment to move beyond the domestic market and enter foreign markets in a limited manner. For example, 59 percent of US SMEs export to only one market (Department of Commerce, International Trade Administration, 2016). Other researchers have added that this international expansion is typically focused on geographically and culturally close foreign markets (Bell et al., 2003).

A third approach is the born global model which discusses how entrepreneurial firms with a global focus from founding embark on rapid internationalization (Bell et al., 2003; Gabrielsson et al., 2008; Moen & Servais, 2002; Oviatt & McDougall, 1994, 1999). Previous studies have examined the driving forces that affect this rapid internationalization (for example, Kiss et al., 2012; Dimitratos & Jones, 2005). Many of these studies conclude that born global firms have entrepreneurs with a global mindset (Nummela et al., 2004) and a business model founded on a knowledge-intensive source of competitive advantage.
Explaining differences in internationalization behavior

Many studies have focused on managerial characteristics and their impact on strategic decisions such as internationalization (following the seminal work of Hambrick & Mason, 1984). For instance, more international experience has been positively tied to the decision to internationalize (Harveston, 2000; Lloyd-Reason & Mughan, 2002) and the decision to do so soon after firm founding (Reuber & Fischer, 1997). However, not all entrepreneurs who are positively disposed toward international actions end up doing business in international markets (Zacharakis, 1997). It is important to understand the reasoning process entrepreneurs go through when deciding to internationalize their venture and take action upon that decision. We argue that entrepreneurs’ internationalization intentions and behaviors are part of a mindset that is determined by their ability and their willingness to internationalize their ventures.

An individual’s entrepreneurial mindset is defined as “the ability and willingness of individuals to rapidly sense, act, and mobilize in response to a judgmental decision under uncertainty about a possible opportunity for gain” (Shepherd et al., 2010, p. 62). As internationalization decisions are always made under uncertainty and with the goal of financial gain, we define the entrepreneurial internationalization mindset as the ability and willingness of individuals to rapidly sense, act, and mobilize in response to an internationalization opportunity. Therefore, it is clear that both ability and willingness are central antecedents of internationalization at the level of the entrepreneur’s mindset. In the next section, we will further explore the antecedents of internationalization at the individual level.

The internationalization mindset: A matter of ability and willingness to internationalize

Most research on internationalization has focused on existing firms (for example, Wright et al., 2007). The internationalization process is typically described as an evolutionary process involving the development of products and the depth of operations (Johanson & Vahlne, 1990; Vernon, 1966). Smaller firms, particularly start-ups, are not just smaller versions of large firms (Kyvik et al., 2013). These firms’ founders/owners/managers’ values and goals are the same as their businesses’ and are, therefore, the intent behind the firms’ behavior (Kotey & Meredith, 1997; Miller & Toulouse, 1986). Thus, the founder’s cognitive processes (for example, Costa et al., 2016, 2018; Frederiks et al., 2019) may drive or obstruct internationalization decisions (Gupta & Govindarajan, 2002; Kyvik, 2011; Mittelstaedt et al., 2003). Individual-level factors also determine the behavior of organizations. For instance, the concepts of self-commitment (that is, the individuals’ willingness
to cooperate with others under informal agreements) and trust have been shown to play a role in cooperative activities between SME’s in internationalization contexts (Fink et al., 2008; Fink & Kraus, 2007). Other factors, such as the perceived risk of engaging in internationalization activities, play a role in the decision to internationalize. Specifically, research has shown that entrepreneurs tend, initially, to evaluate risks related to location and distance when deciding to internationalize and, subsequently, to address entry-mode choices in their preliminary evaluation of risks related to internationalizing (Kraus et al., 2015). The literature shows that these, among other important individual-level cognitive processes (of the founding entrepreneur), are crucial to explaining internationalization behavior at the start-up firm level of analysis (that is, Bartlett & Ghoshal, 1989; Deligianni et al., 2016; Dimitratos et al., 2016; Ghannad & Andersson, 2012; McDougall et al., 1994).

Given that the decision to internationalize a business is often both intentional and planned (Krueger et al., 2000), the Theory of Planned Behavior (TPB) (Ajzen, 1991) can work as a guiding theoretical lens to explain how an entrepreneur’s internationalization mindset (that is, the interplay between ability and willingness to internationalize) at the pre-start-up stage influences internationalization behavior. According to the theory, intentions combine motivational factors that influence an individual’s behavior and are directly predicted by three components: attitudes toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). The stronger the intention to engage in a certain behavior, the higher the likelihood that the behavior will occur. Although TPB is intended to explain the behavior of individuals, the TPB is also appropriate to explain a start-up’s internationalization behavior because (1) the decision to internationalize a business is both intentional and planned (Krueger et al., 2000; Wasowska, 2019); and (2) as noted above, at this stage the individual’s behavior and identity and the start-up’s behavior and identity are closely intertwined or identical (for example, Baron, 2008; Ekinci et al., 2020; Morris et al., 2012). Sommer and Haug (2011) demonstrate that the TPB contributes to a better understanding of how internationalization intentions are formed, and at the same time argue that an extension of the theory to include other cognitive factors deserves further attention.

The TPB is widely used in entrepreneurship research and it has occasionally been applied to explain internationalization behavior as well (Liñán & Fayolle, 2015; Muzychenko & Liesch, 2015; Newbury et al., 2016). While in this study we use the TPB as a guiding theoretical principle to further explore configurations of the internationalization mindset of entrepreneurs at the start-up stage, it is not our intention to test this theory or apply it as a framework. This is because while we aim to explain internationalization behavior, we also acknowledge that the decision to internationalize may not always be intentional and planned. Some firms internationalize accidentally or at least non-
intentionally (Galkina & Chetty, 2015; Hennart, 2014). Such entrepreneurs do not actively decide whether or not they will internationalize. For example, they may get buying requests from customers abroad, which causes them to internationalize without having had the intention to or having planned this in advance (Hennart, 2014). Although internationalization behavior may not always be intentional, we assume that internationalization behavior is generally intentional (for example, Dasi et al., 2015; Dow et al., 2018; Hutzschenreuter et al., 2007; Sommer & Haug, 2011) and often motivated by the entrepreneurs’ willingness and ability to internationalize (for example, Dimitratos et al., 2016). Therefore, we focus on entrepreneurs’ ability and willingness to internationalize, using some inspiration from the TPB elements to conceptualize the internationalization mindset configurations and their link to behaviors. Following our definition of the entrepreneurial internationalization mindset, we describe willingness-related cognitive antecedents to internationalize and ability-related cognitive antecedents to internationalize.

**Willingness to internationalize**

Willingness to internationalize has to do with the antecedents of intention and behavior referring to one’s attitudes toward that specific behavior and how important one considers judgments made by other people about that behavior to be. One antecedent of internationalization intention is the individual’s attitude toward the behavior (ATB). Individuals tend to assess the consequences of a certain behavior, which in turn affects their behavioral beliefs. For instance, these attitudes toward internationalization could be represented in individuals’ minds by their global mindset (Burpitt & Rondinelli, 1998; Harveston, 2000): the willingness of individuals to engage in other cultures and markets (Gupta & Govindarajan, 2002). If individuals perceive this type of behavior as favorable, they will judge the behavior positively, increasing the intention to engage in it (Ajzen, 1991). Another important element of willingness to internationalize, is the entrepreneur’s ambition to see their business grow internationally or even to be worldwide (Hermans et al., 2015). Ambition is determined by business growth aspiration, which in turn is positively associated with internationalization ambition and intention (Hermans et al., 2015).

The study of intention has received a lot of attention in the business literature, and specifically in the field of entrepreneurship (for example, Fayolle & Liñán, 2014). The actual intention to internationalize, not being the behavior itself, is another important element of willingness to internationalize, as individuals can intend to engage in the behavior even without having a clear plan on how to do so.

Thus, in this study, we conceptualize willingness to internationalize as a combination of individuals’ attitudes toward internationalization, and their ambition and intention to internationalize.
**Ability to internationalize**

Ability to internationalize refers to the perception one has about their own capability to engage in internationalization behavior. The *ability* to perform a certain behavior is also important to determine the intention toward that behavior (Ajzen, 1991). One’s ability to perform a behavior is reflected on the cognitive level by one’s perceived behavioral control (PBC). PBC is determined by control beliefs, which refer to the difficulty or ease with which an individual perceives that he or she can perform a certain behavior (Ajzen, 1991, 2002). PBC explicitly does not include a notion of control over the final result of an action, but it refers to the process (that is, the actions leading to the desired outcome). In the case of internationalization, it is important that individuals perceive that they are able to identify opportunities to internationalize (Filser et al., in press) and that they can effectively manage the resources necessary to engage in such activities (Alayo et al., 2021).

**Internationalization mindset and actual internationalization behavior**

It is important to understand the predictive power of different internationalization mindsets on actual internationalization behavior, as that can provide important insights into the crucial factors at the individual cognitive level that lead to start-up internationalization. Because we propose that the internationalization mindset develops before start-up activity, we think it is important to address the intention–behavior link present in this assumption (Fayolle & Liñán, 2014; Tornikoski & Maalaoui, 2019). Intention-based models, such as the TPB aim to predict behaviors by arguing that intention is the best predictor of actual behavior. Ajzen et al. (2009) have shown that there is a strong correlation between intention and behavior, from 0.90 to 0.96. However, others have shown that behavioral intentions explain only 33 percent of the variance in behavior (Armitage & Conner, 2001). Thus, more research examining the link between intention and behavior is necessary. The literature on the intention–behavior gap shows that when the temporal distance between reporting intentions and the actual behavior increases, the intention measures are systematically biased (Sheeran & Orbell, 1998). Positive intentions tend to be overestimated (Alexander et al., 2008; Koehler & Poon, 2006), which leads to inaccurate predictions of the relationship between intentions and behavior (Sun & Morwitz, 2010; Van Ittersum et al., 2007). Another possible explanation of these low correlations between intentions and behavior could be related to the heterogeneity of individuals. Different configurations of the antecedents of intention may affect the intention and the intended behavior differently. Recently, Liñán and Fayolle’s (2015) review of research on entrepreneurial intentions found only a few studies using a configurational approach regarding the
antecedents of the intention. Following this reasoning, and inspired by the TPB, in this study we aim to observe how different entrepreneurial internationalization mindsets, which encompass more than intention, are related to different likelihoods of internationalization behavior.

**Methodology**

**Research design**

An important methodological issue in entrepreneurship research is that both the entrepreneurs and their new ventures are extremely heterogeneous (Gartner, 1985; Wennberg et al., 2010). It would be beneficial, therefore, to be able to place starting entrepreneurs and their “individual” actions into meaningful categories and thereby establish homogenous groups. Besides using common sense (Rich, 1992), there are generally two ways to establish a classification scheme: by classifying theoretical concepts (a “typology”), or by classifying empirically observable and measurable characteristics (a “taxonomy”) (Bailey, 1994; Borgatti & Foster, 2003; Khelil, 2016; McKelvey, 1975, 1978; Rich, 1992; Zahra et al., 2009). Thus, typologies are conceptually driven distinctions (Bailey, 1994; Smith, 2002), and are “an invention of individual creativity” (Rich, 1992, p. 761). Typologies are based on concepts and therefore they often represent ideal types (Smith, 2002). Such ideal types often limit theory development as they constrain looking beyond the labels usually attributed to firms (Reuber et al., 2017).

Taxonomies, however, are empirical tools used to order and classify cases based on empirically measurable and observable characteristics (Bailey, 1994; Smith, 2002). An important limitation of empirically driven taxonomies is “... the arbitrary and narrow selection of cluster variables” (Khelil, 2016, p. 78). To counter this limitation, we were inspired by the Theory of Planned Behavior to select the variables we included in the taxonomy.

Typologies are more common in entrepreneurship research (for example, DeTienne et al., 2015; Park & Bae, 2004; Tang et al., 2008) while taxonomies are often more associated with fields such as biology than they are to the social sciences (Bailey, 1994; Smith, 2002; Sokal & Sneath, 1964). However, taxonomies have sometimes been developed in entrepreneurship research. For example, Gartner et al. (1989) developed a taxonomy of new business ventures, and more recently, Khelil (2016) developed a taxonomy of entrepreneurial failures. Taxonomies have also been developed in international entrepreneurship: Hagen et al. (2017) developed a taxonomy of strategic postures of international SMEs. By proposing a taxonomy based on an empirically driven approach, we further our understanding of internationalization behavior without being constrained by predefined labels (Reuber et al., 2017).
Another important disadvantage of (theory-driven) typologies is that although the distinctions between theoretical concepts may be clear, it is often difficult to classify an empirical observation into one specific theoretical category (Khelil, 2016; Smith, 2002). At the same time, although empirical observations can be easily classified into a (data-driven) taxonomy, the classifications are often difficult to interpret through a theoretical lens (Khelil, 2016; Smith, 2002). To resolve this issue, we use Khelil’s (2016) approach and develop a data-driven taxonomy using empirical data on cognitive antecedents of entrepreneurial internationalization found in the literature and then use the existing theory-driven typology of internationalization behavior described in the previous sections (that is, domestic, Uppsala model, born globals) as a theoretical lens through which we interpret the data-driven taxonomy. We use this theoretical lens to interpret our taxonomy as it is a well-established typology and helps to link our taxonomy of mindsets to the typology of behavior as internationalization mindsets are an antecedent of internationalization behavior. Finally, we use a two-year period to test the predictive abilities of our taxonomy of entrepreneurial internationalization mindsets to predict international behaviors.

**Sample**

Following previous research on predictors of internationalization behavior (for example, Cumming et al., 2015), this study uses a sample of 213 early stage entrepreneurs from an incubator in the Netherlands. These entrepreneurs joined the incubator for a period of one year for the support it provided in developing the new venture idea into a company. Although some incubators may only select entrepreneurs with an existing company, a unique feature of this incubator is that it welcomes entrepreneurs who are still developing their new venture idea. This setting, therefore, supports our aim to look at individual-level antecedents of internationalization in the early start-up stages. We excluded two outlier cases from our sample because of incorrectly reported data regarding the team size (1041 FTE or 151 team members). The final sample consisted of 12.3 percent female entrepreneurs, which is consistent with previous research showing that males dominate entrepreneurship samples (Delmar & Davidsson, 2000). The age of the participants ranged from 23 to 63 years (see Table 1) with an average age of 45 years (see Table 2). These entrepreneurs also varied in the number of international experiences ($M = 3.32$; $SD = 0.93$). About half of the entrepreneurs in the sample were working alone, whereas the other half had an entrepreneurial team. On the venture level, the companies are distributed over 13 distinct main industry classification categories. Sample descriptive variables can be found in Table 1 and correlations can be found in Table 2.
Measures

Following our definition of entrepreneurial internationalization mindset as presented in the theoretical framework, we selected cognitive antecedent variables regarding the ability and willingness to internationalize as input variables for building the taxonomy. The data reported here were collected by the incubator at two points in time: all variables, besides the dependent

Table 1. Sample description.

<table>
<thead>
<tr>
<th>Individual-level variables</th>
<th>Venture-level variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td><strong>Industry classification</strong></td>
</tr>
<tr>
<td>20–29</td>
<td>A: Agriculture, forestry and fishing</td>
</tr>
<tr>
<td>30–39</td>
<td>C: Manufacturing</td>
</tr>
<tr>
<td>40–49</td>
<td>E: Water supply; sewerage, waste management and remediation activities</td>
</tr>
<tr>
<td>50–59</td>
<td>F: Construction</td>
</tr>
<tr>
<td>60–69</td>
<td>G: Wholesale and retail trade; repair of motor vehicles and motorcycles</td>
</tr>
<tr>
<td>NA</td>
<td>J: Information and communication</td>
</tr>
<tr>
<td>Gender</td>
<td>K: Financial institutions</td>
</tr>
<tr>
<td>Male</td>
<td>M: Consultancy, research and other specialized business services</td>
</tr>
<tr>
<td>Female</td>
<td>N: Renting and leasing of tangible goods and other business support services</td>
</tr>
<tr>
<td><strong>International experience</strong></td>
<td>P: Education</td>
</tr>
<tr>
<td>1.0–1.9</td>
<td>Q: Human health and social work activities</td>
</tr>
<tr>
<td>2.0–2.9</td>
<td>R: Culture, sports and recreation</td>
</tr>
<tr>
<td>3.0–3.9</td>
<td>S: Other service activities</td>
</tr>
<tr>
<td>4.0–4.9</td>
<td>T: Education</td>
</tr>
<tr>
<td>5.0</td>
<td>U: Human health and social work activities</td>
</tr>
<tr>
<td>6.0</td>
<td>V: Culture, sports and recreation</td>
</tr>
<tr>
<td>7.0</td>
<td>W: Other service activities</td>
</tr>
</tbody>
</table>

Table 2. Means, standard deviations, and correlations.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Age</td>
<td>45.15</td>
<td>10.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Gender (0 = M; 1 = F)</td>
<td>0.11</td>
<td>0.32</td>
<td>−.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(3) International Presence</td>
<td>4.37</td>
<td>1.83</td>
<td>−.04</td>
<td>−.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(4) Global Mindset</td>
<td>3.40</td>
<td>0.72</td>
<td>−.10</td>
<td>−.15</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>(5) PBC Economics and Management</td>
<td>3.91</td>
<td>0.70</td>
<td>.01</td>
<td>−.07</td>
<td>−.02</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(6) PBC Investor Relations</td>
<td>3.42</td>
<td>0.73</td>
<td>−.01</td>
<td>.04</td>
<td>.17</td>
<td>.29**</td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(7) PBC Opportunity Recognition</td>
<td>3.95</td>
<td>0.51</td>
<td>.14</td>
<td>−.13</td>
<td>.18</td>
<td>.20*</td>
<td>.16</td>
<td>.37**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(8) PBC Risk-Taking</td>
<td>3.88</td>
<td>0.54</td>
<td>.05</td>
<td>−.15</td>
<td>.19</td>
<td>.17</td>
<td>.34**</td>
<td>.42**</td>
<td>.54**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(9) Size (FTE)</td>
<td>4.09</td>
<td>3.44</td>
<td>.13</td>
<td>−.02</td>
<td>−.22*</td>
<td>−.34**</td>
<td>.04</td>
<td>−.11</td>
<td>−.13</td>
<td>−.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Size (Persons)</td>
<td>3.19</td>
<td>15.95</td>
<td>.08</td>
<td>−.06</td>
<td>.13</td>
<td>−.34**</td>
<td>.06</td>
<td>−.07</td>
<td>−.22*</td>
<td>−.05</td>
<td>.30**</td>
<td></td>
</tr>
<tr>
<td>11. International Experience</td>
<td>3.30</td>
<td>1.03</td>
<td>.01</td>
<td>−.13</td>
<td>.00</td>
<td>.44**</td>
<td>.11</td>
<td>.08</td>
<td>.18</td>
<td>.15</td>
<td>−.04</td>
<td>−.06</td>
</tr>
</tbody>
</table>

*M and SD are used to represent mean and standard deviation, respectively.* Indicates *p < .05.* Indicates **p < .01.*
variables and industry classification were measured at the moment of entry ($t = 0$ years), and the dependent variable and industry classification data were collected one year after leaving the one-year incubation program ($t = 2$ years).

**Willingness-related measures**

**Global mindset.** Because attitudes toward internationalization are important predictors of behavior, we measured individuals’ willingness to engage with international activities and cultures, using the four-item Global Mindset scale (Cronbach’s $\alpha = 0.83$), following Burpitt and Rondinelli (1998) and Harveston (2000).

**Ambition to have the business known worldwide.** To measure the participants’ ambition to own a business that is known worldwide, we selected the item: “Please indicate the extent to which you agree or disagree with the following statement: I would like to start a business that is known worldwide,” with answering options on a scale from 1 “strongly disagree” to 7 “strongly agree.” We acknowledge that multi-item measures are generally preferred to single-item measures, but also that single-item measures can be reliable (Nagy, 2002; Wanous & Reichers, 1996) and have been used in internationalization research (for example, Burmeister et al., 2018; Strobl et al., 2020).

**Intention to internationalize.** As there is no company in existence at the pre-start-up stage, we measured the intention to internationalize as an ideal intention instead of the intention for a specific company. We, therefore, used the following question: “Suppose you could have any business you like. Imagine your ideal business, what would it look like in terms of the following characteristic? International presence (in number of countries).” Answer options were: not important, one, two, five, ten, and twenty or more (countries).

**Ability-related measures**

**Perceived behavioral control.** We selected the Entrepreneurial Perceived Behavioral Control scale to measure perceived behavior control (Kolvereid & Isaksen, 2006). This scale measures perceived behavior control in connection with opportunity recognition (6 items, Cronbach’s $\alpha = 0.80$), risk taking (5 items, Cronbach’s $\alpha = 0.75$), investor relations (4 items, Cronbach’s $\alpha = 0.83$), and economic management (3 items, Cronbach’s $\alpha = 0.91$). These four sub-dimensions of perceived behavioral control are relevant for internationalization behavior because an entrepreneur needs to recognize the opportunity to internationalize and to manage the economic side of the business to internationalize. Moreover, internationalization is often a risky endeavor for which investments are needed.
**Internationalization behavior**

To measure internationalization behavior, we selected the following question: “Have you been involved in international activities?” This question was asked as part of a follow-up survey conducted two years after each participant had first entered the incubator program. Measuring whether a company has internationalized two years after starting up is a commonly used time frame (for example, Moen & Servais, 2002). We acknowledge that internationalization behavior can take many shapes and forms (for example, international sales, international suppliers, or international subsidiary) and that therefore a multi-item measure would have advantages over a single-item measure (compare Ramaswamy et al., 1996). However, in this study, we are agnostic about the precise form in which the heterogeneous start-ups in our sample have internationalized within the short time frame of only two years, and focus on whether or not they have been involved in international activities.\(^1\) A binary variable to capture whether a company has internationalized or not is common in research on the early internationalization of new firms (for example, Amorós et al., 2016).

**Control variables**

As larger companies and entrepreneurs with previous internationalization experience may be more likely to internationalize, we selected FTEs, number of persons working full-time in the company, and international experience as control variables (Beamish & Calof, 1989; Beamish et al., 1993; Christensen et al., 1987). International experience was measured with the International Experience scale (Harveston, 2000). This construct is defined as the amount of experience that a manager has in an international context. Respondents were asked to respond to four questions that were intended to tap into their international experience. Responses were measured on a 5-point Likert scale where “1” = less than average and “5” = greater than average. The statements tapping international experience were: (1) “I have traveled extensively internationally,” (2) “My education included an international component,” (3) “I have taken international vacations and holidays,” and (4) “I have worked internationally.” Similar questions measuring international experience are well-established in the literature (e.g. for example, Aranda, 1986; Beamish & Calof, 1989; Beamish et al., 1993; Buatsi, 1986; Christensen et al., 1987; Czinkota & Ursic, 1991; Doyle et al., 1986; Gray, 1997). Acceptable reliability was established through Cronbach’s α (α = .79).

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\(^1\)We include industry classification as a control variable. Industry fixed effects (industries dummies) capture time-invariant characteristics about particular industries, including the share of exports/imports for a particular industry at a particular point in time (Bernard et al., 2007) and are a common proxy for import and export (Baldwin & Gu, 2004).
Results

Since we used a two-step method, we will also present the results in two stages. First, we present the taxonomy of entrepreneurs’ internationalization mind-sets. Second, we will present our findings regarding the power of the taxonomy to predict internationalization behavior two years later.

Taxonomy of entrepreneurs’ characteristics related to internationalization

We performed a multiple correspondence analysis (MCA) to create a taxonomy and to create categories of entrepreneurs’ characteristics related to internationalization. Whereas creating taxonomies and analyzing categories of companies is not unusual in research on internationalization of firms (for example, Paul & Gupta, 2014), in the present study we focus on the entrepreneur. As MCA requires all variables to be ordinal or nominal, we recoded all interval-level measures into categorical variables (De Geer, 1993a, 1993b; Greenacre, 1984; Greenacre & Blasius, 2006; Heiser & Meulman, 1994). The interval variables were recoded into two levels, with the scale mid-point 2.5 on a 5-point Likert scale as the cutoff point. The control variables were recoded into three levels, based on the frequency distribution so that each level had approximately an equal number of observations.

MCA groups variables on two dimensions (De Geer, 1993a, 1993b; Ramos & Carvalho, 2011). As shown in Table 3, the MCA grouped together variables related to intention, attitudes, and subjective norms on the first dimension, and it grouped together the measures of perceived behavior control, FTEs, team size, and international experience on the second dimension. Following our definition of entrepreneurial mindset, we labeled dimension 1 as Willingness, and dimension 2 as Ability.\(^2\) Table 4 shows the coordinates of each categorical level of each variable associated with the Willingness dimension, which allows us to establish associations and contrasts between categories of these variables. Results show that individuals who have the intention to have their venture present in five, ten, and twenty or more countries have a favorable global mindset, and favorable ambition toward internationalization, and can be distinguished from those who have an unfavorable global mindset, unfavorable ambition, and have the intention to have their venture present in one or two countries, or who do not find internationalization important.\(^3\) Table 4 shows the coordinates of each

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\(^2\)Willingness and ability are closely related to desirability and feasibility. Although desirability and feasibility are more common in entrepreneurial intentions (for example, Gatewood et al., 1995; Krueger & Carsrud, 1993), we choose the terms willingness and ability to stay closer to the literature on entrepreneurial mindsets (Shepherd et al., 2010).

\(^3\)It is interesting to note that the MCA grouped the answer categories related to “high willingness” below the origin point, whereas it grouped the variables related to “low willingness” above the origin point. One could argue therefore that this dimension should be labelled “unwillingness.” For the sake of readability and consistency with the literature, we refer to this dimension as “willingness” and interpret the scores in reverse order (so scores below the origin refer to high willingness and vice versa).
Table 3. Dimensions and loadings of variables on dimensions.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dimension 1</th>
<th>Dimension 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention to internationalize (# countries)</td>
<td>.556</td>
<td>.152</td>
</tr>
<tr>
<td>Attitudes towards behavior</td>
<td>.523</td>
<td>.001</td>
</tr>
<tr>
<td>Subjective norms</td>
<td>.319</td>
<td>.023</td>
</tr>
<tr>
<td>PBC Opportunity recognition</td>
<td>.128</td>
<td>.205</td>
</tr>
<tr>
<td>PBC Investor relations</td>
<td>.086</td>
<td>.226</td>
</tr>
<tr>
<td>PBC Risk taking</td>
<td>.096</td>
<td>.187</td>
</tr>
<tr>
<td>PBC Economic Management</td>
<td>.064</td>
<td>.142</td>
</tr>
<tr>
<td>International experience (Control)</td>
<td>.165</td>
<td>.213</td>
</tr>
<tr>
<td>FTEs (Control)</td>
<td>.308</td>
<td>.529</td>
</tr>
<tr>
<td>Persons (Control)</td>
<td>.363</td>
<td>.545</td>
</tr>
</tbody>
</table>

Note. Bold indicates that item loads strongly in the indicated dimension.

*Dimension 1 – Willingness

*Dimension 2 – Ability

Table 4. Coordinates and contributions of each categorical level of the variables associated with each dimension.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Below origin point (&lt; 0)</th>
<th>Above origin point (&gt; 0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension 1 – Willingness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention to internationalize (# countries)</td>
<td>Five (−.05)</td>
<td>Not important (.36)</td>
</tr>
<tr>
<td>Global mindset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.65)a,*</td>
<td>Twenty or more (−.79)*</td>
<td>One (2.15)a,*</td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.65)a,*</td>
<td>Twenty or more (−.55)</td>
<td></td>
</tr>
<tr>
<td>Ambition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC Opportunity recognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−1.94)a,*</td>
<td>Unfavorable (1.94)a,*</td>
<td></td>
</tr>
<tr>
<td>PBC Investor relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.59)a,*</td>
<td>Unfavorable (.57)*</td>
<td></td>
</tr>
<tr>
<td>PBC Risk taking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−2.97)a,*</td>
<td>Unfavorable (.51)</td>
<td></td>
</tr>
<tr>
<td>PBC Economic management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−1.52)a,*</td>
<td>Unfavorable (.25)</td>
<td></td>
</tr>
<tr>
<td>International experience (Control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−0.91)a,*</td>
<td>Unfavorable (.15)</td>
<td></td>
</tr>
<tr>
<td>FTEs (Control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.09)</td>
<td>0.5 to 2 FTE (.09)</td>
<td></td>
</tr>
<tr>
<td>PBC Economic management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.30)</td>
<td>0.5 to 2 FTE (1.56)a,*</td>
<td></td>
</tr>
<tr>
<td>Persons (Control)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.67)</td>
<td>2 to 3 persons (1.08)a,*</td>
<td></td>
</tr>
<tr>
<td>PBC Economic management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Favored (−.15)</td>
<td>More than 2 FTE (1.03)*</td>
<td></td>
</tr>
</tbody>
</table>

aIndicates the category that discriminates the most in its variable (further away from the origin) – Coordinates analysis.

*Discriminates the analysis above the medium point of contributions of each category (1/26 = 0.04) – Contribution analysis.

categorical level of each variable associated with the perceived behavior control dimension. Results show that individuals who have low perceived behavior control have smaller businesses (fewer FTEs and persons) in contrast with individuals that have high perceived behavior control have businesses with a medium or a high number of FTEs and persons working in the company.

Figure 1 provides a graphical representation of the categorical levels of each variable plotted on the two dimensions. Using MCA analysis (De Geer, 1993a, 1993b; Ramos & Carvalho, 2011), we distinguish three categories of entrepreneurial internationalization mindsets. We grouped together these categorical levels of the variables using the origin points of both dimensions, which
resulted in four quadrants: low willingness and low ability (Quadrant 1); low willingness and high ability (Quadrant 2); high willingness and low ability (Quadrant 3); and high willingness and high ability (Quadrant 4).

Entrepreneurs in the low willingness and low ability quadrant (Quadrant 1) are characterized by an unfavorable global mindset, little ambition to internationalize, and low perceived behavior control in all dimensions. Taking into account that these entrepreneurs have the intention of being present in one country or who do not consider internationalization important, and following the theory-driven typology described earlier, we label the entrepreneurial internationalization mindset of the entrepreneurs in this quadrant “Localists.”

Entrepreneurs in the low willingness and high ability quadrant (Quadrant 2) have high perceived behavior control for opportunity recognition, risk taking, and economic management, have companies with two or more FTEs, and have more than three persons working in the company. As this group includes individuals who have the intention of being present in two countries, we label the entrepreneurial internationalization mindset of the individuals in this quadrant “Incrementalists.”

The categorical levels of each variable in both high ability and high willingness quadrants, and the high ability and low willingness quadrants group closely together around the origin axis of the ability dimension. As none of these categorical levels of the variables can be distinguished clearly as high ability or

![Graphic representation of the MCA analysis](image)

**Figure 1.** Graphic representation of the MCA analysis.
low ability, we decided to group the categorical levels of the variables in these two quadrants (3 and 4) together as high willingness and medium ability, and interpret these together as one distinct entrepreneurial internationalization mindset. These entrepreneurs are characterized by having a favorable global mindset and favorable ambition to internationalize. At the same time, these individuals also show high perceived behavior control regarding investor relations, have a high level of international experience, their businesses have a low or medium number of FTEs (up to two FTEs) and have a small number of persons working in their company (fewer than two persons or two to three persons). As these entrepreneurs have the intention to be present in five, ten, or twenty or more countries, we label the entrepreneurial internationalization mindset of these entrepreneurs as “Globalists.”

**Validating the internationalization taxonomy**

In order to test the validity of the taxonomy to discriminate among different entrepreneurial internationalization mindsets with regard to internationalization behavior, we test the predictive abilities of the taxonomy of mindsets (Globalists, Incrementalists, and Localists) on their actual international behavior two years after entering the incubator. We used a Pearson chi-squared analysis of the contingency table of categories of entrepreneurial internationalization mindsets with “International Involvement After Two Years” (see Table 5). The analysis revealed a significant relationship between these variables \( \chi^2(2, N = 98) = 11.97, p < .01 \). The effect size of the relationship between the entrepreneurial internationalization mindset of the entrepreneur and actual internationalization behavior two years later was medium: \( w = .35 \) (Cohen, 1988). The odds ratios indicated that entrepreneurs who had a “globalists” internationalization mindset were four-times more likely to be internationally involved after two years than entrepreneurs with either an “incrementalists” or a “localists” internationalization mindset: \( OR = 4.17, 95\% CI: (1.46, 11.87) \).

We summarized the main findings of our study in Table 6. The three entrepreneurial internationalization mindsets differ in their willingness and ability to internationalize. After two years, those individuals in the

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6We acknowledge that internationalization can take many forms and shapes and that, for example, generating international sales is quite different from having international suppliers. We therefore also conducted a binary logistic regression of the entrepreneurial internationalization mindsets on internationalization behavior two years later and included the five-digit industry classification as a control variable. Industry fixed effects (industries dummies) capture time-invariant characteristics about particular industries, including the share of exports/imports for a particular industry at a particular point in time (Bernard et al., 2007). As some industries tend to rely heavily on international sales, and other industries on international suppliers, industry classification is a common proxy for import and export (Baldwin & Gu, 2004). Model fit: Nagelkerke \( R^2 = .34 \); AIC = 100.5; likelihood ratio test \( \chi^2(2) = 25.52; p < .001 \). Estimators: \( b_{industry} = -1.11, p < .001, \hat{e}^2 = 0.33; b_{industry} < .001, p = .56, \hat{e}^2 = 1.00 \). This shows that, when also controlling for industry, the entrepreneurial internationalization mindset still predicts internationalization behavior after two years, with globalists being most likely to internationalize and localists least likely to internationalize, which is consistent with the results of the Pearson’s chi-squared test.
same entrepreneurial internationalization mindset group (Globalist, Localist, or Incrementalist) develop similar internationalization patterns. Entrepreneurs with a globalist internationalization mindset are both willing and able to internationalize and have the highest score on internationalization behavior after two years. Localists, who score lowest on willingness and ability to internationalize have the lowest rate of internationalization behavior. Incrementalists report being able to internationalize, but also report less willingness to do so. Only about half of the incrementalists have internationalized after two years. In the next section, we will discuss these findings and their implications both for theory and practice.

**Discussion**

In order to better understand how cognitive factors in the early start-up stage influence start-up internationalization, we developed a taxonomy of entrepreneurs’ internationalization mindsets based on entrepreneurs’ cognitive characteristics that are known to determine internationalization behavior. Specifically, in this study we were interested in understanding how different mindsets, that is, the perceived ability and willingness to internationalize at the early start-up stage, result in different internationalization behaviors at a later point in time. We interpreted and validated this newly developed data-driven taxonomy of internationalization mindsets through the existing theoretical lens of the typology of internationalization behaviors (that is, born globals, Uppsala model, and domestic firms). We identified three categories of entrepreneurial internationalization mindsets: globalists, incrementalists, and localists. These mindsets are
characterized by different levels of willingness and ability to internationalization at the early start-up stage. Following a two-year period of start-up activity, we found that these distinct categories of entrepreneurs engaged in differing levels of internationalization (or lack thereof). As expected, it is clear that our taxonomy allows us to predict internationalization behavior of entrepreneurs. Globalists engaged in the highest level of internationalization, followed by the incrementalists, while the localists showed the least internationalization behavior of the three mindsets. Nevertheless, and somewhat surprising, a higher number of localists than expected engaged in internationalization activities after two years; we will discuss this further in the following.

First, we find that after two years “globalist” entrepreneurs are very likely to have internationalized (80.6 percent of the globalists in our sample internationalized after two years). These findings are consistent with the literature on international new ventures (Ibeh et al., 2018; Oviatt & McDougall, 1994; Sadeghi et al., 2018), global start-ups (Oviatt & McDougall, 1995), and born globals (Madsen & Servais, 1997), which argues that founders of born globals need to have high ambition and motivation levels (Madsen & Servais, 1997). Interestingly, our taxonomy groups these entrepreneurs together on the willingness dimension, which is consistent with this stream of literature (for example, Hermans et al., 2015). At the same time, our taxonomy does not differentiate these entrepreneurs’ mindsets on the ability dimension. This seems to suggest that, when looking at individual-level factors only, entrepreneurs with high willingness are likely to so internationalize, and that perhaps these entrepreneurs train their ability further as a consequence of their high willingness to internationalize. Another plausible explanation is that globalists who may lack the ability to internationalize cooperate with others under informal agreements to facilitate their internationalization (for example, Fink et al., 2008). The lack of an ability to internationalize (opportunity recognition, risk taking, investor relations, and economic management), however, for globalists is not consistent with the existing literature (Madsen & Servais, 1997; Oviatt & McDougall, 1994); and deserves further study.

Second, the “incrementalist” entrepreneurs take a slower route to internationalization (fifty percent of the incrementalists engaged in internationalization after two years). This is consistent with the Uppsala internationalization model (Johanson & Vahlne, 2006; Johanson & Wiedersheim-Paul, 1975) where movement beyond the domestic market is based on the firm’s gradually increasing commitment to enter foreign markets. Interestingly, our results seem to suggest that these entrepreneurs’ mindset indicates that they have the ability to internationalize, but have a low willingness to do so. Perhaps these
entrepreneurs internationalize not because they would like to, but because they need to due to firm-level (for example, Lin & Si, 2019) or environment-level factors (for example, Kamakura et al., 2012).

Finally, we find that “localist” entrepreneurs have the intention to operate in only one or two countries. At the same time, these entrepreneurs also report low perceived ability to internationalize or willingness to do so. The mindset profile we described based on entrepreneurs’ internationalization intentions, willingness, and perceived ability finds support in the work Blomstermo et al. (2004) and their finding that domestic firms find it harder to change their mental models when it comes to internationalization with 57.1 percent focusing on the domestic market only. As entrepreneurs with a “localist” mindset have low levels of willingness and ability to internationalize, our findings suggest that if entrepreneurs with a localist mindset internationalize, they do so due to external factors.

Therefore, it is surprising that 42.9 percent of “localist” entrepreneurs reported having engaged in internationalization activities after two years. We have four explanations for this surprising finding: (1) non-intentionality of internationalization behavior; (2) decision-logics regarding internationalization; (3) learning about internationalization; and (4) the size of the domestic market. First, our study is inspired by the theory of planned behavior, which assumes that behavior is intentional and planned (Krueger et al., 2000). However, it has been argued that some firms internationalize accidentally or serendipitously (Galkina & Chetty, 2015; Hennart, 2014; Kiss et al., 2020). Second, using effectuation logics enables entrepreneurs to follow opportunities to internationalize (Hannibal et al., 2016; Prashantham et al., 2019; Sarasvathy, 2001), even when they were not initially planned (Andersson, 2011; Nummela et al., 2014). The entrepreneurs in our sample were brought into contact with internationally active investors and business experts via the incubator, and the literature shows that the interplay between entrepreneurs’ and investors’ knowledge about internationalization influences internationalization activities (Park et al., 2015). Third, gaining knowledge about internationalization results in a decrease of the perceived costs of internationalization, and hence increases the likelihood of internationalization behavior (Eriksson et al., 1997). The weekly training that the entrepreneurs in our sample received in the incubator may have increased their knowledge of foreign markets and internationalization. Last, our sample was drawn from the Netherlands, which has a small domestic market (17.2 million inhabitants in 2018) compared to, for example, the United States (329.8 million inhabitants in 2019). Much of the internationalization literature is based on US samples (Baier-Fuentes et al., 2018). The size of the domestic market is known to affect internationalization behavior (for example, Ciravegna et al., 2018; Dimitratos et al., 2004; Kamakura et al., 2012), with companies in smaller domestic markets more likely to internationalize than companies in larger domestic markets.
When interpreting the taxonomy, we decided to group together both high willingness and high ability quadrant and the high willingness low ability quadrant. We did so because the categorial levels of the variables in these two quadrants grouped together around the origin of the ability dimension. This means that our taxonomy was not able to clearly distinguish between high and low ability among entrepreneurs who reported high willingness. It may be that entrepreneurs in our sample who have a high willingness to internationalize, have already gained some abilities to do so, but at the same time are also aware that they need to develop these abilities further. This may also explain why these entrepreneurs have decided to join the incubator in the first place. We also find that when entrepreneurs have strong intentions to internationalize, they have an increased chance of doing so, which is expected according to the TPB. This supports the theorized link between intention and actual behavior (Tornikoski & Maalaoui, 2019) and the importance of entrepreneurial orientation to engage in international activities (Karami & Tang, 2019). This implies that it is important for incubators, venture accelerators, and other entrepreneurial development organizations to focus on developing an internationalization intention in their participants if their companies need to internationalize. Developing an internationalization intention could be done by focusing on both attitudes toward internationalization, and by developing internationalization skills, to increase the perceived behavioral control regarding internationalization.

A strength of our study is that it uses point-in-time data, including data collected during the pre-internationalization stage (Welch & Paavilainen-Mäntymäki, 2014). The measures used to develop the taxonomy of entrepreneurial internationalization mindsets were collected before the companies started to internationalize and not retrospectively. The behavioral measures, however, were collected two years later when several companies had successfully internationalized. This enabled us to the test the predictive value of the internationalization mindset taxonomy on behavior outcomes measured at a later point in time.

**Limitations and future research**

In this study, we looked at internationalization behavior at the individual level. However, other research has shown that early internationalization is often the result of complex interactions at multiple levels, such as having a lack of resources at the organizational level (Park & Bae, 2004) or the presence of opportunities at the market level (Ciravegna et al., 2018). In future research, configurational approaches could be built on these other levels and by taking into account the complex interactions between levels (for example, Ciravegna et al., 2018).
For this study, we relied on data that were collected by an incubator for general research purposes and the incubator’s quality management system to monitor the progress and development of both the entrepreneurs and their ventures over time. To measure our concepts, we had to rely on proxies for certain concepts, sometimes based on a single question, instead of the most ideal operationalizations known in the literature. Future research may replicate our work using more refined measures. Since our conceptualization of internationalization mindsets is based on elements of the TPB, future research could more accurately test this theory in the internationalization setting.

Internationalization is a complex process that unfolds over time and takes many different forms. This process is nonlinear, and is affected by many different internal and external factors. In this study, we did not aim to describe and explain all of the different processes by which entrepreneurs could internationalize. Instead, we were interested in studying whether individual-level cognitive factors in the earliest stages of starting a company can predict internationalization behavior after two years. Therefore, our study does not take into account the complexities and diversity of internationalization processes, nor do we claim that this taxonomy is necessarily applicable to later stages of the internationalization process. However, it may provide a starting point for developing classifications of internationalization behavior at later stages in the process. Future research can also explore the application of the taxonomy in other phases of the start-up process and further explore the context in which internationalization activities take place (for example, the influence of market size on internationalization activity) (for example, Ciravegna et al., 2018; Dimitratos et al., 2004; Kamakura et al., 2012).

An important limitation of developing taxonomies is the arbitrary selection of variables on which to base the taxonomy (Fiegenbaum & Thomas, 1995; Ketchen et al., 1993; Miller, 1996). To address this issue, we selected variables following the logic of intention-based models (such as the TPB), and other antecedents known in the early internationalization literature to affect entrepreneurship internationalization behavior at the individual level (for example, Sommer & Haug, 2011), to conceptualize and measure internationalization mindsets.

**Contributions**

Our contribution to the entrepreneurship and international business literature is threefold. First, we add to the literature on international entrepreneurship the finding that even in the early start-up phase, when the company itself may not yet exist, some entrepreneurs have an internationalization mindset. By addressing recent calls for more configurational research approaches in internationalization research (for example, Jones
et al., 2011; Tsang, 2013), we were able to detect three distinct internationalization mindsets: Localists, Incrementalists, and Globalists. Whereas most existing research on early internationalization behavior looks at internationalization behavior in existing firms (for example, Ciravegna et al., 2018; Muzychenko & Liesch, 2015; Zucchella et al., 2007), we collected data on the antecedents of internationalization at the early start-up phase. By doing so, we add to the literature that these known internationalization patterns already exist in the mindset of the entrepreneur in the early start-up stage.

Second, we add to the literature on early internationalization behavior the finding that this behavior can partly be predicted by entrepreneurial internationalization mindsets. In conceptualizing the internationalization mindset using intention-based models, such as the TPB, we focus on the antecedents of behavior. These models are often used in the literature on entrepreneurship to study the intentions to become an entrepreneur (for example, Krueger et al., 2000). However, they have rarely been applied to internationalization behavior (notable exceptions are Acedo & Galán, 2011; Muzychenko & Liesch, 2015; Sommer, 2010). In our study, we show that internationalization mindsets using the logic of intention-based models are applicable to and can increase our understanding of internationalization behavior (for example, Muzychenko & Liesch, 2015). Moreover, by taking a point-in-time approach to the data collection, this study addresses the problem of retrospective bias, which is common in studies on early internationalization behavior (for example, Harveston et al., 2000; Kundu & Katz, 2003).

Third, whereas most studies that explain how internationalization intentions are formed do not make a link to actual behavior (for example, Sommer & Haug, 2011), we not only link our taxonomy to internationalization intentions, but also to actual behavior two years after the entrepreneurs entered the incubator. We thereby address recent calls to study the link between intentions and specific behaviors (for example, Tornikoski & Maalaoui, 2019). We show that these three distinct categories of internationalization mindsets are not only predictors of distinct internationalization intentions, but also distinct internationalization behaviors. This means that the pre-start-up stage internationalization mindsets of entrepreneurs are important antecedents of internationalization behavior in the future.

Managerial implications

Entrepreneurship policymakers, entrepreneurship support organizations, business incubators, and entrepreneurs themselves may benefit from these findings. Entrepreneurship policymakers and entrepreneurship support organizations may use these results to develop policies that are sensitive to the fact that there are multiple ways to internationalize and grow businesses. Policymakers,
incubators, and accelerators often try to attract potential high-growth businesses such as “scale-ups,” “gazelles,” or “unicorns.” However, not all entrepreneurs aim to grow their business internationally, and the ones who do may not aim to internationalize their company from the start. As this research shows, the mindset of the entrepreneur at the early stage of the company influences the decision and extent to which the entrepreneur will internationalize. Entrepreneurship policymakers and support organizations should therefore adapt their policies and programs in such a way that they fit with the preferences of the entrepreneurs, or use selection tools that fit the goals of the program. Although entrepreneurs may have many reasons to focus on internationalization and growth (for example, economies of scale, economies of scope), there are also advantages in staying small and local (for example, keeping all equity, specializing in a [geographical] niche, keeping freedom, and decision power).

Since we demonstrated that actual internationalization behavior is dependent on different configurations of willingness and ability to internationalize, supporting actors and organizations aiming at increasing internationalization awareness and goals should become aware that the development of competencies relevant to internationalization is central in the process as well.

For entrepreneurs, it may be beneficial to be aware of their own preferences and advantages regarding internationalization, because it will help them to make the right decisions regarding future internationalization. We have demonstrated that alongside willingness, the ability to internationalize is important to engage in actual internationalization activities. Therefore, entrepreneurs need to take stock of their competencies to do so and focus on developing those that may be crucial to successful internationalization.

Disclosure statement

No potential conflict of interest was reported by the authors.

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