

Imprints in the Sand: How Family Affects Entrepreneurship and Innovation

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## ABSTRACT

### Imprints in the Sand: How Family Affects Entrepreneurship and Innovation

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This three-paper dissertation examines the family's impact on the entrepreneurial decision to begin a new business or maintain innovative capabilities in an existing one. I will look at how early childhood memories and family relationships affect innovation at the individual level. The overall research question asks how society can create more entrepreneurs and what effect the family has in this process.

The first paper examines the link between a person's entrepreneurial intention and their family's expectations. Survey data from 157 business undergraduates indicate that although no direct effects were found linking family relationships to entrepreneurial intention, the addition of family relationships improves the perceived expectations' predictive ability on entrepreneurial intention. An emergent finding also points to the importance of childhood memories and how they affect entrepreneurial intention.

The second paper uses a single case study of a business family to examine the effects of childhood memories (imprints) on future behaviour. The analysis of the qualitative data indicates that imprints that develop from the observation of others must occur before those that develop through personal experience. Furthermore, the source of imprints forms different innovative behaviours. An interesting finding was the importance placed by the family members on family bonding experiences created from shared activities such as family dinner conversations and vacations.

The third paper uses a mixed method, multiple case study of 27 family firms to explore the relationships between imprints and entrepreneurial behaviours and includes family bonding experiences. Findings from the second paper were replicated with the addition of a new innovative behavioural type. This unique behavioural type emerged from the participants who were not close to other family business members but still maintained their family's innovative and entrepreneurial behaviours.

Overall, this dissertation contributes to the entrepreneurial and innovation literature in two ways. First, it extends the knowledge of imprinting both in terms of the process of imprinting and its link to innovative behaviours. Second, it has practical implications for policymakers and business families interested in developing next-generation entrepreneurs.

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**Ph-inally Done!**

## **DEDICATION**

In loving memory of my grandfather, Domenico Di Sipio, in whose eyes I could do no wrong. My family's first entrepreneur.

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## General introduction

Few would disagree that innovation is at the heart of entrepreneurship. However, some may disagree on how to ensure the development and maintenance of innovative capabilities within a business. Practitioners often criticize the lack of practical suggestions from the innovation literature (Fuetsch & Suess-Reyes, 2017). Given the importance of entrepreneurialism on most world economies, we still struggle to understand what society can do to encourage and develop entrepreneurialism.

The pandemic that spread globally at the start of 2020 provides an interesting context for examining entrepreneurialism and innovation. The pandemic may have helped push some people into the life of an entrepreneur. With unemployment at an all-time high, the need to provide for one's family may have been the incentive needed to start one's own business. Some entrepreneurs within existing businesses exercised their innovative capabilities and pivoted to sectors catering to the pandemic relatively well. For example, clothes manufacturers like Canada Goose began producing masks and gowns for healthcare workers. Hockey manufacturers like Bauer produced face shields for hospitals (Wong, 2020).

On the other hand, some reports indicate that the pandemic has disproportionately affected women and minority entrepreneurs (GEM, 2020). Some entrepreneurs have indicated that it was difficult to dedicate regular hours to their business. This is understandable, since it is not easy to work from home when everyone else is also at home. Never in recent history have the lines between work and family been so blurred. Consider the challenges faced by business families: Children may have been shielded at one point from the day-to-day operations of their family's business, but with remote work, they found themselves right in the middle of it. In many cases, they have a front-row seat to the daily life of their parent's business at the kitchen table.

This example is of particular interest; the research in this dissertation aims to examine the family's impact on the entrepreneurial decision to begin a new business or to maintain innovative capabilities in an existing one. This dissertation will take you on a journey through childhood memories and family and will contribute to theory development on the implications of these "familiar" aspects on entrepreneurial behaviours. The journey starts with Marquis and Tilcsik (2013), who did the early research using a person's experiences to explain organizational and individual life decisions. Their focus was on adult career trajectories. In conjunction with this work, I draw on Ajzen's Theory of Planned Behaviour (Ajzen, 1991), describing the social context in which entrepreneurial intention are formed. Finally, Dickel et al. (2020) recently investigated how some forms of entrepreneurship develop by observing parental entrepreneurship in childhood.

This dissertation includes three papers. The first paper focuses on how family influences predict entrepreneurial intention via the perceived expectations of family members and others in a person's social circle (Ajzen, 1991). Findings indicate that although no direct effects were found linking family relationships with entrepreneurial intention, the addition of family relationships improves the perceived expectations' predictive ability on entrepreneurial intention. An emergent finding also points to the importance of childhood memories and how they affect entrepreneurial intention.

The second paper builds on the first by further exploring the effects of early childhood

memories and experiences on raising the next generations of entrepreneurs. Study 1 indicated that childhood memories might have an enduring psychological element that may affect future behaviour. Thus, the mechanisms underlying these memories' formation, structure, and persistence were further explored. A case study approach was used to extend the current knowledge about long-lasting and impactful childhood memories, or "imprints," and their implications (Dickel et al., 2020; Marquis & Tilcsik, 2013). A case study provides the deep, rich narratives needed to explore the imprinting process. A single business family case study was chosen based on the unique opportunity to follow the imprinting process from one generation to the next. This case also provided insight into how innovation could be maintained even in a declining industry.

Furthermore, given that the case involved a family business, the effects of the family on business innovation could also be studied. The findings confirmed the imprint types previously proposed by Marquis and Tilcsik (2013). It also expanded current knowledge by understanding imprints' sequencing (or formation), the strength of imprints (perceived importance), and the implications of imprints for entrepreneurial behaviour. Participants alluded to the importance of family bonding activities, and this aspect of family relationships is further explored in Study 3.

The third paper further explores the implications of imprints. Using a multiple case study approach, participants from 27 business families took part in this mixed methods research. The purpose was to explore the relationships between imprints and entrepreneurial behaviours by including the effects of family bonding. From this study, we can offer practical advice on using existing family resources to continue a business' legacy of innovation. Furthermore, by determining entrepreneurial behaviours using knowledge of imprint types, business families would be able to craft roles for the next generation that will speak to their aspirations and empower their motivation to keep the spirit of entrepreneurialism alive in the family business.

Experiences in childhood and youth could be the kindling needed to start the fire of entrepreneurship—and the family provides the spark. I therefore examine these experiences and family relationships' role in entrepreneurialism and innovation. This research will be helpful for policymakers whose mandate is to encourage entrepreneurialism within communities. The findings will also benefit families who want to support their budding entrepreneurs and business families who may wish to nurture the aspiring innovators among their next generation.

## STUDY 1

### **Nurturing the entrepreneur: The impact of family on entrepreneurial intention**

Canadian entrepreneurs don't stop at making great products. They use their influence and vision to help shape the Canadian environment that benefits society as a whole. For example, 15-year-old Joseph-Armand Bombardier's first entrepreneurial invention was the snowmobile. With an initial purpose of helping people travel through snow-covered Quebec rural roads, he built a multinational company known around the world. An 18-year-old John Molson borrowed money from his grandmother to found today's fifth-largest brewery company in the world. Not only did his beer put Canada on the brewery map, but his contributions are ingrained into the fabric of his adopted city of Montreal. More recent examples abound. With a hand from the past and an eye towards the future, Cassandra Nordell's company brings eco-friendly cabinets from Ontario to thousands of homes. Finally, Lynn-Marie and Melissa-Rae Angus use traditional Indigenous ingredients to create wellness products that help others and the environment. In an era of environmental crisis and natural disasters, their eco-friendly products are part of the solutions needed to combat climate change and global warming. Entrepreneurs are the backbone of our society. Yet little is known about what we can do to help ensure their development and survival. For this reason, we continue to seek answers to the question: How do we encourage more entrepreneurship? What factors are crucial in creating entrepreneurs?

In striving to specify further these contributing factors to entrepreneurship, some scholars have focused on traits linked to entrepreneurial behaviour. These traits include dimensions from the five-factor model of personality (specifically, openness, conscientiousness, and neuroticism) and risk propensity (Antoncic, 2009; Hao Zhao et al., 2010; Kets de Vries, 1977). Others have preferred adopting a behavioural perspective, examining behavioural predictors such as entrepreneurial orientation (Miller, 1983), entrepreneurial motivations (McClelland, 1961), cognition (Krueger, 2007; Shane, 2000) and opportunity recognition (Gregoire et al., 2010; Sarasvathy, 2001).

Despite this, we still have not fully unlocked the mysteries of what makes an individual become an entrepreneur. For example, some entrepreneurs have shown resiliency in times of crisis, while others have struggled to survive. We do not know why or what we can do to help entrepreneurs succeed (GEM, 2020). Policies aimed at increasing entrepreneurship often fail for three primary reasons: the policymakers do not understand what entrepreneurs need; the policies do not recognize diversity among entrepreneurs; and the process of receiving resources and support is too time-consuming and challenging (Cukier et al., 2021). This research explores the roots of entrepreneurial behaviour by investigating early influences during childhood and youth. We examine how family relationships may aid or undermine intentions to start or acquire a business. Since Kets de Vries (1996) and Krueger (2007) first alluded to it, family influences have become an important aspect in entrepreneurial literature. In addition, the family firm literature has implicated family dynamics as an important factor in business families (Jaskiewicz & Dyer, 2017). Furthermore, parents have always been recognized as important actors in the socialization of their children (Maccoby, 1992). All these implications provide an exciting venue for studying entrepreneurial intention through the lens of family influence.

Practically, this research benefits both policymakers and individuals. It advises governments and policymakers who strive to increase entrepreneurial activity by underscoring areas in which their support could foster early entrepreneurial activity. This study's findings are particularly noteworthy in times of crisis, when one may turn to family and friends for support. Investments in family-supportive policies may further amplify the wanted effect of increased entrepreneurial activity. The findings from this study are also noteworthy to individuals, be they individuals from entrepreneurial families or those wanting to foster an environment open to entrepreneurial endeavours. For family members and particularly parents, understanding the effects of interpersonal relationships may better explain how actions and interactions affect their offspring's career paths.

### **Evolution of the definition of entrepreneurship**

The definition of the entrepreneur, first developed by Cantillon, has evolved based on the different perspectives of an entrepreneur's role (Cuevas,1994). Cantillon defines an entrepreneur as an "intermediary [...] who instigates a transformation" (Dana and Filion, 2011). Basically, he describes an entrepreneur as a person who buys a raw material from one person at a known price and sells it to another person at an unknown price (Dana and Filion, 2011). Based on this economic perspective, Cantillon influenced several notable researchers, like Say (1964), Drucker (2002), Schumpeter (1934) and Kirzner (1979, 1997), who also developed their definitions of the entrepreneur (Bull and Willard, 1993), and their description of the entrepreneur. However, one limitation of these definitions is that it includes only the entrepreneur's economic elements, not the entrepreneur's psychological or sociological elements.

Based on the proliferation of entrepreneurial definitions, Baumol (1993) separates them according to the two main views of the entrepreneur. The first view focuses on the definition of the entrepreneur as someone who owns, organizes, and operates a new business. The second view focuses on the definition of an entrepreneur as someone who is an innovator. In the second case, they may not have created a new business but may be using resources in new ways. This perspective follows the definition proposed by Schumpeter.

Bull and Willard (1993) were among the first to attempt to provide a theory of entrepreneurship. They sifted through the many definitions of entrepreneurs, which cumulated to their suggestion that scholars should be using the description developed from the works of Schumpeter. By adopting Schumpeter's definition of an entrepreneur, Bull and Willard (1993) propose a tentative entrepreneurship theory. They propose that entrepreneurship will occur under conditions of "task-related motivation," expertise, "expectations of gain for self," and a supportive environment (p. 188).

Cuevas (1994) follows the evolution of the definition of an entrepreneur, starting with Cantillon. He shows how Cantillon influenced various prominent economic theorists such as Schumpeter (1934), Knight (1921), Kirzner (1997) and Weber (1958/2003, 2019). Furthermore, he develops a 3-sphere model which describes the main functions of an entrepreneur; financial sphere (includes the traditional capitalist function), managerial sphere (which consists of the overseeing and organization of daily activities but assumes no entrepreneurial risk) and booster (innovation) sphere (includes taking on risk and mobilizing resources to develop a project). Cuevas does include non- economic contributions to entrepreneurship made by Weber (1958/2003, 2019), McClelland (1961), Collins et al., (1964), and Leibenstein (1966). However, the representation of significant contributions still skews towards an economic view.



Bruyat and Julien (2001) continue the discussion Baumol (1993) started about the two entrepreneurs' perspectives. They also adopt Schumpeter's definition of an entrepreneur as someone who creates new value (either through innovation or a new organization). They also discuss the importance of the environment to the entrepreneur. That is, the influence that other entrepreneurs and resources found in the environment have on the entrepreneur. They argue that "in the field of entrepreneurship, not only is 'Who is an entrepreneur?' the wrong question (Gartner 1988), but the entrepreneur taken in isolation is the wrong research object" (Bruyat and Julien, 2001, p. 171)". Thus, it is essential to look at the entrepreneur, their projects, and the environment's influence on this interactive system.

The field of entrepreneurship has grown and the focus has shifted to understanding entrepreneurial development (how to raise the next generation of entrepreneurs). Many approaches have been used to understand and explain entrepreneurial development (Jana, 2020). The first to be used was the trait approach to entrepreneurship. Introduced in 1961 by McClelland, "Need for Achievement" was argued to be important in determining a person's predisposition to developing into an entrepreneur. However, critiques argued that this entrepreneurial characteristic did little to promote entrepreneurial development in society since it implied that the absence of this characteristics discouraged a society's ability to develop entrepreneurs (Frey, 1984). Despite the nature versus nurture debate of entrepreneurial development, many researchers followed in trying to determine which traits would lead a person to become an entrepreneur (McClelland, 1961; Kets de Vries, 1996; Hornaday & Bunker, 1970).

However, the family's influence on childhood experiences could not be denied (Collins et al., 1964; Roberts, 1991). This gave way to the demographic approach, which focused on the effects of history and childhood experience on a person's development. Dyer and Handler (1994) developed a typology that looked at four points where the family may influence a future entrepreneur, giving rise to the nature versus nurture debate of entrepreneurship.

Further research introduced the idea that the trait you were born with and where you came from may still not be enough to explain entrepreneurial development. Some researchers therefore turned to the behavioural approach, which focused on understanding what attitude, behaviours and skills could lead a person to have the confidence and know how to develop into an entrepreneur (Jennings and Beaver, 1997; Greiner 1972/1998; Ajzen, 2012). Other researchers have used a cognitive approach to look at what cognitive factors are important in people who eventually develop into entrepreneurs (Baron, 2007; Hisrich et al., 2007; Mitchell et al., 2007). Although their focus was on how entrepreneurs think, they still considered how behavioural and cognitive factors may work together to influence the entrepreneur's behaviour (Baron, 2007)

Later approaches (Jana, 2020) focused on events encouraging entrepreneurial development because they made entrepreneurship seem more desirable as a career option. These approaches include the socio-cultural approach (Weber, 1958/2003; Kets de Vries, 1996), venture facilitation approach (Carree et al 2001, Aguilera et al., 2015), and entrepreneurial event approach (Bygrave and Hofer, 1992; Bruyat and Julien, 2001). The unique contribution of these approaches was the introduction of other antecedents to entrepreneurship focusing on a person's external environment, such as family, culture, and economy. However, these approaches still included elements of the behavioural approach within its discussion of entrepreneurial development, such as the activities and actions the person engaged in because of the antecedents

under study.

Finally, research moved away from expecting that one approach would be enough to explain the complex process of entrepreneurial development. This gave rise to another type of approach, which includes various aspects of the previously described approaches and combines their contributions into a more comprehensive explanation of entrepreneurial development. The multi-dimensional approach is one (Thompson et al., 2020). It states that interactions between the individual, organization, environment, and the process of developing a business influence a person's entrepreneurial development (Gartner, 1985). This approach increases the scope of entrepreneurial study to gain a more holistic understanding of the entrepreneurship phenomenon. At the same time, it includes aspects of the individual and their environment, including their behaviour.

Based on Schumpeter's definition of an entrepreneur and following Bruyat and Julien's (2001) suggestion that the environment is an essential player in the development of entrepreneurs that needs to be studied, this study followed the behavioural approach. It focuses on a person's social circle to learn how entrepreneurs can be developed within society. Thus, this study was based on the framework of Ajzen's Theory of Planned Behaviour (Ajzen, 2012), which is discussed in the next section.

### **Entrepreneurial intention**

Entrepreneurial intention refers to a person's "conscious state of mind that directs personal attention, experience and behaviour towards planned entrepreneurial behaviours" (Obschonka et al., 2010, p. 63-64). In other words, entrepreneurship is rarely an accident but rather a decision taken by choice. Entrepreneurial behaviours refer to entrepreneurial activities that include starting a business or buying an existing one. Entrepreneurial intention precedes implementing an innovative concept (Hoy & Sharma, 2010), whether that innovative concept is introducing a new product, market, source of raw material, method of production to an existing business or starting a new business altogether (Becker et al., 2011; Schumpeter, 1934). The plan to start any of these activities is what I will refer to as entrepreneurial intention.

Ajzen's theory of planned behaviour has been the most widely used framework for studying a person's intention leading to an actual behaviour (Ajzen, 2012) With its roots in the theory of reasoned action and Bandura's social cognitive behaviour (Bandura, 1977), Ajzen's theory has been extensively used to study entrepreneurial intention and behaviour (Liñán, 2008). In alignment with the field's acceptance of this framework, this study also adopts Ajzen's theory of planned behaviour as its base theoretical framework.

Ajzen (2012) identifies three antecedent factors that influence a person's level of engagement in a particular behaviour. First, *attitude towards behaviour* refers to how a person feels when engaging in a specific behaviour, such as, how a person feels about starting their own business. A positive attitude about entrepreneurial activities will increase the intention to participate in entrepreneurial behaviour, while a negative attitude will have the opposite effect.

The second factor, *subjective norms*, reflects a specific referent group's expectations about the behaviour. These referent groups can be family, friends, or anyone deemed essential in a person's social network. Their norms may explain why the person may engage in the behaviour depending on whether the opinions of the referent group are important to the person.

What your family and society think about being in business for yourself may create a degree of social pressure to comply with your social circle's beliefs. For example, a single mother may have worked all her life in a large corporation only to find that months before she retires, she is let go without a severance package or access to a retirement package. She may feel that she spent her whole life working, with nothing to show for it. She may also feel that starting that bakery when she had the chance would have given her more control over her career and a business with her name on it. This experience would have created a positive attitude towards entrepreneurship that in turn would influence her children's entrepreneurial intention. Conversely, another example is that of a father who works day and night to ensure his company survives to provide for his family. He pushes his children to get an education and work for a larger, stable company so that they may take family vacations and spend time with their kids - an opportunity he was never afforded. Not being able to balance his personal and professional life may result in a negative attitude towards entrepreneurship, discouraging his children from entering a life that mimics his own. These anecdotal accounts of how a parent's perspective may influence the formation of a "would-be" entrepreneur or a "never-was" entrepreneur merit further inquiry.

Finally, *perceived behavioural control* refers to a person's belief in their ability to control the steps necessary to engage in the behaviour. It is the extent to which you believe you have the knowledge and skills to achieve your plans; that you are in complete control of the outcome. For example, a person may hold the belief that he or she can successfully identify an opportunity and turn it into a new business venture. Following this logic, thinking that venture creation is beyond their control or abilities would lead a person to not engage in the behaviour of starting a new venture (Kautonen et al., 2015).

### **Subjective norms: A vital factor in predicting entrepreneurial intention?**

Many entrepreneurship studies have empirically shown the effectiveness of these three antecedents - attitude, subjective norms, and perceived behavioural control - in explaining the link between intention and behaviour. Unfortunately, the weakest link in the model appears to be the subjective norms factor. Most studies show that perceived behavioural control has the most predictive power, followed by attitude, with the weakest link being subjective norms. On the other hand, more recent studies show differences in how subjective norms influence entrepreneurial intention. Thus, a reevaluation of the subjective norms' influence on entrepreneurial intention is needed. In this study, particular emphasis is placed on the subjective norms factor because it directly incorporates family influences into the entrepreneurial intention model.

A year-long longitudinal study (Kautonen et al., 2015) surveyed 969 adults from Finland and Austria. The study showed that subjective norms had the strongest predictive power for entrepreneurial intention, which differs from the results obtained from other studies discussed below even though most studies used the same measures. Kautonen's (2015) final scale comprising the subjective norms measure was the product of the referent person or groups' attitude towards starting a business, and the person's motivation to comply with their attitude. Furthermore, the participants were asked to evaluate what they believed their referent other's attitude was towards entrepreneurialism. Thus, the participants were asked to infer another person's system of values and beliefs regarding entrepreneurship. These results showed that a person's social circle has an important influence on entrepreneurial behaviour.

A person's social context should have a more significant influence than the current findings suggest. Focusing on the subjective norms, we ask, "Does getting to people's important relationships give us additional insights about their entrepreneurial intention?" Subjective norms focus on family, friends, and essential others' roles on a person's entrepreneurial intention. Focusing on the influence of a person's social context should show the importance of studying the influence of the subjective norm factor.

Neira et al. (2017) focused on two aspects of subjective norms: a person's perception of their social capital and cultural factors. Their goal was to understand the effects of a person's social environment on entrepreneurial aspirations before and after an economic crisis. Data obtained through the GEM project showed that cultural norms play a role in a person's perception of the importance of having a social network, especially during times of crisis.

Heuer and Kolvereid (2014) also proposed more attention to social factors. Their research investigated the effects of entrepreneurial education (formal academic studies, such as presentations by entrepreneurs, in-class simulation of venture creation, lecture classes and seminars) on entrepreneurial behaviour. Data were collected through a survey of students and alumni in Belgium and Norway, respectively. The Belgian sample contained 807 students, while the Norwegian sample contained 261 alumni. The researchers hypothesized that entrepreneurial education would increase entrepreneurial intention mediated by its antecedents (attitude, subjective norms, and perceived behavioural control). Their hypothesis, however, was not supported; they did not find any links between entrepreneurial education and attitudes, subjective norms or perceived behavioural control. They did find that entrepreneurial education directly influenced entrepreneurial intention, and they also found a link between attitude, subjective norms and perceived behavioural control and entrepreneurial intention. Why did the predicted mediation fail? The authors suggested that the reason was probably because of an issue with the measurements used in the study. They contended that the theory of planned behaviour is heavily focused on the effects of individual elements instead of social elements. Indeed, they noted that Ajzen's subjective norms factor is based on more individualistic perceptions of the importance of a person's social network. They suggested that a measure of more social-level influences, such as family relationships, would provide further insights into the importance of these social norms. Including family relationships would strengthen the link between subjective norms and entrepreneurial intention, incorporating other aspects present within a social context.

Ferri et al. (2019) investigated the factors of entrepreneurial intention in university students from Italy. They wanted to look at higher education's role in acquiring the skills needed to increase the self-perceived competence required to become entrepreneurial. They found that all three factors (attitude, subjective norms, and perceived behavioural control) influenced the student's entrepreneurial intention. However, attitudes and subjective norms were the least predictive in determining entrepreneurial behaviour.

Similarly, Liñán (2008) wanted to see if a person's perceived social valuation of entrepreneurship and perceived personal skills influenced a person's entrepreneurial intention. Through a survey given to university students, they found that personal skills influenced the antecedents of entrepreneurial intention. In addition, they found that the family (closer) and social environment did not affect any of these antecedents. Both the family and social environment affected only personal skill perception. However, family and friends directly affected entrepreneurial intention (choice to start a business) (Liñán, 2008). A positive social

pressure (subjective norms) towards entrepreneurship works more through the self-perceived entrepreneurial skills they may have, than the family pressure they feel. This is surprising since it implies that even if family and friends value entrepreneurship, they do not affect the motivation to start a business, rather they only affect the intention to start a business (Liñán, 2008). Therefore, family does influence the intention to start a business, but does so through an unexpected process which would benefit from further exploration.

Using the same methods as Liñán et al. (2008), and a student population, Joensuu-Solo et al. (2015) also analyzed the antecedents to entrepreneurial intention. They found that the best predictors of entrepreneurial intention were attitude and perceived behavioural control, with subjective norms playing a minor role. In addition, they found that perceived behavioural control were the best predictors of entrepreneurial behaviour, while subjective norms and attitudes were not. Although they used the same method, Joensuu-Solo et al.'s (2015) results countered those of Kautonen et al. (2015), indicating that further study into the influences of subjective norms is warranted.

Liñán (2008), Joensuu-Solo et al. (2015) and Ferri et al. (2019) all show that higher education would seem to play a more important role than one's social circle. However, since the participants were university students, they may have already been primed to seek information more from formal institutions than informal institutions like families (Heuer and Kolvereid, 2014). This could be an example of what Ajzen and Fishbein (2004) referred to when discussing how differences in population may be an additional factor to consider when looking at the variances of each antecedent on entrepreneurial intention. For instance, the students may already see the benefit of a formal education, thus the variance observed in the study may be due to a combination of the measure for perceived behavioural control, the measure of the skills they were testing, and the population itself. Consequently, their focus on the acquisition of skills may have inadvertently unbalanced the impact of attitude and subjective norms on entrepreneurial intention, thereby underestimating their effect on entrepreneurial intention and overestimating the explained variance of perceived behavioural control. In other words, when they built in the skills measure, it augmented the effects of perceived behavioural control and created an imbalance in the three antecedents by increasing the effects of perceived behavioural control more than subjective norms because university students are already inclined to see the benefits of education.

Thus, much like Kautonen et al.'s study, the questions that would have tapped explicitly into the role that family and friends may play in developing their intentions (and thus create a more balanced focus between individual skills and social context) were not present. Moreover, focusing on formal institutions neglects the vast amount of implicit information in more informal institutional networks.

However, three issues could improve our understanding of the importance of social pressure on a person's intentions for action. Firstly, this operationalization of subjective norms captures only a person's inner viewpoint of another person's attitude. We don't understand why a person would submit (or not) to the expectations of their social circle.

Secondly, even today, entrepreneurs are often described as mavericks (Kets de Vries, 1977). Mavericks do not follow the rules, nor are they expected to comply with another's request. Therefore, Kautonen's measure corresponding to motivation to comply may underrepresent the impact of norms. Even if someone in their social network influenced

entrepreneurs, they may not be consciously aware of it or will not admit it to others (or themselves).

Thirdly, the motivation to comply aspect of subjective norms asks how much the person cares about the opinions of their social circle. However, relationships are more complex and involve more cognitive processing than "caring". So, again, including a more global understanding of family relationships may help increase our awareness of the importance of family on the creation of entrepreneurial intention.

In summary, based on the theory of planned behaviour model, the entrepreneurial intention seems to be a product of environment and self-perception. However, all these studies showed differing results, most notably for the subjective norms factor. Some studies indicate that subjective norms influence entrepreneurial intention but to varying degrees of importance. Given this conclusion, we need to emphasize family influence to make sure the measures are more balanced and reflect the actual influence of a person's social context. A closer look at the subjective norms factor is warranted, therefore, to understand a family's influence and effect on entrepreneurial intention.

The contribution of this paper is to understand how family relationships influence entrepreneurial intention by focusing more on interpersonal factors affecting entrepreneurial intention versus the influence of a person's social circle. By refining the theory of planned behaviour in this way, I will address the ongoing debate on the influence of subjective norms on entrepreneurial intention.

### **Methodological differences in the study of subjective norms**

The various studies using the theory of planned behaviour as their theoretical framework differ in terms of the population studied, the behaviour used, and the purpose of the study. Given this wide variability, I limit the discussion of previous work to four of the most prominent issues: effects of specific populations used in the study, whether the behaviours studied were continuous or repeated, whether the behaviour was familiar, and the study's purpose.

According to Ajzen and Fishbein (2004), psychological effects may happen in *specific populations*, resulting in underestimating the true influence family and friends have on the person's intention. For example, behaviours may not be directly comparable because certain behaviours may have a higher social desirability bias than others. For instance, adherence to a medication schedule would have a higher social desirability bias than supporting environmental organizations (Sussman & Gifford, 2019; Weinstein, 2007). In addition, different populations may view a behaviour differently. For example, younger generations may be more susceptible to social desirability bias than older generations. Depending on the behaviours being studied and the population under study, the importance of the three antecedents of Ajzen's theory of planned behaviour may differ. In some studies, subjective norms might show high predictability, while for a similar replication study with a different population, it may be a different antecedent that has higher predictability.

Other studies differ concerning *how often the behaviour is expected to be performed*. For example, is the behaviour continuous or repeated (as in exercise or condom use), intermittent (as in dental visits) or a one-time behaviour (taking a new vaccine) (Weinstein, 2007)? This

distinction can influence whether one needs to consider past or current behaviour within the study. It may also affect possible reciprocal correlations between the theory of planned behaviour elements, such as the antecedents, intention, and behavioural factors (Sussman and Gifford, 2019; Weinstein, 2007).

Furthermore, some behaviours differ in their *familiarity* with the participants. For example, coffee consumption is a more typical behaviour than supporting the building of nuclear power plants (Sawicki et al., 2011). Thus, behavioural familiarity may affect the influence level of attitude strength on the prediction of intention. Consequently, if a person is familiar with entrepreneurial activities, it may affect the strength of their attitude toward entrepreneurship.

Finally, the *study's purpose* may also differ. For example, some studies look to test the theory of planned behaviour regarding how well the antecedents can *predict* behaviour (Joensuu-Salo et al., 2015; Liñán, 2008), while others look to test how well the theory of planned behaviour antecedents can *change* behaviour (Sniehotta, 2009). This is a subtle but important distinction. We can therefore appreciate that greater care needs to be taken when comparing theory of planned behaviour studies to understand intention and behaviour.

### **Family relationships**

We have seen that some studies acknowledge a social component that may be a factor in developing entrepreneurial intention. For example, families form part of the social context or social capital of individuals. They impart emotional support and knowledge pools and form the important norms governing their identity (Galvin et al., 2012). The consideration of family relationships may help illuminate the social capital of entrepreneurial intention.

To study how family relationships may affect the development of young persons' entrepreneurial intention, I will use the **intergenerational solidarity theory** to examine the relationships between adult family members across generations.

Intergenerational solidarity theory focuses on adult family members' feelings for each other without being limited by changing family structure. This means that family influence will focus on the relationships between family members without assuming a "traditional" nuclear family structure of two heterosexual parents and their children (Aldrich et al., 2021). The relationships that influence their entrepreneurial intention can still be studied whether one was raised by their grandparents, influenced by their entrepreneurial aunt, or exposed to entrepreneurship through their stepmother and stepsiblings. This revised family lens is needed because the predominant family structure can no longer be assumed to be the traditional nuclear family. In addition, more families are defined as dual income, where the bulk of childrearing is done by the grandparents who have more time to dedicate to their grandchildren than the children's working parents (Galvin et al., 2012). This framework's lack of structural family rigidity will help us better understand how family interactions can influence entrepreneurial intention. Therefore, identifying families by their relationships and not by their structural components will give us a more accurate view of family influence.

The development of intergenerational solidarity theory was derived from work done on the cohesiveness of groups (Bengtson et al., 1976). Bengtson et al. (1976) used the definition of solidarity (or integration, cohesion, community as it may have been known to other researchers at the time) as identified by Nisbet in 1966 as the "social bonds characterized by emotional

cohesion, depth, continuity and fullness” (as quoted by Bengtson et al., 1976, p. 244). Solidarity is the “glue” that overrides human self-interest within a group (Bengtson & Roberts, 1991; Roberts et al., 1991). Bengtson et al. (1976) adapted this definition to families (since, according to them, a family is simply a small group) to include aspects of association, consensus, and affection as the type of interactions among family members that would be important to differentiate between family solidarity and general group solidarity.

Nye and Rushing (Nye & Rushing, 1969) conceptualized the intergenerational solidarity theory into six dimensions: associational integration (refers to the frequency and type of formal and informal interaction that family members engage in), affectional integration (refers to the feelings of warmth, trust, and closeness between family members), consensual integration (refers to the degree of shared family values and attitudes), functional integration (refers to the expectation of access to family resources), normative integration (refers to the strength of commitment to carrying out of family roles and the felt obligation to meet family goals), and goal integration (Bengtson & Schrader, 1982; Hammarström, 2005; McChesney & Bengtson, 1988; Roberts et al., 1991).

This new conceptual framework served as the main framework where both past and future research could be organized. Since then, researchers have been using this framework with only minor modifications, most notably the elimination of goal integration replaced by intergenerational family structural (or structural solidarity which refers to the opportunity structure for intergenerational relationships reflected in number, type, and geographic proximity of family members). Bengtson and Schrader (1982) argued that the inclusion of goal integration was redundant since most of its aspects are already addressed in the other dimensions such as consensual, functional, and normative integration (as stated in Roberts et al., 1991).

For this study the scope was limited to dimensions consistent with the ideas of connection and support that families provide. For example, a family connection can increase a person’s sense of meaning and purpose (Thomas et al., 2017). Furthermore, the quality of family relationships can increase a person’s sense of well-being, making it easier for them to cope with life’s stressors and develop a greater sense of self-esteem (Thomas et al., 2017). In addition, families provide support by sharing resources such as financial, psychological, intellectual and moral support (Hoy & Sharma, 2010). For these reasons, the study focuses on the solidarity dimensions of affection, consensus and functional. Combining these dimensions answers the need to focus on the emotional bonds that family members create, and the resource sharing family members can expect. Table 1, defines the three dimensions used in this study and includes the empirical indicators typically used in research.



*Table 1: List of intergenerational solidarity dimensions, their definitions, and typical empirical indicators*

<b>INTERGENERATIONAL SOLIDARITY DIMENSIONS</b>	<b>DEFINITION</b>	<b>EMPIRICAL INDICATORS</b>
<b>AFFECTIONAL SOLIDARITY</b>	Type and degree of positive sentiments held about family members, and the degree of reciprocity of these sentiments. It includes feelings of trust, respect, understanding and warmth	Ratings of affection, warmth, closeness, understanding, trust, respect, and so on for family members Ratings of perceived reciprocity in positive sentiments among family members
<b>CONSENSUAL SOLIDARITY</b>	Degree of agreement on values, attitudes, and beliefs among family members	Intra-familial concordance among individual measures of specific values, attitudes, and beliefs Ratings of perceived similarity with other family members in values, attitudes, and beliefs
<b>FUNCTIONAL SOLIDARITY</b>	Degree of helping and exchanges of resources	Frequency of intergenerational exchange of assistance, (e.g., financial, physical, emotional) Ratings of reciprocity in the intergenerational exchange of resources

*Source: Table adapted from Bengtson and Schrader (1982) and McChesney and Bengtson (1988), as presented in Roberts et al. (1991), also includes information from Hammarstrom, 2005.*

Associational, and structural dimensions were excluded from this study. As we have recently learned living through a pandemic, family activities no longer require being physically close (associational solidarity). In addition, current technological advances have allowed us to maintain close ties to our family without having to live nearby (structural solidarity) (Aldrich, 2021). This became apparent as more people communicated and checked up on their loved ones through online platforms. The associational and structural dimensions were therefore eliminated because they were not relevant given today's technological advances.

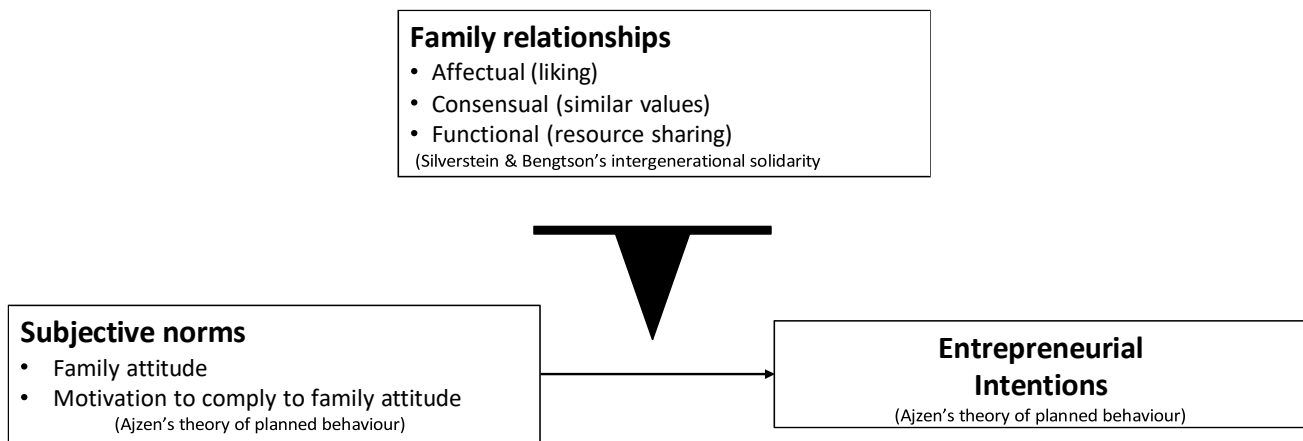
The normative dimension was also excluded because the measures used to date are unreliable and do not include the complexities of normative solidarity (Mangen et al., 1988). For instance, norms are abstract concepts of socially defined rules about appropriate behaviours given a person's role in societal situations (Mangen et al., 1988). Given the norm's abstract nature, we would need to include measures that capture the expected exchange relationship between *each* family member; the circumstances under which it be appropriate to expect the norm to be invoked; and what happens if the norm is violated (in other words, can you be "fired"

from the family if you violate a norm and what would that "firing" look like?). These aspects still need to be adequately defined and addressed in the literature. In addition, most of the items used to measure normative solidarity are similar to those found in functional and affectual solidarity. Given that normative solidarity still needs to be discussed in more detail, the current measure is not reliable, and the items lack discriminant validity, normative solidarity is excluded from this study.

### Conceptual model

Based on the above discussion, I will outline the conceptual framework that will guide this study. The purpose of this exploratory study is to understand the impact that family can have on entrepreneurial intention. By improving our understanding of subjective norms, we can better balance individual and social dimensions. My focus on social dimensions stems from the knowledge that our family initiates our journey towards self-development (Garcia et al., 2018). Thus, the family should significantly influence shaping our attitudes and self-perceptions, which in turn define our intentions. Focusing on only individual dimensions leaves out an important part of our identity, which comes from our identification with our social group (e.g. family, friends, and social networks). Figure 1, below represents the conceptual model guiding this study.

*Figure 1: Conceptual model*



Subjective norms directly refer to a person's willingness to comply with a referent group's desire for the person to perform a behaviour (Ajzen, 2012). It forms a social pressure among its members to abide by the norms of the group. If the family (an example of a person's referent group) wants the person to engage in entrepreneurial behaviours, and the person wants to comply with the family's expectation, the person will be more likely to exhibit entrepreneurial intentions leading to entrepreneurial behaviours.

Some researchers have indicated that family may have a substantial influence on

entrepreneurial intentions (Heuer & Kolvereid, 2014; Krueger, 2007). Consequently, adding a family relationship aspect should improve our understanding of the family's role in intention formation and behavioural engagement. In addition, the amount of flexibility and independence incorporated into a family's relationships with its members will influence the child's attraction to entrepreneurship.

We need to take a closer look at the inner workings of subjective norms. The norms that create a family attitude and the motivation to comply with the family's attitudes by its members should be reflected in the family member's intention. Norms provide the rules of behavioural expectations, which first start as intentions to behave. These norms (concerning family attitude and the motivation to comply) would provide a family pressure that would encourage or discourage entrepreneurship. Thus, we need to look at the conditions under which a person would comply with family expectations.

In general, if you want to belong to a specific group, you want to comply with the group's expectations to signal your interest in belonging to that group. If you want to belong to a running club, you will show your intention by buying the same equipment as the people already in that club, such as a specific brand of running shoes or clothes that the "real" members are sporting.

Although you already belong to a family, you may want to emphasize your desire to continue to belong by signaling your intention to adopt their views on specific subjects like entrepreneurship. Adopting their ideas and expected behaviours brings you closer to the dominant members of your family. This closeness within the family is reflected in the types of relationships family members have. The closer a family is, the more likely each member will adopt the family's attitudes, values, and beliefs. Based on the discussion in the previous section, this closeness would be identified as having affectual, consensual, and functional solidarity. Therefore, a person showing certain levels of affectual, consensual, and functional solidarity will show a certain level of closeness.

Furthermore, families provide various resources such as financial, psychological, intellectual, and moral support (Hoy and Sharma, 2010). These resources may also be an essential factor in predicting entrepreneurial intentions. Families that offer this kind of support may encourage more entrepreneurial intentions because the children will not fear failure knowing they have their family to fall back on. Also, the family's willingness to share resources (functional solidarity) will help their children overcome many barriers, including entry barriers that occur when starting a business. Hence, the family's willingness to share their resources will encourage the formation of entrepreneurial intentions. On the other hand, families that offer less support may prevent their children from taking that leap of faith since they know that there is little to cushion their fall if they fail. Thus, without the family's support in the form of resource sharing, entrepreneurial intentions may be stifled.

### **Are stronger family relationships necessarily better?**

When it comes to entrepreneurship, we would expect that people showing higher affectual, consensual and functional solidarity in a family with positive attitudes towards entrepreneurship would encourage entrepreneurial intention. This is because its members would be more receptive to the pressures corresponding to the positive entrepreneurial family attitudes. Likewise, if people showing higher affectual, consensual and functional solidarity have negative

attitudes towards entrepreneurship, they would discourage entrepreneurial intentions. In other words, in close families individual members should reflect the family's overall entrepreneurial attitudes.

On the other hand, it is possible that the family bonds are too close. In that case, its members may get all their cues from the family at the expense of their independent thoughts and actions. Thus, even though the family has positive attitudes towards entrepreneurship, they may inadvertently stifle entrepreneurial intentions because its members will wait for the family to indicate the appropriate behaviours they should engage in to start their new venture. Therefore, without the acceptance of a family member's independent and creative ideas, entrepreneurship within those families will not flourish. This process may explain why some entrepreneurial families fail to develop entrepreneurial children (Garcia et al., 2018).

If the family has a *medium* level of closeness (i.e. affectual, consensual and functional solidarity), they may share their positive entrepreneurial attitudes with their family members. However, the family member may have enough independence to develop the appropriate behaviours and actions to start a new venture regardless of these positive attitudes. Without waiting for cues from the family, they will form the proper action on their own and increase their entrepreneurial intentions. These families may encourage independent exploration by giving their members the much-needed flexibility to seek and exploit new opportunities, resulting in more motivation to comply with their family's attitudes towards entrepreneurship and more family entrepreneurship. Their family's positive attitude about entrepreneurship may provide the spark to start a new business, while the family member's initiative may fan the flames of entrepreneurial intentions and eventual action. This process may explain how non-entrepreneurial families develop entrepreneurial children.

Furthermore, in families that are not close, I would not expect to find any entrepreneurial intentions. In this case, the family members have no desire to adopt any of the attitudes, values or beliefs embraced by the family. Consequently, regardless of the family's attitudes regarding entrepreneurship, its members will show little interest in adopting these views and, as such, will not be motivated to become entrepreneurial.

In summary, positive family attitudes about entrepreneurship, a moderate level of family closeness, and a family's willingness to share their resources will increase a family member's entrepreneurial intentions. If the child feels that they have a close, supportive family, they may be more inclined to explore business opportunities and increase their entrepreneurial intentions. For example, a child's first lemonade stand may be a catalyst for them to continue finding opportunities to try new things and build new businesses, particularly if they are encouraged by their parents to test their idea, have access to family resources, and receive help in building their lemonade stand. Thus, this first exploratory study will focus on two research questions:

- To what extent do subjective norms influence entrepreneurial intentions? This question looks to replicate previous findings.
- To what extent do family relationships moderate the relationship between subjective norms and entrepreneurial intentions?

This new focus on family influence will improve our knowledge because the current explanations regarding this influence on entrepreneurial intentions do not account for aspects related to an individual's social network. Heuer and Kolvereid (2013) have suggested that the

theory of planned behaviour is too centered on individual elements and largely ignores social elements. This study therefore proposes that adding family relationships to the conversation about entrepreneurial intentions will show a more consistent and significant effect on entrepreneurial intentions.

## **Method**

### **Procedure**

Original data included 319 participants. Incomplete responses were removed. Three outliers were also removed using the Mahalanobis, Cook's and leverage values as the criterion for deleting outliers. The final sample size was 157 participants. There was one missing case for each of the family relationship dimensions. The missing data point was replaced using the "linear trend on point" method for each of the three family relationship dimensions.

The variables were reverse coded for the analysis such that higher values indicated more of the variable. Tests of normality were performed to ensure that the data was normally distributed. The entrepreneurial intentions variable and its standardized and unstandardized residuals were tested to see if they were normally distributed. The graph shows that entrepreneurial intentions (DV) is partially skewed. However, most of the data is still between the [-2, 2] range, indicating that most of the data points were within two standard deviations away from the mean. Therefore, it can be considered to follow a normal distribution (see Appendix B: Normality and linear regression graphs).

Using a normal probability plot for the standardized residuals, the residuals are clustered around the linear regression line, thus they follow a linear regression. Except for a slight deviation in the middle of the data, most data points are close to the line. In addition, for sufficiently large sample sizes, linear regression can be used despite a violation of the normality assumption without sacrificing the validity of the results obtained (Habeck & Brickman, 2018). Therefore, considering that the data follows the assumptions of normality and linearity, a linear regression was performed to study the relationships between family relationships, subjective norms, and entrepreneurial intentions.

Finally, a moderation analysis was performed to study the moderating effects of family relationships on the connection between subjective norms and entrepreneurial intentions.

### **Participants**

The participants were undergraduate business-school students recruited using a university-led subject pool. They were given extra credit on their final mark in a course for their participation. The data was collected during March and April in 2021 using an online survey distributed through a system offered by the university's management department. The data collected was a mixture of qualitative and quantitative information. Most of the time-consuming questions were placed at the beginning of the survey and the multiple-choice questions were at the end. The survey started with the descriptive questions like gender and age to put the participants at ease and encourage completion of the survey. The decision about the sequence of the questions were made to follow, as closely as possible, to the protocol described by the

cognitive interview (described below) (Fisher and Geiselman, 1992). The variables captured are entrepreneurial intentions (quantitative; Kautonen et al., 2015) and family relationship types [(quantitative; Silverstein and Bengtson (1997) and Bengtson and Roberts (1991)], and subjective norms (Ajzen’s subjective norms; Kautonen et al., 2015).

Within this sample, 38% identified as male, 61% identified as female, and 1% non-binary. Most of the participants were between 18 -24 (90%). As shown in Table 2, the most common cultures identified were Asian (21%) and English Canadian (19%).

*Table 2: Ethnicity of Study 1 participants*

<b>Ethnicity</b>	<b>N</b>	<b>%</b>
Asian	33	21.0%
Black-African, Caribbean, USA	8	5.1%
English-Canadian	30	19.1%
French-Canadian	14	8.9%
Hispanic or Latino	8	5.1%
Mediterranean	15	9.6%
Middle Eastern	10	6.4%
Multiracial or biracial	5	3.2%
White or Caucasian	26	16.6%
Other	8	5.1%

These participants described their family as having relatively high affectual solidarity ( $M = 4.10$ ,  $SD = 0.73$ ), average levels of consensual solidarity ( $M = 15.84$ ,  $SD = 0.95$ ) and relatively high functional solidarity ( $M = 6.24$ ,  $SD = 2.35$ ).

The participants also indicated that they felt relatively little family pressure to become entrepreneurs (i.e. subjective norms,  $M = 336.30$ ,  $SD = 33.66$ ) and had relatively low levels of entrepreneurial behaviour ( $M = 14.94$ ,  $SD = 1.19$ ). Many of these participants indicated that they would consider starting a business (82%). Furthermore, all participants indicated they would buy an existing business. However, this sample population also stated that they were relatively low in entrepreneurial intentions.

In summary, this business student population showed high entrepreneurial interest but not necessarily high entrepreneurial intentions. They may have been open to considering starting or buying their own business one day, but not within the next 12 months.

## Measures

### *Entrepreneurial intentions*

In this study two sets of questions were used. The first set of questions captured a categorical description of the participant's entrepreneurial intentions. This self-made measure asked if participants would consider starting or buying a business. The second set of questions was a scale developed by Kautonen et al. (2015) to measure entrepreneurial intentions. For the purposes of the analysis, the scale developed by Kautonen et al. (2015) was used for entrepreneurial intentions.

The scale consisted of 3 items where participants were asked if they planned, intended, or would try to take steps to start a business in a 12-month timeframe (Kautonen et al., 2015). The items included:

- I **plan** to take steps to start or buy a business in the next 12 months.
- I **intend** to take steps to start or buy a business in the next 12 months.
- I **will try** to take steps to start or buy a business in the next 12 months.

The three items were then aggregated into a mean index.

As noted above, there were some seemingly contradictory results between the high number of participants indicating that they would consider buying or starting a business and their relatively low entrepreneurial intentions. The sample's make-up and the wording of the questions could explain these conflicting results. These students were enrolled mainly in the first-year course of a three-year business program. Thus, many participants may have already been thinking about becoming an entrepreneur. Indeed, they may have enrolled in the business school programs to gain more skills and contacts that they feel are necessary to become a successful entrepreneur. This would explain the high percentage of would-be entrepreneurs found within this sample.

The sample's low entrepreneurial intentions could be explained by the different wording of the two types of questions used to capture entrepreneurial consideration and intention. The first set of questions asked if they would "consider" starting or buying a business (which captured more entrepreneurial consideration). Participants were more likely to answer this question based on their personal timeframe since it did not specify a particular timeframe. In other words, they may have interpreted the questions as asking if they would "one day" run their own business. On the other hand, Kautonen's entrepreneurial intentions questions involved an exact timeframe. These questions asked if they are planning, intending, or trying to start a business within the "next 12 months". The wording may have intimidated these first-year students since they wanted to finish their degrees first before embarking on an entrepreneurial venture. Thus, they may be "considering" starting or buying a business in the next 12 months, but with lower intention.

Theoretically, a shorter timeframe between intention and action is recommended (12 months is usually a good indicator) because the relations between intention and behaviour are more accurate. However, this timeframe may have been too short for these students to consider.

In addition, these questions were answered during a pandemic. Day-to-day living was paused, and navigating the new business landscape created by the pandemic was unknown. Even if they had intentions to start a business within the next 12 months, the pandemic may have halted their progress. This would explain the relatively low entrepreneurial intentions found within this sample, given the high entrepreneurial consideration.

### ***Subjective norms: Motivation to comply and family attitudes***

Similarly to Kautonen et al. (2015), I created an index for subjective norms using two existing scales. The first captured the attitudes of the family. The item asked, “How well do the following statements describe your situation?” The statements included, “My closest family members think that I should take steps to start a business in the next 12 months.” The item was answered using a 5-point Likert scale ranging from “Extremely well” to “Not well at all.”

The second captured the motivation to comply with the family’s expectations. The item asked, “How much would you care about what your family thinks if you wanted to take steps to start a business in the next 12 months?”. This item was answered using a 4-point Likert scale ranging from “A great deal” to “Not at all.” The index for this measure was created by multiplying the two item responses.

Subjective norms reflect a specific referent group’s expectation about the behaviour. These referent groups can be family, friends, or anyone deemed essential in a person's social network (Ajzen, 2012). Their norms may explain why the person may engage in the behaviour (Ajzen, 2012). It is made up of two parts: the referent group’s attitude towards the behaviour and your willingness to comply with that attitude (Kautonen et al., 2015). Naturally, one cannot change another person’s attitude since only they have control over their own attitudes. However, one can look at one’s motivation to comply with another person’s attitude. A plausible reason for why one would want to comply with someone else’s expectation may be the value placed on one’s relationship with that person. Therefore, looking at the types of relationships one has with these people may help bring this antecedent for entrepreneurial intentions from the obscure to the obvious.

### ***Family relationships***

The goal of this study was to elicit accurate descriptions of a meaningful family relationship. The participants were asked to focus on childhood relationships because they are the foundation of all family relationships (Maccoby, 1992). Childhood relationships set the tone for all other relationships developed within a family.

The family relationship variable was measured using a combination of existing scales developed by Silverstein and Bengtson (1997) and Bengtson and Roberts (1991). Three of the six intergenerational solidarity dimensions were used to capture this variable: affectual solidarity, consensual solidarity, and functional solidarity. These were selected because they are the dimensions closest to family closeness and resource sharing, which would be pertinent to studying family's effect on entrepreneurial behaviour. Each intergenerational solidarity dimension was measured using several items. For example, affectual solidarity (the extent to which you like your family) included seven items such as, “We understand each other,” “We



trust each other,” and “We feel affection for each other.” They were answered using a 5-point Likert scale ranging from “Extremely true” to “Not true at all.”

Consensual solidarity (or the extent to which our views correspond to our family’s view) was measured using three items. They were answered using a 5-point Likert scale that ranged from “Extremely similar” to “Extremely different.” The overall question asked participants to determine how similar their values, beliefs and attitude towards life were compared to their family.

Functional solidarity (extent of reciprocal resource sharing) was measured using four items: two for the mother (or female guardian) and two for the father (or male guardian). For example, the items for the mother (or female guardian) included:

- “How often do you provide help (running errands, household chores, repairs, et cetera) for your mother (or female guardian)?” and
- “How often does your mother (or female guardian) provide you with such help (running errands, household chores, repairs, et cetera)?”.

The same items were used for the father (or male guardian). Again, the idea was to capture the reciprocity expectations between parent and child. The responses were on a 9-point multiple-choice format and ranged from “Almost every day” to “Almost never.”

Using SPSS, factor analysis, using an oblimin rotation, was performed on all the items measuring the three intergenerational solidarity dimensions. Three factors emerged with factor loadings between 0.484 and 0.935 (see Appendix A: Family relationships factor loadings and table of correlations). The items that measured each intergenerational solidarity dimension all group on the same factor. For example, all seven items that measured affectual solidarity loaded on the same factor. These three factors indicated that the items did measure their corresponding dimension.

The reliabilities of the items were checked using Cronbach alpha (see Table 3). Then, an index for each of the three factors was created by finding the average of the items corresponding to the factor.

*Table 3: Cronbach reliabilities*

Variable index	Cronbach alpha reliabilities
Affectual solidarity	0.909
Consensual solidarity	0.858
Functional solidarity	0.833
Entrepreneurial intentions	0.897

The participants described their family’s affectual solidarity as being rather high ( $M_{\text{Affectual}} = 4.08$ ). Furthermore, they seemed to moderately share their family’s views and attitudes ( $M_{\text{Consensual}} = 15.81$ ). In addition, they indicated that they expect a moderate amount of support and resources from their families ( $M_{\text{Functional}} = 6.16$ ).

## *Childhood memories*

To uncover critical aspects of childhood memories, we need to find triggers that can help retrieve these often-hidden memories. Tilcsik (2012) used the “life-grid” and “life-history calendar” method in his study. This interview method involves the interviewer and participant creating a calendar or grid that highlights the participant’s major life events (for example, births, marriages, deaths and so on) (Berney & Blane, 1997) (Freedman et al., 1988). Once these events are dated and placed on the calendar or grid, the interviewer asks the participant to place other minor life events or events the interviewer is interested in studying. It was found that by using this technique, participants were able to remember the other minor life events better by using the major life events as reference points (Berney & Blane, 1997). Table 4 includes the questions used by Tilcsik (2012) in his study on organizational imprints using the life-grid interview technique.

*Table 4: Table 5: Life-grid interview questions*

1. Explain the basics of a life grid to the respondent, framing it as a tool to help the interviewer better understand the respondent’s experience.
2. Elicit (approximate) dates for key anchor points (e.g., entry, promotion, previous project mentioned, personal milestones) and construct personal timelines from organizational entry to today. Add further anchor points as they arise during the rest of the interview.
3. Go through timeline with the respondent, year by year (or more frequently in case of respondents with a short tenure), asking about key difficulties and successes encountered at work during each period. Ask for elaborations, explanations, and examples throughout.
Source: Tilcsik, 2012, Appendix A

However, according to Bell (2005), the life-grid method may not result in uncovering these often attitudinal or emotionally charged memories. Furthermore, certain life events—and in particular, emotionally charged ones—may be skipped over by the interviewee. Thus, alternative data collection strategies are necessary to uncover all life events that may have gone into creating these imprints (even if they are emotionally charged). To this end, I propose the introduction of the cognitive interview.

## *The cognitive interview*

The cognitive interview grew from an understanding founded in the science of cognition and more specifically in the understanding of how memory works. Fisher and Geiselman (1992) understood that their knowledge of how to prompt memory recall may be an invaluable asset to professions that rely on people’s ability to recall events and describe them in profound detail. Fisher and Geiselman (1992) developed a systematic means to interview people such that the primary focus was “to extract relevant information from the mind of the respondent” (p. 4).

They worked closely with police departments to develop an interview protocol that was easy to use (even for novice interviewers) and could increase eyewitness recollections of crimes. Since Fisher and Geiselman (1992) had developed the cognitive interview “based on general principles of cognitions” (p.4), they realized that this technique would be useful not only to those conducting interviews to solve criminal cases, but to anyone conducting investigative interviews that relied on the participants’ ability to recall past events with precision.

The cognitive interview uses mental imagery (or in this study, selected family relationship pictures) to help retrieve memories. It also allows the interviewee to lead the interview process, which also improves memory recall (Fisher & Geiselman, 1992). Cognitive interviews have been shown to improve memory recall and gather more information than standard structured interviews (Fisher & Geiselman, 1992). The fact that the interviewee is in charge of the conversation is also an advantage because only he/she knows where to start and what events are important to them. This strategy overcomes difficulties associated with the life-grid interview. For example, the interviewee may be so engrossed in the events the interviewer identified that perhaps the critical events that led to individual imprints are never discussed.

Furthermore, by using the cognitive interview format, the researcher establishes a rapport with the interviewee prior to the interview, which may make difficult topics more comfortable to discuss. This is not the case when using the life-grid format, which may hinder the collection of sensitive data.

As previously mentioned, the cognitive interview was not designed for interviewing in the social sciences. However, I propose adapting the existing format (as suggested by Fisher and Geiselman) so that it may become a useful tool to retrieve those events and memories that were important in forming imprints. While cognitive interviews have rarely, if ever, been used in social sciences (and never in relation to imprinting research or in an online survey format), this technique should be particularly useful because criminal investigations and research investigations share the similar objective of retrieving “relevant information from the mind of respondents” (p.4) and have been seen to enhance memory recall.

An adaptation of the cognitive interview technique was used to enhance the recollection of childhood relationships. The purpose was to ensure that participants focused on their most influential childhood relationships, thus augmenting the effects of family relationships on subjective norms and entrepreneurial intentions.

The participants were asked to look at six pictures and think about the childhood events that came to mind. The six pictures from "Points of You" were selected to correspond to themes often associated with families and businesses (see Figure 2).

Figure 2: Pictures used to trigger childhood memories



As the participants chose one or two pictures that resonated with them the most, they were asked to answer six questions. The questions asked participants to describe a childhood event, how old they were at the time of the event, and if the event influenced their career choices and world views. The participants were also asked if there was a person that influenced them. Questions were inspired by Dickel et al. (2020), who used the critical incident method to identify significant events. The questions inspired by Dickel et al.'s (2020) study included items such as "Please describe in detail the memories, stories or events that come to mind when you viewed those pictures."

## Results

### To what extent do subjective norms influence entrepreneurial intentions?

Looking at the relationship between subjective norms and entrepreneurial intentions, the model was found to be significant ( $p < 0.001$ ,  $R^2 = 0.410$ ). Subjective norms showed a strong, positive relationship with entrepreneurial intentions ( $\beta = 0.640$ ).

When the dimensions of subjective norms (family attitude and motivation to comply) were studied as separate dimensions, the model was found to be significant ( $p < 0.001$ ,  $R^2 = 0.515$ ). Family attitude seems to have a strong, positive influence on entrepreneurial intentions ( $p < 0.001$ ,  $\beta = 0.721$ ). Thus, subjective norms (in particular, family attitude) directly correlate with

entrepreneurial intentions. The results of previous studies within the literature were replicated. Said simply: your family's attitude towards entrepreneurship and your willingness to comply with your family's expectations impact your entrepreneurial intentions.

### **Testing the full model**

The correlations between family relationships, subjective norms, and entrepreneurial intentions were then investigated. This analysis looked at whether family relationships could improve the strength of relationship between of subjective norms and entrepreneurial intentions. The model was found to be significant ( $p < 0.001$ ,  $R^2 = 0.480$ ). Specifically, subjective norms showed a strong, positive, and significant relationship with entrepreneurial intentions ( $p < 0.001$ ,  $\beta = 0.696$ ). Thus, by adding family relationships, the strength of the relationship between subjective norms and entrepreneurial intentions was increased ( $R^2_{\text{subjective norms only}} = 0.420$  compared to  $R^2_{\text{full model}} = 0.480$ ).

Affectual solidarity was the only family relationship dimension that showed a weak, negative influence on entrepreneurial intentions ( $p = 0.071$ ,  $\beta = -0.148$ ). Consequently, moderation analysis was done to investigate if family relationships moderated the relationship between subjective norms and entrepreneurial intentions.

### **Does family relationship moderate the relationship between subjective norms and entrepreneurial intentions?**

Using the PROCESS macro in SPSS, the moderating effects of family relationships on the relationship between subjective norms and entrepreneurial intentions were investigated.

#### ***Moderating effect of affectual solidarity***

In the case where affectual solidarity was used as the moderator, affectual solidarity did not significantly affect the relationship between subjective norms (IVP) and entrepreneurial intentions (DV). Although the model was significant ( $p < 0.001$ ,  $R^2 = 0.4676$ ,  $\beta_{\text{Affectual}} = -0.3909$ ), the interaction factor between affectual solidarity and subjective norms was not ( $p = 0.6052$ ,  $\beta = 0.0016$ ).

#### ***Moderating effects of consensual solidarity***

The moderating effects of consensual solidarity on subjective norms (IVP) and entrepreneurial intentions (DV) was also investigated. Although the model was significant ( $p < 0.001$ ,  $R^2 = 0.4591$ ,  $\beta_{\text{Consensual}} = -0.2766$ ), the interaction factor between consensual solidarity and subjective norms was not ( $p < 0.5999$ ,  $\beta = 0.0011$ ).

#### ***Moderating effects of functional solidarity***

Functional solidarity was tested as a moderator. However, it did not show a significant moderating effect on the relationship between subjective norms (IVP) and entrepreneurial intentions (DV). Although the model was significant ( $p < 0.001$ ,  $R^2 = 0.4216$ ,  $\beta = -0.0530$ ), the

interaction factor between functional solidarity and subjective norms was not ( $p = 0.7782$ ,  $\beta = -0.0002$ ).

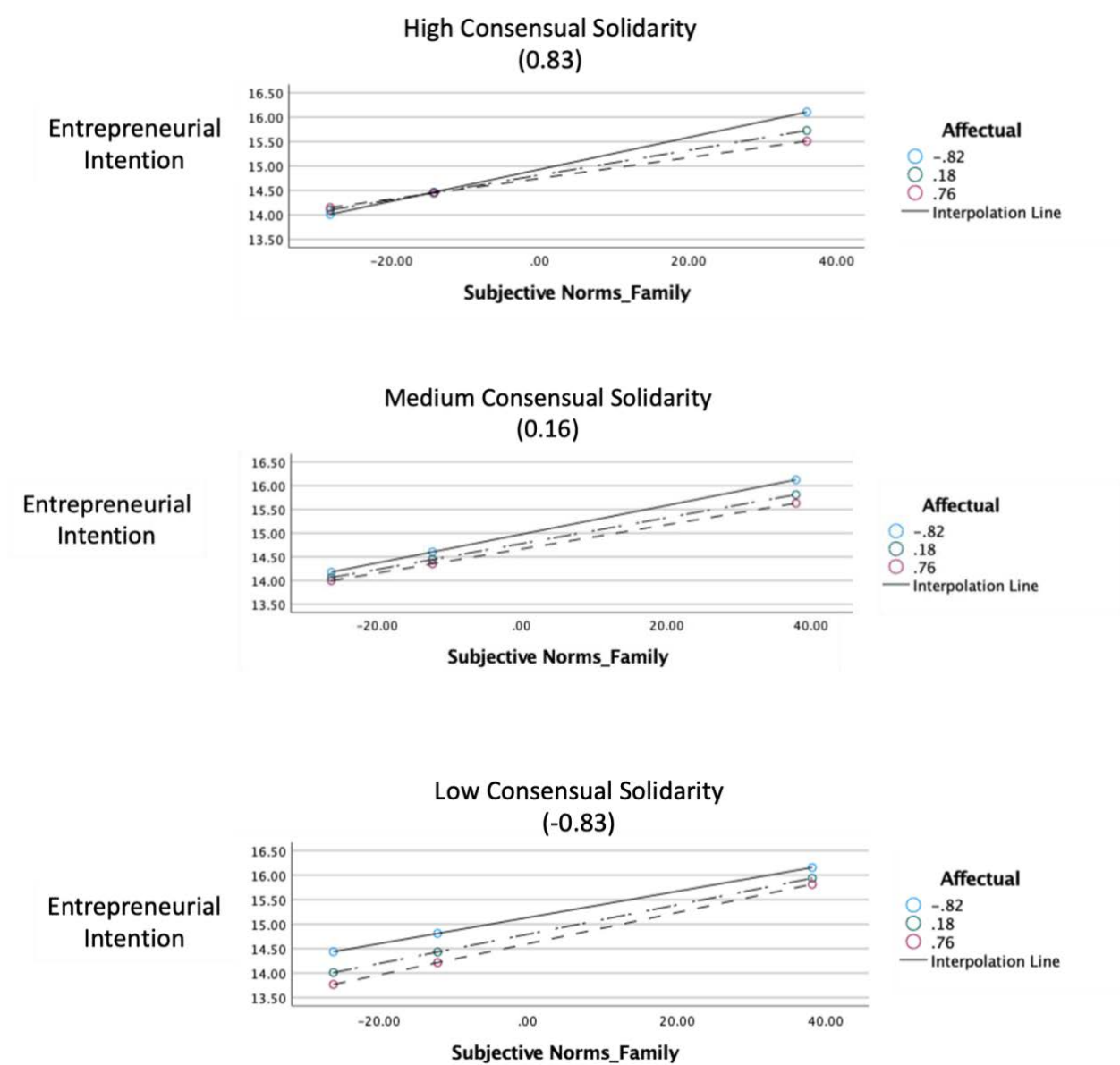
In summary, the proposition that the family relationships moderated the relationships between subjective norms and entrepreneurial intentions was not substantiated. In other words, each family relationships dimension by itself does not moderate the relationships between subjective norms and entrepreneurial intentions.

***Does affectual solidarity interact with the consensual solidarity moderator?***

There is some indication that two of the family relationship moderators (affectual and consensual) may interact. From the correlation chart above, we see that affectual solidarity and consensual solidarity are highly correlated.

What effect this correlation had on subjective norms and entrepreneurial intentions was investigated. The three-way moderation model indicated a significant relationship ( $p < 0.001$ ,  $R^2 = 0.5089$ ). Furthermore, the interaction effect between subjective norms, affectual solidarity and consensual solidarity was significant ( $p < 0.0402$ ,  $\beta = -0.0063$ ).

Figure 3: Interaction effects of affectual solidarity and consensual solidarity



From the Figure 3, above, the entrepreneurial intentions is always highest at low levels of affectual solidarity. Furthermore, at low levels of affectual solidarity, the effects of consensual solidarity on the relationship between subjective norms and entrepreneurial intentions increase as consensual solidarity increases. However, at medium and high levels of affectual solidarity, the effects of consensual solidarity on the relationships between subjective norms and entrepreneurial intentions decrease as consensual solidarity increases.

Thus, when you do not like your family very much, and your family is pressuring you to become entrepreneurial, you will most likely become an entrepreneur the more your values and attitudes correspond to those of your family. In other words, if you and your family agree that becoming an entrepreneur is a good thing, then you will most likely become an entrepreneur,

especially if you are not too attached to your family. In contrast, the more you like your family, and your family is pressuring you to become entrepreneurial, the less likely you will become entrepreneurial. In addition, the more your values and attitudes are similar, the less likely you will become entrepreneurial. In other words, the closer you are to your family, the less entrepreneurial you will become, even if your family is pressuring you to become entrepreneurial.

In support of the above idea, the graph also shows that for the low consensual solidarity condition, as affectual solidarity increases, the influence of subjective norms on entrepreneurial intentions matters more for the people who are low on subjective norms than those who are higher on subjective norms. For example, at low levels of pressure, the more you like your family, the lower your intentions of becoming an entrepreneur. Possibly because your family is not very keen on becoming entrepreneurs, and because you are more attached to them, your intentions to become an entrepreneur are lower. However, as family pressure to become an entrepreneur increase, whether you like your family has little effect on your decision to become an entrepreneur.

However, at higher levels of consensual solidarity, affectual solidarity has the opposite effect. Thus, whether you like your family or not, higher levels of consensual solidarity will affect your willingness to become entrepreneurial, more so at higher levels of family pressure than at the lower levels. In other words, the more you share the same family views as your family, and the more you like your family, the higher family pressure will have a more significant influence on your decision to become an entrepreneur than when the family pressure is low. Table 5 shows a summary of these results.

*Table 5: Family relationship's impact on the relationship between family pressure and entrepreneurial intentions*

Consensual Solidarity	Affectual Solidarity	Impact on the relationships between family pressure (subjective norms) and entrepreneurial intentions
High	Low	High
	Medium	Medium
	High	Low
Medium	Low	High
	Medium	Medium
	High	Low
Low	Low	Low
	Medium	Medium
	High	High



Table 6 shows the regression model's beta coefficients, significance levels, and confidence intervals for the three-way moderator effect of affectual and consensual solidarity and the relationship between subjective norms and entrepreneurial intentions.

*Table 6: Three-way moderator effect of affectual and consensual solidarity*

<b>Interaction factor</b>	<b><math>\beta</math></b>	<b>p-value</b>	<b>Confidence interval</b>
<b>Subjective norms (IVP), Affectual solidarity (IVM)</b>	-0.0021	0.6131	[-0.0101, 0.0060]
<b>Subjective norms (IVP), Consensual solidarity (IVM)</b>	-0.0016	0.5674	[-0.0072, 0.0040]
<b>Affectual solidarity (IVM), Consensual solidarity (IVM)</b>	0.1302	0.2831	[-0.1086, 0.3689]
<b>Subjective norms (IVP), Affectual solidarity (IVM), Consensual solidarity (IVM)</b>	-0.0063	0.0402	[-0.0123, -0.0003]

***Does functional solidarity interact with the affectual or the consensual solidarity moderator?***

Although the correlations between functional solidarity and affectual solidarity, and between functional solidarity and consensual solidarity are very low, the interactional effects between these three moderators were tested given that theoretically they should be acting on subjective norms together.

Functional solidarity did not show any interactional effects with either consensual solidarity or affectual solidarity. This means that functional and consensual solidarity does not influence the relationships between subjective norms and entrepreneurial intentions. Similarly, affectual and functional solidarity does not influence the relationships between subjective norms and entrepreneurial intentions (Table 7).

*Table 7: Three-way moderator effect of functional and consensual solidarity*

<b>Interaction factor</b>	<b><math>\beta</math></b>	<b>p-value</b>	<b>Confidence interval</b>
<b>Subjective norms (IVP), Functional solidarity (IVM), affectual solidarity (IVM)</b>	-0.0020	0.1325	[-0.0046, 0.0006]
<b>Subjective norms (IVP), Functional solidarity (IVM), Consensual solidarity (IVM)</b>	-0.0011	0.2177	[-0.0029, 0.0007]

**Supplementary qualitative data**

Some of the qualitative data gathered in the survey indicated that certain childhood memories do remain, and influence future decision-making. For instance, one participant suggested that watching their family interacting with their employees influenced their choice of

pursuing a field of study.

*“I think my family inspired me to pursue my studies in business. When I was younger, I went to work with them, and seeing them interact with their employees [stuck] with me.”*

Another participant indicated that a grandparent’s career influenced their decision to choose the same career.

*“My grandfather is an accountant, and I did spend a lot of time with him. Maybe that is why I choose to be an accountant as well.”*

Thus, intergenerational family influence may be another source of influence on entrepreneurial intentions. Furthermore, family influence may not be the only social influence of importance. For example, a participant indicated that they were influenced by an unrelated third party, who inspired them to start their own business one day.

*[blogger influence] “I saw her starting from an idea to finally opening her [...] business. That influenced me a lot, so I would also like to create [my own business].”*

Furthermore, values and traditions influenced another participant to consider buying an existing business and continue its legacy. Interestingly, in this case, the legacy the participant wanted to continue was not from their own family or business but from someone else’s.

*“[Buying a business] “especially if it’s a family-run business, I feel it’s important to [keep] the tradition alive and keep the business going.”*

These comments indicate that childhood memories that focus on social relationships may influence entrepreneurial intentions more than previously thought. It would be interesting to investigate further the formation of these influential memories (imprints) to understand their impact on entrepreneurial intentions and behaviour.

In addition, some of the participants indicated that they were part of a family business, and this inspired them to become more entrepreneurial.

*“I had always admired how my father translated his passion into his business...I realized that I wanted to be part of my father's company. I craved to one day be part of the enterprise growth by executing product development and rebranding strategies, and also help the exponential expansion of the business to an international market.”*

Observing their parents gave them the push they needed to pursue their own business ideas. They combined their interests with what they learned from their parents, which inspired them.

*“My mother has influenced me into wanting to be my own boss. After all these years of watching her work for herself, make her own schedule, and work how she wants to, I’ve come to want that and strive for self-employment.”*

Although family business participants were a small subset of this sample, some interesting insights warrant further study. Although the childhood memories may seem unrelated, the participants were able to connect the memory to what they observed of their parent’s venture. For example, one participant described how his father taught him to ride a bike when he was seven. What he took from the memory was that one learns by going through an experience. Thus, his family and the family’s business are what inspired him to study business. Although we

may not see the connection here, these participants have somehow linked the memory with their current behaviours. For us to understand, we need to find a way to follow the progression to see this important connection.

Another participant spent a lot of time with his family and extended family. He describes times spent laughing and experiencing happy moments together. He credits these memories with making him see the bright side, even during difficult times. In addition, the time he spent with his parents at their family business; watching them work stuck with him. Here the connection is a little more evident, but we would need to follow this progression from childhood memory to future behaviour in more detail.

## **Discussion**

The results of this exploratory study indicate that Ajzen's subjective norms show a significant connection to entrepreneurial intentions (Ajzen, 2012), which confirms the results found in the literature of planned behaviour (Joensuu-Solo et al., 2015; Ferri et al., 2019). Family relationships, on the other hand, were not found to have a significant connection to entrepreneurial intentions. Nevertheless, the qualitative comments collected from the survey indicate that memories of past relationships with various people influence a person's perspective. Furthermore, while family relationships did not directly influence entrepreneurial intentions, this study found that the addition of family relationships strengthened the connection between subjective norms and entrepreneurial intentions. A person's family network, therefore, may have a more significant influence on entrepreneurial intention than previously hypothesized (Heuer and Kolvereid, 2013).

To further understand the nature of the family influence, an analysis used family relationships as the moderator for the connections between subjective norms and entrepreneurial intentions. The analysis indicated that the individual dimensions of family relationships (i.e., affectual, consensual, and functional solidarities) did not significantly affect the links between subjective norms and entrepreneurial intentions. Additionally, a three-way moderation effect found that consensual solidarity (the extent to which your values and attitudes agree with those of your family) interacted with affectual solidarity (the extent to which you have positive sentiments towards your family members) to moderate the connections between subjective norms and entrepreneurial intentions.

The analysis shows that although family relationships improve how subjective norms and entrepreneurial intentions are connected, they do so indirectly. It is not surprising that the individual family relationship dimensions did not moderate these connections. Theoretically, we would expect all three family relationships to interact together to influence how subjective norms are connected to entrepreneurial intentions (Mangen et al., 1988; Ajzen 2012). In fact, only affectual and consensual solidarities worked together to moderate the connection between subjective norms and entrepreneurial intentions. When consensual solidarity is low, the effects of affectual solidarity are more significant for people who experience low levels of subjective norms than for those who experience higher levels of subjective norms. In other words, someone who feels affection for their family, but does not share the same values and attitudes, is less likely to become an entrepreneur, especially when there is no family pressure to do so. However,

when family pressure to become an entrepreneur is present, the decision to become an entrepreneur is not influenced by affection for the family.

As consensual solidarity increases, however, affectual solidarity has a more important impact on the connections between subjective norms and entrepreneurial intentions. In other words, an individual who shares their family's values and attitudes and feels affection for them, is less likely to be influenced by their family to become an entrepreneur, regardless of any pressure. However, if someone shares the family values but has little or no affection for them, these conditions will impact their decisions to become an entrepreneur, especially if the family is pressuring them to do so.

The sharing of family resources has often been associated with successful entrepreneurial ventures. This study shows, however, that having access to family resources does not affect the initial decision to become an entrepreneur. It may be that having access to shared family resources may help in sustaining an entrepreneurial venture, but any such conclusion is beyond the scope of this study. Overall, these results indicate that adding a measure more focused on interpersonal relationships helps us better understand the role of subjective norms in entrepreneurial intentions.

This exploratory study used accepted theories from two different works of literature, namely family science and entrepreneurship studies. The goal was to understand the impact of the family on the decision to become an entrepreneur. This study makes three unique contributions. Practically, it was found that family relationships strengthen the link between subjective norms and entrepreneurial intentions. This conclusion supports Heuer and Kolvereid's (2014) suggestion that we should examine both interpersonal and intrapersonal relationships.

Many researchers have used Ajzen's theory of planned behaviour to predict entrepreneurial intentions and behaviour. However, a major critique is that his model focuses on the importance of intrapersonal elements and neglects the influence of more interpersonal elements. In fact, previous research in this area has placed very little importance on how family influence can affect entrepreneurial intention. Yet, family support can be a source of protection against life's stressors (Thomas et al., 2017). Thus, when faced with a crisis, having a family relationship rich in affection and support may be vital in encouraging a person to take on risks and start a new venture.

Furthermore, Ajzen's antecedent to entrepreneurial intention - subjective norms - has not been a focal point in entrepreneurial intention and behavioural studies. Despite the subjective norms factor being linked to entrepreneurial intention (to varying degrees), it is not significant in predicting entrepreneurial behaviour. Therefore, the finding that family relationships moderates the connection of family norms (Ajzen's subjective norms) to entrepreneurial intentions has important implications for a society wishing to encourage entrepreneurship development. Traditionally, entrepreneurial development programs have focused on improving a person's skills and attitude towards entrepreneurship mainly through education (Liñán, 2008; Joensuu-Salo et al., 2015; Ferri et al, 2019). This study suggests another avenue for raising the next generation of entrepreneurs by concentrating on improving a person's family relationships. Designing academic courses on how to improve family relationships that may hinder entrepreneurship may also be beneficial. For example, had Michael Dell listened to his parents and become a doctor, would technology have advanced differently? What if Bill Gates and Mark Zuckerberg hadn't had supportive parents? Knowing how to improve their family relationships

differently in order to follow their passions would have been a useful skill. In these cases, the relationship between the next generation and their parents were supportive while still allowing for independence. This created relationships that were close without these relationships becoming too enmeshed (really cohesive).

Policymakers intent on improving their society's entrepreneurial climate need to ensure that interpersonal elements are supported. They must recognize that the family plays a role in forming entrepreneurial intentions and implement policies that focus on understanding how to navigate these complex relationships.

Second, this study shows that the cognitive interview is another method to trigger influential and detailed childhood memories. It remains an effective method even when conducted through a survey format, particularly when powerful imagery is used (Fisher and Geiselman, 1992). Although cognitive interviews were designed to be used in other disciplines like forensic analysis, I show that they can also be helpful in the social sciences. Furthermore, while these would have probably worked better in an interview format, a survey format can work when an interview is not possible. This study was conducted during a global pandemic, when in-person interviews were not an option. This provided unique opportunity for the study to suggest another effective method for conducting research using a survey format.

Finally, childhood memories might also be related to an individual's later entrepreneurial intentions (Marquis and Tilcsik, 2013; Dickel et al., 2020). The details provided by the participants about their childhood memories suggest that we are on the right track when looking at a sensitive period when family relationships and family memories interact to create entrepreneurial intentions. This will be discussed in more detail in the next section.

## **Limitations and future research**

The limitations in this study refer to further improving our understanding of the family's impact on entrepreneurial intentions. Some suggested improvements refer to improving the heterogeneity of the participants and adding information captured from childhood memories.

### ***Participant heterogeneity***

As previously indicated, most of the participants were undergraduate business students ranging in age from 18-24 years old. The sample is homogeneous and young. However, since they are very young, with minimal life experiences, they could be easily persuaded into specific activities, thus making the influence of social networks more probable. The participants may also lack the confidence necessary to consider entrepreneurial activities versus the population at large. Although previous studies using the Theory of Planned Behaviour have shown that the results are applicable to diverse groups and behaviors (Engle et al., 2010), considering that this is the first study focusing on the effects of family on entrepreneurial intentions, more research is required (Sussman and Gifford, 2019).

Finally, these student participants will typically follow a three-year program. They may be a long way from intentions and acting on the intentions, which may have influenced their responses. Therefore, future studies should include a more heterogeneous sample.

## *Childhood memories*

The potential for multicollinearity issues between the family relationship dimensions limits our complete understanding of the effects of family on the decision to become entrepreneurial. Perhaps a family's impact on entrepreneurial intentions may be better understood by looking at the memories describing family relationships. Asking people about the impact of their current family relationships on their entrepreneurial decisions may be limiting. A description of the current state of their family relationships is simply a snapshot of where they stand today. However, their subconscious understanding of the amount of support they can expect from their families may have a more significant impact than a family snapshot. This understanding develops from a lifetime of cultivated memories that may not be captured if looking at current family relationships. Observations from childhood about how their family rallies to support one of their own, or a child's memories of the support they can expect to receive based on past events, may further our understanding of a family's impact on entrepreneurial decisions. The decision to become an entrepreneur may rely on these perceptions of access to family resources. The fallout may be that without perceived access to family resources, they may not venture into entrepreneurship. This may negatively impact society's ability to encourage more entrepreneurial-based economies.

Childhood memories consist of more than childhood experiences. They include the objective memory and emotional interpretation of that event. Studying the emotional undertones of memory may give us a better insight into how these events influence future decisions. Current research on "imprinting" (Marquis & Tilcsik, 2013) recognizes that certain events may profoundly influence behaviour.

Imprinting is a process whereby a person develops specific characteristics based on an event that occurred in their environment during a time when the person was open to the environment's influence. These characteristics persist, even if the environment changes in the future (Marquis & Tilcsik, 2013). Previous studies using the imprinting theory as their theoretical framework have focused on imprints developed in early adulthood (Tilcsik, 2012; Mathais et al., 2015). However, the influence of memories on future behaviour does not start on one's first day of employment. People develop memories from early childhood onwards, and these memories also have the potential to become as influential as memories developed in adulthood, perhaps even more so.

Based on Marquis and Tilcsik's (2013) description, the childhood memories described in this study can be classified as a type of imprint. First, these memories are from childhood, a period of susceptibility. Second, the person reflects a characteristic of the environment; in this case, the person demonstrates something from their memory. Finally, these environmental characteristics persist beyond the susceptibility period or environmental changes because the participants are now adults; however, the effects of the memories persist beyond the period when they were first formed. With the right trigger, they may remember events in their life that still influence their current behaviours, such as their choice of what university program to register for. Classified as a type of imprint, these childhood memories may have more influence on behaviours than previously thought. Therefore, this study focuses on childhood memories and their potential to develop into influential imprints.

Children are always watching. They learn things by observing their family and interpreting them. Combined with their experiences, these observations may be crucial in developing future behaviour. To understand how certain memories are given enough importance to be able to influence their future behaviours, we need to look at the progress in more detail. Looking at business families (i.e. families that own their own businesses) may help us follow the impact of memories as they progress from childhood memories to adult entrepreneurial behaviours.

In summary, it is plausible that events occurring in childhood (a time when people are at their most open to environmental influences) would influence future decisions about entrepreneurial behaviour. This may be especially relevant during times of crisis when the environmental climate changes unexpectedly. Imprints could explain why some entrepreneurs can navigate the treacherous waters while others drown. Future studies should look at the effects of imprinting events and their emotional interpretation on entrepreneurial intentions.

Another interesting feature of this study is that it was conducted during the recent global pandemic. The current crisis provided a unique opportunity to study the impact of family support, during a time referred to as a pressure cooker. While the impact of most phenomena usually takes years to evaluate, the effects of the pandemic can be observed over a shorter period. Relationships are being tested and people are re-evaluating what is important to them. The pandemic provides a singular backdrop for investigating the role of interpersonal relationships in entrepreneurial relationships. In this context, we can tap into entrepreneurial decision-making and activities, based on personal and parental experiences.

## **Conclusion**

Entrepreneurs' contributions to society remain undisputed. Despite their importance and society's willingness to encourage more entrepreneurship, however, very little is known about what entrepreneurs need to survive and thrive. The pandemic has caused some entrepreneurial businesses to succumb to environmental pressures, but it has also given rise to new enterprises. In addition, high unemployment combined with people redefining their roles, identities and career objectives make this a prime time to encourage hesitant would-be entrepreneurs to follow the path towards entrepreneurship.

This study focuses on family relationships to understand further families' contributions to entrepreneurial intentions. We already know that families provide the emotional bonds and support needed for a person's well-being. We need to address the fact that the expectations of one's family and social bonds have been virtually ignored in policies to improve entrepreneurial intentions. A person's social environment may be more effective in changing knowledge structures than a person's attitude and skill perception (Heuer and Kolvereid, 2013). We found that the degree of family influence is stronger in families that are not too close and weakens as families become close.

This study uses the behavioural approach to study entrepreneurship. However, based on the emergent finding of the importance of childhood memories on entrepreneurial intentions, a multidimensional approach may be more appropriate. For example, an approach that focuses on a combination of the demographic approach (effects of history and childhood experiences) (Dyer and Handler, 1994) and behavioural approach (Ajzen, 2012) may lead to a better understanding

of how one decides to become an entrepreneur.

This study is the first step in taking a good look at a family's influence, the content of a person's social network, and their aspirations to become an entrepreneur. The next step would be to examine how a person's memories of family events, developed within the context of family relationships, affects their entrepreneurial behaviour.



## STUDY 2

### **Do family imprints spur entrepreneurship? The case of Hephaestus Inc.**

Born in a child's early memories and observations are the foundations of decision making and intentions. The intense influence family members can have on each other, their socialization process, events, and the interpretation of those events would allow us to understand how intentions develop into actions. This case study will track the critical events that formed a person's entrepreneurial behaviour.

The previous study focused on the social context to improve our understanding of how it influences entrepreneurial intentions. A notable observation included how certain memories affected entrepreneurial intentions. If memories are a type of imprint, and imprints influence future behaviour, we should try to understand how this process works. According to Marquis and Tilcsik (2013, p.8), imprinting has three essential features:

1. The existence of a temporally restricted sensitive period characterized by high susceptibility to environmental influence
2. The powerful impact of the environment during the sensitive period such that the focal entity comes to reflect elements of the environment at that time
3. The persistence of the characteristics developed during the sensitive period even in the face of subsequent environmental changes

We know that there are specific memories that lead to a person's behaviour. The process of memory development will be investigated, specifically the ones that lead to entrepreneurial behaviour. The case study is of a business family, which provides a unique opportunity to further our understanding of the imprinting process.

This is necessary because understanding how imprints are formed can give us a better roadmap to retaining an organization's identity and innovative capabilities. Transferring knowledge from one generation to the next is difficult. However, most business families wish to ensure that the innovative and entrepreneurial spirit of the founder continues through to the next generation. Unfortunately, how to achieve this it is poorly understood. The results of this study will be relevant to any business family that wants to see their legacy continue for generations to come.

Imprinting has recently drawn considerable attention for explaining various organizational and individual behaviours (Brinkmann & Hoon, 2021). An imprint is a moment in an individual's life whereby events impact the individual's behaviour (Marquis and Tilcsik, 2013). As the next section will show, imprints can be unlearned; this idea is exciting for those who want to encourage entrepreneurship. Even if early events have soured the person's entrepreneurial interest, unlearning and creating a new understanding of those events with a more adult perspective may be enough for the person to reconsider entrepreneurship. In other words, imprints developed in childhood that may have caused reluctance to become an entrepreneur, may be revisited later in life and reinterpreted (Ertmer and Newby, 1993; Marquis and Tilcsik, 2013). This reinterpretation may in turn renew the person's interest in becoming an entrepreneur.

Despite this potential, further understanding about the imprint's creation process is

required (Simsek et al., 2015). Although more is known about the sources of imprints and how imprints persist, the mechanisms by which imprints are manipulated, including how people decide which imprints remain, shed, are prioritized and/or changed, are not well understood (Cooper et al., 2000; Sinha et al., 2020). Moreover, if the imprints are shed, is this shedding permanent? The question of how imprints are reprocessed is important if one wants to regain past entrepreneurial knowledge which was previously underemphasized (Sinha et al., 2020). Thus, the answer to these questions may shed light on different aspects of the imprinting process.

This exploratory study seeks to understand how the imprinting process can encourage entrepreneurial behavioural development. The focus will be on imprint creation and how it influences later behaviour. Understanding this process will help us modify those parts that hinder entrepreneurship, thus encouraging more innovative activities, which leads to more entrepreneurial ventures. The research question guiding this study is: How do imprints develop and influence entrepreneurship?

### **Imprinting**

By looking at how subjective norms are developed, invoked and enforced, we may begin to find ways to improve the theory of planned behaviour measures. In addition, by enhancing this measure, we may further understand the impact that social context has on business families.

Most researchers (Jaskiewicz et al., 2015; Marquis & Tilcsik, 2013; Mathias et al., 2015) focused on imprints developed in early adulthood. However, Dickel et al. (2020) were the first to use the critical incident method to focus on early childhood imprints.

In their seminal article, imprinting theory was first developed and applied in a business setting by Marquis and Tilcsik (2013). They demonstrated the importance of past events and how they can shape behaviour at the firm and individual levels. Jaskiewicz and colleagues (2015) used imprinting theory to signal the importance of past stories and histories perpetrated by families to ensure transgenerational entrepreneurship continuity. Mathias et al. (2015) focused on how different imprints are used to develop entrepreneurial pursuits. Finally, Dickel et al. (2020) focused on using imprinting theory to explain the emergence of social entrepreneurship among entrepreneurs by looking at imprints developed in childhood.

### **Definition**

According to Marquis and Tilcsik (2013), imprinting occurs when the environment provides an impressive impact on a person's behaviour. This impact occurs during a sensitive period and persists even if the person's environment changes.

### **How imprinting is different from learning: Making the distinction within the context of business families**

Although imprinting has its roots in the learning literature, a possible explanation for why some family firms fail to develop entrepreneurs could lie in deciphering whether the children of entrepreneurial parents learn from their parents or are imprinted by the behavioural patterns of their parents. Recent research on imprinting shows that a founder's knowledge affects the

organizational structure (Gregoire et al., 2010). Krueger (2007) suggests that the ability to remain entrepreneurial beyond the family firm founder's tenure lies within the social context of the family and their ability to pass on their entrepreneurial attitudes and intentions. According to Krueger, "scholars [still] need to identify critical developmental experiences" (Krueger, 2007, p. 128), which allow the future generation to be entrepreneurial. Scholars also acknowledge that the "lesson learned" (Krueger, 2007, p. 128) is vital in developing the cognitive structures needed for continued transgenerational entrepreneurship. The "lessons learned" occur through interpreting a person's experience. For example, even a bad experience, such as being unable to work with Dad, could develop cognitive structures, leading to starting his own business just to get away from Dad's influence.

Krueger's (2007) learning-oriented approach to developing the cognitive structures is consistent with the constructivist view of learning, which emphasizes the accumulation of knowledge by building on prior knowledge (Ertmer & Newby, 1993). Furthermore, Gregoire et al. (2010) have shown empirically that prior knowledge is vital in recognizing opportunities. Gregoire et al. (2010) argue that prior knowledge allows the entrepreneur to go beyond "connect[ing] the dots" (p. 426). However, they do not specify what goes into developing prior knowledge. Gregoire et al. (2010) use the same definition of prior knowledge developed by (Shane, 2000). Shane (2000) defines prior knowledge as knowledge coming from various sources, including experiences and other people the individual knows. Shane (2000) also does not distinguish between the potentially different effects stemming from various prior knowledge sources.

On the other hand, Gregoire et al. (2010) distinguish between low, medium, and higher-order levels of prior knowledge. Gregoire et al.'s (2010) study found that a higher order level of prior knowledge creates the situation that allows the entrepreneur to recognize opportunities. However, he does not differentiate between how the different sources affect opportunity recognition in the higher-order level of prior knowledge.

Regardless, Gregoire et al. suggest that prior knowledge allows entrepreneurs to engage their cause-and-effect problem-solving abilities when recognizing opportunities (Gregoire et al., 2010). Thus, it can be argued that developing cognitive structures and problem-solving skills is more of a learning process. Moreover, this argument is justified because in both cases (whether prior knowledge helps develop cognitive structures or problem-solving skills), the prior knowledge that one accumulates from past experiences, is not necessarily experienced by the next generation. Still, it can be imprinted from the previous generation.

Entrepreneurship research has long recognized that would-be (or nascent) entrepreneurs can learn the behaviours to make them successful. The assumption is that entrepreneurs are made and not born. This research stream has recently focused on developing self-efficacy to propagate the necessary behaviours for a successful career in entrepreneurship (Krueger, 2007). Self-efficacy is a concept used by Bandura to explain his social cognitive learning theory, which states that people can learn behaviours using role models. Bandura defines self-efficacy as the "conviction that one can successfully execute the behaviour required to produce the outcomes" (Bandura, 1977, p. 79). Being surrounded by family and friends who are successful entrepreneurs (i.e. observing, talking, exchanging views and so on) with a high level of self-efficacy can become the catalyst needed to develop nascent entrepreneurs (Corbett & Hmieleski, 2007). Thus, in business families and assuming that at least one parent is entrepreneurial, one

would expect to see at least one role model help nascent entrepreneurs learn and develop their entrepreneurial self-efficacy (Garcia et al., 2018).

According to Bandura, one source of increasing self-efficacy is the vicarious experience (Bandura, 1977). As a child observes their successful entrepreneurial parents, they develop a sense that they can also succeed as entrepreneurs. However, this explanation fails to consider what happens in cases where a child observes business failure. The question therefore remains whether the children are learning vicariously through their parents or if their parents are imprinting on them.

Learning is associated with *changing* behaviours over time (Ertmer & Newby, 1993). In contrast, imprinting is defined as a process used to *extract* certain vital information to *regulate* our behaviours in given environments within a specific time frame (Tilcsik, 2012). Consequently, imprinting and learning can explain the cases where business families develop entrepreneurial children. Still, learning fails to describe instances where business families do not develop entrepreneurial children, despite their having life-long access to role models. Furthermore, learning does not explain cases where non-business families develop entrepreneurial children despite lacking role models from which to draw any entrepreneurial observations or experiences.

In addition, imprinting occurs during a very short period of time, and the knowledge persists despite changes to the environment (Marquis & Tilcsik, 2013). One crucial difference between learning and imprinting is that, in learning, knowledge acquisition takes place over a lifetime and results in a permanent behaviour change (Ertmer & Newby, 1993). Whereas imprinting takes place in a specific moment, numerous times throughout a lifetime, its process is more dynamic than permanent (Marquis & Tilcsik, 2013). In other words, in imprinting, what is learned can be unlearned.

In summary, imprints act like a form of social influence. Although we know imprints form, the process is still unknown, and so are its effects on entrepreneurial intentions and behaviour. The process can result in the persistence, decaying and amplification of imprints. Thus, the information extracted from the environment can be layered on top, resulting in different entrepreneurial behaviour. However, according to Marquis and Tilcsik, "how internal processes affect the persistence, decay and perhaps even amplification of an imprint" has yet to be studied (Marquis & Tilcsik, 2013, p.41). For example, specific imprints may decay while others persist, but why and when this occurs is still unknown (Marquis & Tilcsik, 2013). In addition, there may be interactions between an earlier and later imprint, but this has not been studied yet.

### **Imprint types: Firsthand versus vicarious**

A recent development in the imprinting literature has been the introduction of the concept of vicarious imprinting (referred to as secondhand imprinting by Marquis and Tilcsik, 2013). Firsthand imprinting refers to the process whereby a person's lasting impressions or experiences of environmental elements, occurring during a finite time period of high susceptibility, influences their future behaviour (Tilcsik, 2012). For example, a boy arguing with his sister would be a firsthand experience defining his relationship with her. On the other hand, vicarious imprinting refers to "the social transmission of imprints, a process whereby an actor takes on aspects of an imprint borne by another actor" (Marquis & Tilcsik, 2013, p. 48). This process

suggests that a person's behaviour can also be influenced by someone else's formative experiences or firsthand imprints. For example, a son hears his father say that his worst mistake was going into business with his brother. When the son decides to start a business, he may refrain from including his sister because of his father's experience, and his own firsthand imprint. Therefore, an event can become an imprint because of one's own experiences, but "imprintable" events can also arise from interpreting the imprints of other people.

Vicarious imprinting has important implications within business families since the formative experiences of the parental generation may either strengthen or weaken the impact of their children's firsthand imprints, thus either strengthening or weakening the propensity to become entrepreneurial.

### **Data Collection**

The data were collected using a qualitative, inductive, in-depth case study. Data from seven interviews with four members of the family owning Hephaestus Inc. (a pseudonym to protect the organization and its members' identity) was transcribed. The use of semi-structured interviews allowed for the exploration of topics that arose during the conversation. Each interviewee was interviewed two different times for approximately an hour. The interviewees were given the freedom to ask questions and expand on their views such that ideas, events, and memories that were important to them surfaced, creating a deeper understanding of where the investigative focus should be. This exploratory approach and the family members' open conversations were instrumental in understanding the imprinting process.

Analysis started with open coding of short text segments about frequently shared stories and memories (imprints) and entrepreneurship within the family business, such as improvements to production and products, and new services. Thirty-three open codes were found. Secondly, similar primary codes were summarized into secondary themes. Eleven secondary themes were found. Finally, I checked how secondary themes were linked, which informed my conceptual model using four emerging aggregate dimensions (see Appendix C: Inductive codes and emerging themes) (Gioia et al., 2013). Throughout the data analysis, I triangulated emerging findings based on different primary data obtained through the company's website, printed material and Facebook pages (Eisenhardt, 1989). As the family members shared their experiences and interpretations, the archival data provided by the organization was instrumental in creating a context from which further understanding of organizational processes and events could be interpreted.

### **Research Setting**

The office furniture manufacturing industry in Canada produces a wide range of products, including office furniture, fixtures, shelving, lockers, etc. Although the industry is on the decline, a few key drivers can result in higher revenues for organizations that capitalize on these trends. For example, more employees have opted to continue working at home since the pandemic, therefore the demand for office furniture may decline. However, the decline in the unemployment rate, the increase in the number of businesses and the private investment in computers and software all lead to the rise in demand for household office furniture. People may opt to stay home, requiring them to create home offices. The companies poised to enter the

household furniture manufacturing industry may benefit from this growing trend (Gonzales, 2021).

Although there are no significant players in the industry, increasing inputs prices (like steel) and increased competition from imports (from countries like China) may further the adverse effects on an already declining industry (Gonzales, 2021).

Consequently, the pandemic's aftermath and these new trends are speeding up this industry's decline. Thus, innovation is vital for companies as they search for ways to enter new industries that may complement their existing product offerings. Consequently, this industry is an excellent area of study because innovation may be the key to success for these companies as their industry goes from a steady pace to one of decline at a faster rate than previously projected.

Case studies represent an excellent opportunity to study the "reality [ ] constructed by individuals interacting with their social worlds" (Merriam, 1998, p. 6). To understand the meaning individuals give to past events, we need a deep, rich description of the process individuals use to attach importance to the interpreted events. Case studies are ideal for understanding the process of meaning creation (Merriam, 1998).

Hephaestus Inc. is a unique family business that spans three generations and two continents. The current family business includes two generations, but the effects of the first generation continue to live within the family's history. Using a case study design, I focused on relationships, memories and critical past events as described by those who lived it. Their unique viewpoint in meaning creation makes this case particularly unique to understanding the imprinting process. Different imprints could be identified from preliminary conversations, providing a rare opportunity to study the imprinting process as imprints from one generation can be seen in the next. Despite being in a declining industry, this organization continues to prosper and develop new innovative projects in the midst of a global pandemic. Moreover, its adherence to its collective past represents a rare opportunity to observe the interpretation of family events as their personal imprints form.

### **The Founding of Hephaestus Inc.**

Three years after coming to Canada, Finn opened his first manufacturing business with his brothers. Given his background in steel manufacturing, Finn's first business was in that area. However, his passion was to create, and he expanded to use different raw materials like wood and plastic.

A few years after starting the business, they incorporated their company. A couple of years later, the brothers developed their first proprietary robotic welding machines. This innovation was vital as it allowed for a fully automated process in the customization of metal products. In keeping with their constant innovation ideal, they implemented another improvement by installing a powder coating line to their metal manufacturing process. Building on their innovations, they increased their labour force by approximately 40% within a few years and diversified their product line to include various other raw materials besides steel. They also expanded their operations to the U.S. and China. Today with over 500 employees, they are North America's leading manufacturing firm for custom products. They also operate in three

international markets, servicing over thirty national and international clients.

In addition to innovations in their product lines, Hephaestus Inc, also innovated in their services offered. They added a design element to their manufacturing process, becoming a one-stop-shop for retail and commercial businesses. While most of their competitors remained within the manufacturing sector, they expanded to include design. A new synergy was therefore introduced that led them to offer manufacturing and design to their clients.

Prior to adding these design services, their clients would seek a firm to design the product and then find a manufacturing firm to mass-produce it. This was very time-consuming, with no guarantee that the product could be made as designed. Sometimes, the manufacturer would be unable to manufacture the product, leaving the client to return to the design firm to redesign something more manufacturing-friendly. For the clients, this process could be very time-consuming, costly, and frustrating.

A typical project would start with a client meeting to discuss and sketch the product's design. After client approval, the design would be moved to operations for the manufacturing process. This would include discussing the materials used (steel, wood, or plastic) and the techniques used to manufacture the item. Finally, the project would end with the delivery of the product to the client.

Despite being a multinational company, they treat each employee like family. They are very proud that their employees feel that connection to the business, with multiple generations working side-by-side.

### **Family Background**

This company was established with members of a typical nuclear family. Finn's father and mother both had businesses before they immigrated to Canada. Finn's father owned an antique furniture business, buying and selling furniture, dishes, and housewares. Finn's mother had a grocery store. Finn had three brothers and one sister, but only the brothers were involved in the founding of Hephaestus Inc. Finn also has four boys and one girl; however, only the three older boys are currently co-owners of Hephaestus. The younger boy and girl are under the age of majority and still in school. Therefore, it is not clear at this point if they will join the family business.

When the company was young, and the four brothers were involved in its day-to-day operations, they were in constant contact. The brothers were always together, and the cousins grew up together as one family. However, as the family got larger, particularly after Finn's brothers retired, there was more separation between them, each branch pursuing its destiny. Now, only Finn's family branch is actively involved in Hephaestus Inc., with Finn's sons buying out their uncles to become Hephaestus Inc.'s new co-owners, along with Finn.

Currently, Finn and his three sons are co-owners of the business: Noah (the eldest son), Eric (the middle son) and John (the youngest son) (note: pseudonyms were used to protect the family members' identities). The three sons are all in their late thirties to early forties, with

families of their own. Noah has three children, with the oldest son just starting to spend more time at the business. Eric has two children under the age of majority and so not involved in the business. John also has one child, but he is too young to be part of the business at this point. None of the four co-owners' wives have ever been part of the family business.

### **Descriptive data: Finn (Hephaestus Inc.'s founder)**

#### **Child-parent relationship**

Finn, Hephaestus Inc.'s founder, was born abroad. Both his parents owned businesses. His father owned an antique business whose primary function was buying and selling furniture, dishes and housewares. His mother took care of the supermarket in town. However, it was his father's love of business that sparked his passion for entrepreneurship.

*"I didn't know that because I loved my Dad so much that I wanted to be like him. Or because I was intrigued with how he used to do things, the way he used to talk to people...yes, I think it was him. The family, the way...and he used to do the same thing as I did with my children" (Finn)*

In the early 1970s, the family immigrated to Canada. One of his brothers came to Canada first and he followed a little later. The founder was about fifteen years old. Finally, about a year and a half later, the rest of his family immigrated to Canada.

Given that his family always had businesses, Finn was always very interested in starting a business in Canada.

*"When I saw there was probably an opportunity for me to develop and to create and to open up a different market if you want, ... that's when I said, ... I think it will be unbelievably good for us. But most of all, it was to be in business of my own." (Finn)*

Although the businesses in their country of origin were different, the basic idea behind running a successful business seemed to him to be the same.

*"We had different types of business. Totally different... It's still business-oriented. Now, like us in manufacturing, we still have to purchase raw materials, we add hours on it which we buy from employees, and then you sell a finished product. Still, it is buying and selling in a certain way. Totally different mentality because yes, of course, in reality, you have to manufacture these goods. So, doing drawings and then presenting to customers, you have to sell the idea, that the style is better, that the quality is better, and then you produce a sample and then hopefully they will give you an order and then you produce. So that aspect it was totally different. But at the end of the day, it is still a business." (Finn).*



## **His first job.**

About a month after he immigrated to Canada, he started his first job in Canada. Finn worked at a small factory that produced steel items, which sparked his passion for opening his first business.

*"I was working in a small factory which they use to produce items with steel. And that's my passion. It started from that little factory"* (Finn)

## **Family-Business Interface**

### ***Relationship with the business.***

On the spectrum between family and business being intertwined or family and business being entirely separate, Finn believes he lies somewhere in the middle. On the one hand, whenever Finn had good experiences to share, he would bring them home and discuss them over dinner. On the other hand, if he had a bad day at the office, he would keep those experiences to himself and not share them with his family. He believes that sharing the good news only built the passion in his sons.

*"I used to come home with a big smile and say, "Hey guys, look what we did today." So, they were used to it. To hear these beautiful things about the business. And I think that's where their passion started. They saw me so passionate, and I think automatically they were raised with that passion."* (Finn)

Keeping these two personas (the businessman Finn and the family-man Finn) separate was not difficult for Finn.

*"I was able to keep both of them totally apart. Because if you have a problem in your work, you don't want to bring this home and then affect the total family. It's not fair...what I used to do I used to in the car, in the front of the garage, I used to shut off my phone, which means no more business, ok. I used to open up the doors and "hey, family, here I am." And vice versa. In the morning, I used to open up my phone, and it was like, ok, it's time to work. I always did that. Always."* (Finn)

### ***Relationship with his sons***

His sons joined the business in a very organic way.

*"You know what, I think no, nobody asked nobody. I think it just happened."* (Finn)

At a very young age, they would ask Finn if they could come and work for the company. To Finn, they seemed very anxious to finish school and come work for the company full time.

*"They were very anxious to finish school and to start over here. Because they knew that eventually,*

*they could have done something good to."* (Finn)

*"Because when they were boys at the age of 12, as I said, they use to be so happy to come and work, so as soon as they reached 10 or 11, they use to say, "Daddy, daddy, next year I'm going to come."* (Finn)

Finn's sons never worked anywhere else. From a very young age, they worked at the business whenever they were not in school.

*"after school, they used to come over here and then after their school was finished, they followed each one in a different position. On what they would study or what their devotion was."* (Finn)

Finn believes that to understand the business, a person needs to work from the bottom up, mainly because specific manufacturing processes are unique to them.

*"How can you lead if you do not know what you are doing... Instead, here, every summer, they used to do one function. Say one type of...but I'm talking about manual work. In the factory. Till slowly, slowly, they get where they are now. But now they do understand how difficult it is for some operations."* (Finn)

*"For what we do, there are not many companies like us... So, I think the training we give them to start they couldn't learn that anywhere else."* (Finn)

### **Triggering childhood memories**

Finn was shown nine pictures of typical family relationships. The purpose was to help trigger childhood memories that had a significant impact on his life. He was asked to choose the one that resonates the most with him and describe the childhood memories that come to mind.

Finn looked at the pictures but seemed to dismiss them. However, he did go on to describe the relationship he observed between his father and his mother. How they worked together and seemed to read each other's minds with a single look. How he drew his inspiration from his father and how he felt his parents' love growing up. He describes them as the best parents a person could have.

### **Finn's legacy**

He expects that the three sons will take over as co-owners. His youngest son will probably come into the business as well, but he won't oblige him.

*"The three of them will take over the business together as co-owners."* (Finn)

He believes that if you follow your passion, you can do anything.

*"The beauty when you do it with passion, every day is Sunday. But if you don't like what you're doing, it's always Monday morning. You have to like what you're doing"* (Finn).

## **Descriptive data: Noah (Hephaestus Inc.'s VP of Business Development, eldest child)**

### **Relationship with his father, Finn**

Noah was always very close to his father. He says that he was always "intrigued" by what his father did. So, from an early age, Noah started working at the factory with his father and uncles. To Noah, it was a pleasant experience filled with happy family bonding time.

*"It was working, but it was also family bonding, it was teaching, it was like a passion, like passing, like a winery, the older uncles teaching the new generation."* (Noah)

In addition to working at the family business, Noah also picked up another "family heritage": music. His father and his uncles used to play in bands on the weekend, where his father used to sing. His father had a dream that Noah would one day play the piano. Noah would go to school and work at the business during the week and on summer holidays; on weekends, he played piano in a band.

In addition to being intrigued, Noah feels inspired by his father. The idea that his father can create ideas and then execute his vision is inspiring. Noah says this inspiration has been instilled in him.

*"My father is an unbelievable person. He has a passion, he has an idea, and he executes it... It's inspiring in him, and he instills that in us. And I think that my family and I share my father's vision and dream, the motivation ... you know we are passionate people... We're passionate in our music. We're passionate in our business. We're passionate."* (Noah)

Growing up and working together with his father and uncles gave him the unique advantage of hearing about the businesses they had in their native country. He would listen to stories about their businesses, places they had travelled to for work, and their experiences of being young boys in their father's business. Moreover, he got the sense of "energy" that the older generation possessed about being in business for themselves and working together as a family.

From a very young age, he knew he wanted to be part of the family business. Although he loved music, he felt drawn towards the company. He wanted his life to be just like his father's. His passion was and still is for the business. He has met and exceeded his goals and expectations. Although he was very close to his father, he never felt forced to work in the business.

*"My father never really forced us to work. We always had that will. And the same thing goes with music. My father had the will, but I had the will to play the piano."* (Noah)

### **Relationship with his younger brothers**

Working with his brothers has made him very close to them. However, he still maintains a distance between his business and personal lives. At work, his father and brothers are

colleagues. Away from work, they are his father and brothers. What this means for Noah is that at work, they have meetings, and their interactions are what you would expect in any typical business organization. They maintain that collegial workplace atmosphere. While Noah's son has started to work at the business, he does not interfere with his son's progression. If his son has an issue, Noah encourages him to talk to the department's manager rather than seeking Noah's intervention.

However, if he and his brothers decide to have lunch away from the business, it becomes three brothers enjoying lunch together before going back to work. He concedes that sometimes, because they share a shared passion for the business, there is a spill-over effect where the business mixes with the family time, but they try to keep that minimum.

### **Relationship with the business**

At first he, his father and brothers would be enmeshed in the business. There was no clear separation between business and personal life. Today they have been able to keep the two separate. However, he does acknowledge that there is an overspill from time to time that stems from their passion for the business.

Although he has many different functions in the business, his primary role is business development. He considers the company an "ever-evolving" business and is constantly looking for new markets to enter. They are currently in five markets, and he is always in search of new markets to enter.

His father inspires his forward-thinking, but a movie he saw about twenty years ago is another source of inspiration for him to search for new business. "The mouse who moved my cheese" is a movie that demonstrates how one won't adapt to changes in their environment if they are too comfortable with their success. One needs to constantly look for opportunities to ensure survival when the environment changes.

### **Triggering childhood memories**

Nine typical family relationship pictures were shown to Noah to help trigger childhood memories that influenced his current mode of thinking about personal and business decisions. Noah was told to focus on one that resonated with him and to describe what childhood memories surfaced.

Noah's focus centered on multiple pictures that evoked a sense of bonding and togetherness. He described certain family traditions, such as winemaking, tomato sauce making and packing up the young family in a car for family vacations. To Noah, the importance of these events was the time spent as a family, bonding, talking, and enjoying being together. According to Noah, family bonds were forged and strengthened during these events. Professional roles were forgotten, and former family dynamic roles re-emerged.

*"...here in the factory, we have the bosses on the floor, [while making canned tomatoes sauce] my grandmother was our boss. She was putting my Dad to work. She was putting us to work. You know, wash the lids in the dishwasher, heat it this way, put it this way. You had to put the cloths around the glass...so it's bonding."*

## **Noah's Legacy**

When asked about the one thing he would want people to know about his family and business, he said, "believe in dreams, and they do come true." Knowing that his father came to Canada with very few possessions and no knowledge of the language and customs, he values the hard work his father put into building the company so that he and his brothers could continue. He finds his father's journey "phenomenal."

Although he sometimes finds himself working "8 days a week", it doesn't seem like that because of his passion. In addition, the connection he feels to his family gets him through some hard days and continues to refuel the passion needed to continue in the family business.

*"... it's nice to be sometimes here with the family. Sometimes you are having a hard day, just look at your brother, your father, and then you just go back...even if they don't know. You look at them, they look at you, and you continue."*

As for his relationship with his children, Noah says that he finds himself trying to raise his children the same way he was raised. He offers financial advice and teaches them the value of money. He also tried to instill in them his love of music. They like music, but to date, don't seem to share Noah's interest in playing. Although the love for music has not grown, the love for the business has in his two eldest children.

### **Descriptive data: Eric (Hephaestus Inc.'s VP of Design, second eldest child)**

#### **Relationship with his father, Finn**

During Eric's childhood and adolescent years, Eric felt distant from his father. Most of Finn's time was spent building his budding business, which was in its infancy. This left Eric feeling like an outcast, not knowing much about his father or how to please him. For a long time and even today, Eric says that he and his father "butt heads often." However, although they are tough with each other, there is always mutual respect. Joining the business was partly Eric's desire to show his father what he was capable of—trying to "earn their love through action. One silver lining of being at the business is that he felt fortunate to have grown up with his brothers and cousins.

#### **Relationship with his older brother**

Eric says that he may have competed with his brothers for his parents' attention while he was growing up. When Eric and his brothers were young, their parents divorced. According to Eric, this event brought the brothers closer together. In terms of competition, Eric states that each brother assumed their respective roles, making the competition a moot point.

As the eldest, Noah played the role of the firstborn. Noah preferred the business management area, while Eric was drawn to the business's more creative design aspects. Thus, they could each carve out a niche for themselves, which prevented any competition or conflict.

## **Relationship with his younger brother**

Although he is also close with his younger brother John, they tend to "butt heads" more often when it comes to business, due to the nature of the interaction between their departments. For example, Eric brings in the business, but John needs to produce and manage the business Eric brings in. Although they have different points of view regarding the operation's process, their interactions are described by Eric as being "fairly civil."

## **Relationship with the business**

As a child, Eric became resentful of the business. He would watch other kids and their families go on vacations together or enjoy their summer times off. Eric and his family never took vacations, and he never really had time off. Whenever he was not in school, he was at the business, "Waking up early, being [there] late."

Growing up, he wasn't sure what he wanted to do but joining the family business was never Eric's goal. He felt lost in terms of his future plans. However, music was always a constant in his life. As an adolescent he was in a rock band, and upon graduating high school he had dreams of becoming a rock star. At his father's insistence, he enrolled in college and found a program in design. At that time, the family business was not offering designing services to its customers. He looked at design as an opportunity to make his mark on the business. Thus, he incorporated design as a service the business could provide, bringing an innovative idea to the company. He gave up his aspirations of becoming a musician and joined the family business.

## **Triggering childhood memories**

Eric was shown nine pictures of typical family relationships to help trigger meaningful childhood memories that impacted his life. He was asked to choose the one that resonated the most with him and describe the childhood memories that came to mind.

Eric seemed to focus on the pictures that depicted family relationships where one of the characters looked outcast and dejected. While growing up, Eric said that he often felt outcast, like he didn't belong. He attributes those feelings as the antecedents to his ability to choose his path. Joining the business was never a real goal for him. Once he decided to join, however, he identified and created his own path within the business. He carved out a niche based on his design knowledge to prove to his father and those already in the business that he did belong. From then on, he continued to innovate in this new area of the business and developed a marketing and design department. Based on his feelings of not belonging and his desire to prove that he did, he was able to innovate to bring new services to the business.

A second set of pictures alluded to his desire to leave the family business. He states that on some occasions, the turmoil within the company made him want to leave. However, with the turmoil resolved, he feels happier now that the company belongs to him, his father and his brothers.

## **Eric's legacy**

Eric is proud of his family's history. He considers himself an "ambassador of his family." He thinks about his father coming from a foreign country and being dropped in Canada without knowing the language, culture or customs. Despite these obstacles, his father survived and flourished, building a company that sustained his nuclear family and supported his entire extended family. This story of perseverance makes up part of Eric's legacy for the future generation. In addition to looking back to see where you have been, Eric also recognizes that it is important to look to the future. He states that you should always be willing to reinvent yourself and move forward faster and better than the competition. Using the past to motivate you to go further is the second part of the legacy he wishes to impart. In his words, "Be nimble. Be smart and move quickly". Thus, Eric's legacy is to impart the ideas of perseverance and reinvention to future generations.

### **Descriptive data: John (Hephaestus Inc.'s VP of Operations, middle child)**

#### **Relationship with his father, Finn**

John was always around his father and the business. Even when he was too young to understand what was going on, he would draw while his father was on the phone conducting business. John learned a lot through observing his father, such as how to deal with people. He also remembers his father bringing work home with him. As he watched his father work, he grew to love the work as much as his father did. Observing his father's passion for the business led him to develop his own passion for the company.

As the youngest, he felt he had to fight for his father's attention and wanted to please him. When his father showed pride in his son's math acumen, John gravitated towards business activities involving math.

#### **Relationship with his older brothers**

He attributes his older brothers with helping him become the person he is today, both professionally and personally. By observing their reactions to events and life experiences, he learned how to avoid mistakes, negotiate, and bring different people together.

John feels their support. John also tends to want to stay in his comfort zone, but his brothers, especially Eric, help bring him out of it, which he appreciates. He agrees that it is vital to innovate, and if you are too comfortable, the business will likely not do well.

#### **Relationship with the business**

As a child, he always wanted to be part of the business. First, he watched his father, then his brothers work in the business, so he too wanted to be part of that world. Along the way, he questioned his commitment to the business, but in the end, his passion won out.

What he likes most about the business are the seemingly endless company resources. Negotiating these resources' wide range of uses is what he loves most. He feels that it allows his imagination to run free and exercises his creative energies.

Nevertheless, certain aspects of the business weigh on John. As the business grows, he feels removed from the things he likes doing and finds himself more involved in managing people instead of physical resources. As a self-described people pleaser, he finds it challenging to deal with employee issues, such as providing negative feedback.

He remembers always associating the business with happiness. His family was always around, and he enjoyed spending time as a child roaming the factory and playing with his brothers.

### **Triggering childhood memories**

John was shown nine pictures depicting family relationships. Then, he was told to focus on one or two pictures that resonated the most with him and describe an event that comes to mind.

John indicated that all the pictures brought him back to a time in the company's history when one of his uncles passed away. This uncle was important to his father because he was the one who implemented his father's ideas. So, when he passed, his father felt alone in the company, which started a rift.

From this event, the takeaway for John was not to make the same mistake. For John, communication was the root of the problem; had his father and uncles communicated differently, things could have been different. Some negative feelings elicited by the pictures were sentiments of competition between John and his cousins. John believes that most of the competition was an extension of the animosity building between the parents, expressed by the children. John remembered some positive feelings about his younger days in the business: bonding with his uncles, brothers, and cousins as they played in the shop. He also remembers his uncles making toys for the children to play with from scraps on the shop floors.

### **John's legacy**

One thing about his business that he would want people to know is that they care about people. When they make decisions, it's rarely about the bottom line but rather based on what would make people happy and if they can do it. Money is important, but they don't choose money over people. In his words, "I'd like it if that's what we would be known for. We don't choose money over people. People probably already know that."

### **Analysis**

The purpose of this analysis is to explore the relationships between imprints and entrepreneurial behavioural outcomes. In addition, I am looking to explore how imprints could be linked to specific entrepreneurial behavioural outcomes.

This section commences with a description of the expected themes (imprints and entrepreneurial behavioural outcomes), followed by the evidence.



## **Imprints**

### ***Description of imprints.***

From a very early age, all three brothers talked about their specific memories. These memories were divided based on the source of the memories. Firsthand imprints were memories with which they had direct experience. Vicarious imprints are memories from their observation of others' experiences or stories they heard about other people.

### ***Evidence for firsthand imprints.***

Most of Noah's firsthand imprints centered around two ideas. The first was not waiting around for business opportunities to come along. The second centered around the traditional activities, which increased the family bonding experiences. Eric's firsthand imprints centered around his experiences in his early career. He remembers the impact of his early jobs on his mindset.

*"Anybody can come up with ideas, but if you can't sell it, it's pointless. And so having that split mindset is very unique for me, and that's what makes me different from my counterparts or my competitors"* (Eric)

John's most influential firsthand imprint centered on having fun with his brothers and cousins in the workshop. He vividly remembers the toys his uncles made for them, and he describes the feelings of affection towards the business.

### ***Evidence for vicarious imprints.***

For Noah, the vicarious imprints described were centered around personal and business areas. For the personal areas, he described imprints relating to observing his father and uncles' love of music, which he says was an important part of their lives.

On the business side, Noah describes his father's stories about his father's and uncles' experiences living and building a business in their home country. How their business in their hometown evolved and how that tradition stays true in this business. Eric's vicarious imprints described instances of learning and family pride. For example, he remembers observing his father and uncles performing as musicians. This imprint gave him the courage to overcome his shyness when it came to representing the company. He also remembers stories about his father and uncles' overcoming obstacles to build their business. Stories centered around the themes of perseverance and reinvention.

John's vicarious imprints centered around observing his father. He remembers sitting next to his father while his father was working and watching him conduct business over the phone or in a meeting. Although he was too young to understand, he attributes that memory with providing him with the cues he needed to learn how to deal with people.

### ***The interface between firsthand and vicarious imprints***

One objective of the case study was to look at the interface between firsthand and vicarious imprints, particularly the determination of the strength and sequence in which firsthand and vicarious imprints occurred.

### ***The sequence of imprints.***

Based on the data, we can reasonably assume that everyone has both firsthand and vicarious imprints since all three brothers described both. What is new is apparently vicarious imprints occur before firsthand imprints. All three brothers talk about their father's passion igniting their own passions, for either the business or the "thrill of the hunt" for opportunities. Noah talked about observing his father's passion for the business and how it is passed on to other family members.

*"You know you can feel the passion in their eyes, and as I'm telling you now, I feel the passion too. You feel the energy, the passion of working with family. That sort of energy you get when you speak to family members, and you pass that energy. It's something you can't explain."* (Noah)

From a very young age, he always knew he wanted to be part of the business. He closely followed in his father's footsteps. His life choices also brought him toward his current role in the business. Since he knew that he wanted to be part of the business, decisions like studying business management were based on achieving his business goals.

Noah and John both talked about being very young (under ten) and wanting to be part of the business. It is reasonable to assume that children of this age cannot be expected to have developed any notable real-life experiences. In North America, children of this age group tend to be surrounded and have few opportunities to develop firsthand imprints without their parents' influence. Therefore, any first influential imprints must come from observing others first - vicarious imprints - which the data also indicates.

Eric's account also showed that the vicarious imprints came before his firsthand experience. His account was a little different in that he had no intention of joining the family business at first. However, he remembers his father's joy for the business.

*"I remember my dad coming home and saying guys, I got this big order today. And seeing the smile on my dad's face"* (Eric)

Although he searched for his sense of identity, his passion for design and the opportunity to express that passion eventually brought him back into the business. The source of the passion came from his father and his uncles.

*"But what's passion for us is the thrill of the hunt that we love more than anything. And that goes throughout our entire family history, the thrill of the hunt."* (Eric)

Since their passion was developed before his, it would be logical to conclude that vicarious imprints occurred before his passion for design (firsthand imprint). In addition, Finn also talked about observing his father's business savvy as igniting his passion for starting his own business.

*"I was always passionate to do a business on my own. Because our family in [country of origin], they were always in business." (Finn)*

### ***The strength of imprints***

Previously, the literature described that the firsthand and vicarious imprints are added together, are layered, and the unimportant ones (as determined by the person) are shed. Furthermore, the literature implies that different final imprints will result in different imprinting outcomes. In this case, we will define imprint strength based on how influential an imprint is on behaviour. Imprints will affect subsequent behaviour depending on whether the imprint is based on the past, observed experiences of others (vicarious imprints) or the person's present, personal experiences (firsthand imprints).

### ***Discussion on critical imprints***

In this case, we see that some of the imprints, whether firsthand or vicarious, are more critical. The brothers seem to refer to these critical imprints more often. In addition, these influential imprints seem to take on greater prominence when they answered questions about their current business. For example, Noah and John both talked about things that bring out their passion for the business. This passion is based on Noah's and John's observation of their father's and uncles' passion, a vicarious imprint. On the other hand, Eric talked more about a creative passion he feels for the business. This passion was based on Eric's creative experiences (firsthand imprints) and his father's and uncles' passion for the business (vicarious imprints).

*"We are passionate about the business. Now business means either buying and selling or making and selling; we are passionate about that. Are we passionate about the retail industry, hotels and restaurants? Yes, but that's about the passion about the design and the innovation that goes into that." (Eric)*

The quote above shows that Eric may not have an unyielding passion for a particular industry segment. Still, he does have a strong passion for the opportunity to create new products and designs. Furthermore, given that Eric doesn't seem to have firm commitments to any particular business, he seems to have a more comprehensive focus, allowing for a broader range of opportunity recognition. In contrast, Noah's and John's sole vicarious imprints led to a narrower focus in the existing business. In either case, all three brothers have strong imprints. However, these imprints are derived from different imprint sources.

### ***Discussion about the imprint's sources.***

An imprint's source refers to the two imprint types (firsthand and vicarious). The case suggests that imprints composed of firsthand and vicarious imprints are richer and lead to a more diversified recognition of opportunities. Conversely, the experience of vicarious imprints tends to nurture the narrow copying of the ancestor's experience. The implications of these effects will be discussed in the following section – "entrepreneurial behavioural outcomes".

In summary, the case suggests that vicarious imprints occur before firsthand imprints. In addition, all three brothers appear to have strong imprints because it is evident that the critical imprints they describe have a profound effect on their behaviour. However, whereas Noah and John refer to one type of critical imprint (vicarious), Eric refers to both kinds of imprints as critical in influencing his subsequent behaviour. This difference in the imprint's sources (one versus two) leads to different entrepreneurial outcomes.

## **Entrepreneurial behavioural outcomes**

### ***Description of entrepreneurial behavioural outcomes***

Marquis and Tilcsik (2013) state that there is much we do not know about the implications of imprints. They argue that an understanding of the consequences of imprinting lies in the interplay between the imprint's historical origins and its current usefulness. Furthermore, even if imprints persist, their effects are not easy to predict as the environment changes and may become maladaptive, exapted or remain adaptive. Marquis and Tilcsik identified three possible implications of imprints that require further exploration.

**Exaptative.** Marquis and Tilcsik (2013) describe the implication of imprinting being exapted when the imprint is used for a different purpose. For example, the next generation of a winemaking family keeps the values and traditions of the family but applies these traditions to start another business, perhaps in the software industry.

**Adaptive.** Marquis and Tilcsik (2013) describe the adaptive case as an example when the next generation uses the imprint in a similar way to the parental generation's use of the imprint. In the previous example, the adaptive case would be the next generation continuing to work in the winemaking firm. They may branch out into other satellite businesses but always stay within the winemaking industry and related products.

**Maladaptive.** Although this outcome has not been fully developed by Marquis and Tilcsik (2013), they describe this case as a mismatch between the original utility of the behaviour and the current perceived usefulness of the behaviour. Thus, the next generation rejects the past (and the associated imprints) presented by their parents, favouring their own experiences. For example, in a winemaking family, the next generation opts out of entrepreneurship altogether, preferring to work as an employee for someone else. Alternatively, some family members may have historically worked for someone else, and the next generation chooses to engage in entrepreneurial behaviours.

Thus, entrepreneurial behavioural outcomes refer to the imprint's implication operationalized as the person's innovative behaviour. This case study found two entrepreneurial behaviours: adaptive and exaptative. Exaptative entrepreneurial behaviour tends to show more innovative activities in terms of the degree of riskiness; resources are used in a new, unproven way, which implies more risk in conducting those activities.

Adaptive entrepreneurial behavioural outcomes involve using existing resources to improve upon existing services. Thus, an improvement seems less risky than appropriating those same resources to take a new direction (as in exaptative entrepreneurial behavioural outcome).

Whether entrepreneurial imprinting outcomes should be expressed as a continuum or remain categorical is still to be determined.

### ***Evidence for the adaptive entrepreneurial behavioural outcome***

Noah describes that his business activities center around having an "ever-evolving business." Although the business was founded in the manufacturing sector and continues today, Noah states that it has changed, always following the customers' expectations and needs. Today, they glean opportunities from customer interactions and market research. They have also introduced technology into their processes and products to develop and evolve their product base. Adding customers, carving out new markets and incorporating new technologies in their products and services show adaptive entrepreneurial behavioural outcomes. The innovations introduced use existing resources and improve their business within the same manufacturing sector. These innovative activities, which didn't seem possible ten years ago, gave them a distinctive edge over their competition. However, their innovative activities are still within the same sector.

### ***Evidence for exaptative behavioural outcome***

As he describes his business activities, it is clear Eric is the underlying force in introducing a new service into the business. He states that the company has always been a manufacturing business that has evolved by introducing new raw materials and markets. However, his activities are exaptative because he has taken the company in a new direction by introducing a new design service. This service is unique in the manufacturing sector. To his knowledge, they are the only business that offers a one-stop shop for its customers because of these design activities. This innovation helped to sustain their business through many obstacles, including the Covid pandemic. Their ability to pivot to a broader range of business activities has allowed their continued growth.

### ***The link between imprints and entrepreneurial behavioural outcomes***

At the beginning, this study proposed the question of whether there was a link between the type of imprint (firsthand and vicarious) and the type of entrepreneurial behavioural outcome (adaptive and exaptative). The data indicate that vicarious imprints may result in adaptive, entrepreneurial behavioural outcomes. Vicarious imprints could be seen as a historical imprint since they are part of the family's history. Therefore, the tendency is towards innovation, but still in line with traditions, thus considered adaptive. In other words, we see a solid link to the past going into the future. For nurturing adaptive activities, we should see a more influential connection to vicarious entrepreneurial imprints.

By looking at the type of imprints described by Noah and John, we can see that most of their imprints are vicarious. Noah and John remember their father's passion for the business; their father's desire to find new ways to use their existing resources; and, observing their father working in the industry. Thus, these memories are incorporated into their vicarious imprints, creating strong links to their historical ideals.

Noah and John's entrepreneurial behavioural type can best be described as adaptive. They

have introduced innovations into the business. These innovations were within the manufacturing industry, such as new uses of technology involving product enhancements and operations management. Thus, Noah and John's final imprints seem more focused since they are primarily vicarious imprints linked to adaptive, entrepreneurial behavioural outcomes. This observation means that their strong commitment to the historical ideals of family pride and passion will make them want to be innovative within the context of their current industry.

On the other hand, a combination of vicarious and firsthand entrepreneurial imprints (like those described by Eric) seem to lead to more exaptative behavioural outcomes. In this case, we see less emphasis on the past and more future incorporation, leading to more exaptative activities. Letting go of the past allows the pursuit of different activities.

Eric describes both imprint types as influential in his decisions to join and stay with the business. He remembers the stories about his father and uncles starting the business and overcoming obstacles. However, he also focuses on the firsthand imprints of his passion for creative arts and design. His pride in his family history and the opportunity to design in the business led him to join and introduce a new service to the company, which changed its course. Thus, Eric's final imprints have more sources (composed of both firsthand and vicarious imprints). By experiencing a firsthand entrepreneurial imprint, Eric might have nurtured his exaptative entrepreneurial behavioural outcomes.

## **Emergent themes**

### ***Passion***

Whether for family, business, or other personal pursuits, having a passion for something seems to be the fuel needed to light the fire of innovation. Finn talks about passion being part of his everyday life.

*"The beauty when you do it with passion, every day is Sunday. But if you don't like what you're doing, it's always Monday morning. You have to like what you're doing"* (Finn)

He credits his passion as being the source of both his motivation and inspiration. Seeing his family always owning their own business and having experienced the passion of creation in his early job experiences drive his passion for innovation.

This passion also seems to be transmittable to others. All three brothers talk about seeing the passion in their father's and uncles' eyes and its effects on shaping their own passions and pursuits. Noah describes the development of his pride for the family business. Eric recounts the pride of being part of the family and being able to advocate for their resilience and successes. Even John expresses his satisfaction of watching a project come to fruition. The thread of passion that originated from their father weaves and winds its way into various aspects of the brothers' lives.

### ***Interface between family relationships, following in someone's footsteps, and feelings of choice***

In these interviews, there emerges a picture of a close, affectionate family. They lean on each other in difficult times. Both John and Noah mentioned that having family close by helps

them deal with challenges that may arise. Whether Noah is having a bad day or John needs some vacation time, they feel their family's support. Eric encourages the ideals of work-life balance for both his family and his employees. This suggests that they think that family plays a vital role in their lives and shaped them into the people they are today.

The real question is: How close is too close? There is a difference between feeling close due to obligation versus actual affection. Willingness to follow in someone's footsteps may result in a different outcome than being forced to take over the family business.

All four family members expressed that the most important thing is for their children to be happy in whatever career decisions they make, whether within the family business or otherwise. For example, although John felt that he was being "bred" to join the family business at times, in the end he willingly chose to join the family business, and he was at peace with that decision. Noah and John describe very close relationships between them and their father, with high levels of mutual affection and respect.

Eric's relationship with his father can also be characterized as one with mutual affection and respect. However, they also tend to "butt heads", indicating that differences in opinions can be tolerated without jeopardizing their relationship. He was given the freedom to explore other interests, where he gained the experiences that he brought back to the business.

In both cases, this closeness resulted in the brothers joining the family business. If we take this a little further, we can see that the family relationships may have affected the brothers' entrepreneurial behavioural outcomes. John's and Noah's relationship with their father led to a more adaptive entrepreneurial behavioural outcome. Eric's relationship with his father, on the other hand, led to a more exaptative entrepreneurial relationship type.

### ***The importance of family bonding***

All three brothers talked about how business permeated every aspect of their life. They discussed the business at family parties, on vacation, or during family meals.

*"Hey dad there's this project... my father used to sketch stuff on a napkin after Sunday lunch...I used to take the napkin and bring it in" (Noah).*

However, the business didn't stop them from bonding during these family events. Noah talked about his positive memories growing up, centered around traditional family get-togethers. These included seasonal events and family vacations. Eric talked about growing up at home, hearing about the business at family parties and vacations. John talked about having fun playing at the office when he was younger with his brothers and cousins while the adults worked.

These positive bonding experiences made them closer as a family, and closer to the business.

## Propositions

The main objective of this case study was to dive more deeply into the processes of imprinting to understand how it affects the entrepreneurial legacies of family businesses. People do have congruent firsthand and vicarious imprints. However, the person then decides which imprints are kept and integrated and which ones are shed.

### Imprint strength

Marquis and Tilsick (2013) hypothesized that imprints differ in strength and refer to the additive effects of vicarious and firsthand imprints. Marquis and Tilsick (2013) suggest vicarious imprints that support firsthand imprints tend to strengthen firsthand imprints. On the other hand, vicarious imprints that do not help firsthand imprints tend to weaken firsthand imprints. Based on this in-depth case study, however, it seems that vicarious imprints provide more than just a supporting role for firsthand imprints: Vicarious imprints play a pivotal role in how firsthand imprints are gathered, integrated, shed, and used.

From the case, we see that Noah's and John's imprints are made of predominately vicarious imprints and thus come from one source (vicarious imprint source). These vicarious imprints tend to align themselves with a focus on continuing and refining appreciated traditions. This is because, in this case, the vicarious imprints focus on their father's passion for business and music. This focus led to memories of the family working and partying together, leading to an internalization of the importance of family bonding. There is a common theme in the developed and developing imprints that center around the importance of having family and continuing with family traditions. John mentioned that fighting the business battle would have been difficult without his brothers, and he wouldn't want to fight it alone.

*"I don't think I would be able to do it alone. And I don't think I would want to do it alone."*  
(John)

Noah mentioned that he finds that he is raising his children in the same way he was raised.

He realized that sometimes he gives his children the same advice that his father gave him.

*"Sometimes I'm giving a tip to my son, and I remember my father said that. So you are in a sort of déjà vu."* (Noah)

Regarding the business, Noah mentioned that having his family around at the company is a blessing that keeps him going even through some rough days.

*"It's nice to be sometimes here with the family. Sometimes you are having a hard day, just look at your brother, your father and then you just go back, even though they don't know. You look at them, they look at you, and you continue."* (Noah)

On the other hand, Eric's imprints are both vicarious and firsthand and therefore come from multiple sources. Eric's combination of imprints led to more diverse interests. His vicarious imprints of his father's passion for the business combined with his firsthand passion for creative arts. This combination gave rise to his desire to integrate these two imprints through an entrepreneurial path within the family business. The themes derived from his imprints center around finding his own identity and remembering traditions, while keeping an



eye towards future opportunities. In this case, Eric found a way to incorporate his passion for design through corporate entrepreneurship in the family business.

Whether from one source or diverse sources, they both lead to strong imprints. However, the difference lies in the range of experiences (wide versus narrow) being incorporated into the person's final imprints.

### **Critical imprints**

Criticalness here can be seen as a person's ease of referral to a particular imprint. As a person retells a story or event, those specific ideas emerge. If the emergent ideas appear to be similar (as was the case for Noah and John, who seemed to focus on the family closeness idea), the commitment to find and retain other imprints like this idea would be stronger. Consequently, non-similar imprints were readily deleted. For example, Noah's experience outside the firm did not integrate into his current role within the firm. It was a time in his life that appears finite and does not seem to continue impacting his outlook or behaviour.

Similarly, John's outside experiences seemed to be shed once he decided to enter the family business. Although he does refer to the technical knowledge he acquired, he uses it more to explain his business. For example, John uses the technical expertise he received during his studies to explain his view of the company.

*"Business legally is set up as a person. It's a living breathing thing. A company has feelings because the people behind the company have feelings." (John)*

This quote shows that John is drawing from his legal background (technical expertise) to explain his perspective of what a business is.

On the other hand, if the person described various imprints that were meaningful in guiding the person's behaviours, then the commitment to retain similar imprints would be weaker. For example, Eric's firsthand imprints, developed during his many experiences outside the firm, were retained and regularly mentioned as guiding his entrepreneurial behaviour within the family business. In addition, his vicarious imprints of his father's passion have been retained. The integration of the firsthand imprints and the vicarious imprint is apparent during his search for his identity and future path. Critical imprints based on one imprint type (firsthand or vicarious) reinforce the retention of other similar imprints when creating final imprints. On the other hand, critical imprints based on different types (firsthand and vicarious) weaken the intention of retaining similar imprints to maintain a more diverse set when creating final imprints. Thus, the first proposition is stated as:

*Proposition 1A: Having vicarious imprints leads to next generation members' commitment to a narrowly focused range of experiences.*

*Proposition 1B: Having both vicarious and firsthand imprints leads to next generation members' commitment to a wider focused range of experiences.*

## Sequence of imprints

In addition to the strength of the imprints, their sequence may also affect the influence of an imprint on subsequent behaviour. For example, retained vicarious imprints may influence which firsthand imprints are maintained. For instance, family first vicarious imprints may lead a person to search for family first experiences. Hence, more firsthand "family first" imprints would lead to more "family first" behaviours, which I also observed in the case study.

Eric starts observing his father's passion (vicarious imprint) for a previously resented business. He begins the search for his passion by working in various organizations where he experiences firsthand imprints. First, he refers to his love for the creative arts and states how this influenced him to study design. Next, he returns to the family business and tries to find his place to incorporate his passion for design and the business. Drawing on his previous experiences as a salesperson that led to several firsthand imprints, he understands that developing an idea is not enough unless you can sell it. Therefore, he approached a client to propose a full-service design and production opportunity. It worked, and the design service was subsequently incorporated into the business. Eric was then tasked with developing this design service. The combination of the vicarious imprints and his subsequent firsthand imprints grew into a passion for design, which he brought to the family business. Without observing his father's passion for the manufacturing business, however, Eric would not have searched for this passion and recognized an opportunity following his firsthand imprints. Thus, I state the following proposition:

*Proposition 2: Firsthand imprints occur after vicarious imprints and broaden the commitment of next generation members to a wider range of experiences.*

Taken together, the sequence of imprints and which imprints are deemed critical would have implications for the types of entrepreneurial behaviour exhibited. We will now look at the interface between combined imprints and entrepreneurial behavioural outcomes.

## Imprints leading to entrepreneurial behavioural outcomes

A secondary question posed in this dissertation is how imprints are linked to entrepreneurial behavioural outcomes. As described earlier, Noah's and John's focus on vicarious imprints led to more adaptive, entrepreneurial behavioural outcomes. In this case, relying on imprints that focused on retaining historical ideas extended existing behaviours. Although innovations did occur, they remained within the scope of the current business model.

*"We are still in the same mode but also using technology as well... We are an ever-evolving company." (Noah)*

*"Today, we are including technologies into our fixtures. We are including WI-FI, Bluetooth, inventory tracking, the sky's the limit. So yes, that mentality came from my father, my uncles, that generation there brought it here." (Noah)*

On the other hand, Eric's focus on combining vicarious and firsthand imprints led to exaptive behavioural outcomes. In this case, drawing on multiple imprints leads to behaviours that extend beyond previously exhibited family members' behaviours. In this way, Eric was able

to incorporate various behaviours leading to innovation beyond manufacturing and into design – a new activity for the family business. Through his vicarious imprints, his ties to the family business allowed him to draw on his accumulated manufacturing-based knowledge and extend it into the new area of design. Therefore, I state the following propositions:

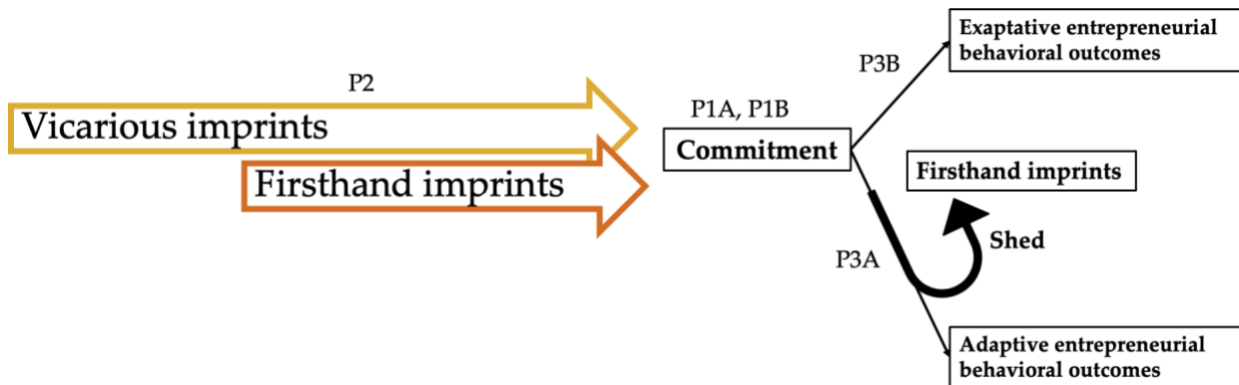
*Proposition 3A: Vicarious imprints lead to next generation members' commitment to more adaptive, entrepreneurial behaviours that build upon family and business traditions.*

*Proposition 3B: Combinations of vicarious and firsthand imprints lead to next generation members' commitment to more exaptive entrepreneurial behaviours that extend beyond the family's and business's traditions into new activities.*

### Discussion

The purpose of this case study was to explore the imprinting process as it leads to entrepreneurial behavioural outcomes (Figure 4).

*Figure 4: Conceptual model*



The analysis shows that vicarious imprints develop before firsthand imprints. People are the most susceptible to imprinting during childhood. It is also a time when people have not had the chance to experience things on their own. The first imprints are observed by the child as they spend time with close family members. Indeed, the participants in this study repeatedly said that their father's passion propelled their need to find their passions in their careers. The vicarious imprint of their father's passion was created and shared with them before they had significant experiences on their own. As children grow and their social circle expands to include friends and outsiders, they start to have more experiences, leading to the accumulation of more firsthand imprints. The participants talked about their interactions with friends and cousins and the influences of those memories on their subsequent behaviours.

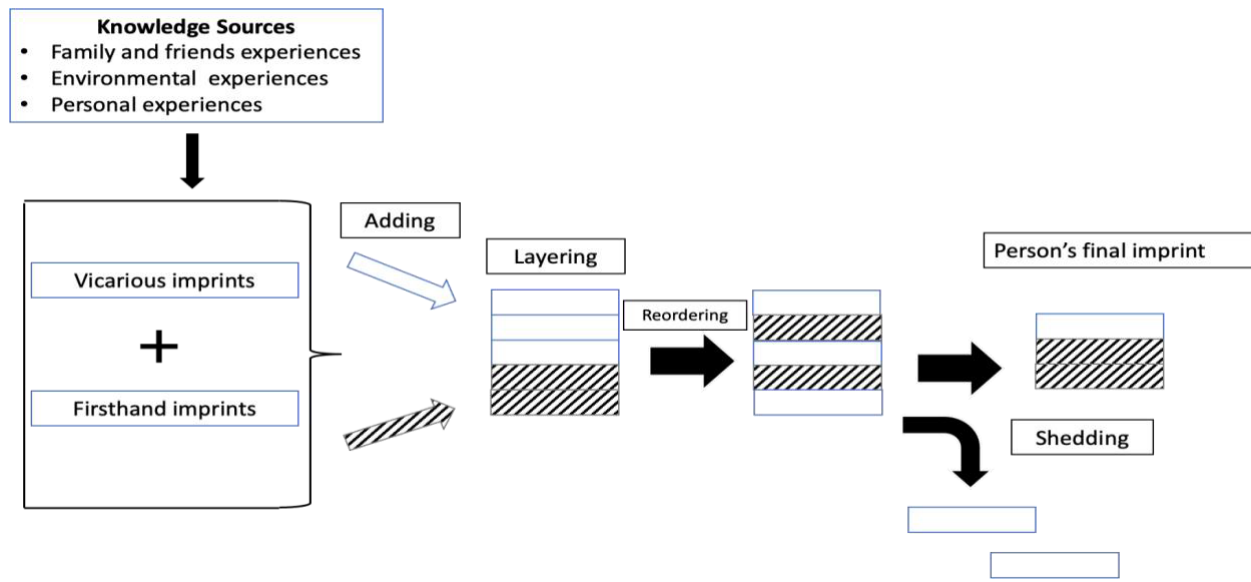
These memories may have been retained, but not all their influence was. While two participants talked about their friends and cousins, when discussing the influences of their memories, they always chose those that included their father or grandmother(s). Furthermore, when family pictures were shown to trigger early childhood memories, situations involving someone in their family or that they experienced as a family surfaced. This finding indicates that they shed many firsthand imprints in favour of the enduring vicarious imprints. Therefore, we can presume that the participants found it essential to keep the past alive while they moved forward and deleted new but poorly fitting firsthand imprints.

On the other hand, the third participant talked about family memories, but spoke more about events that he experienced. He mentioned his childhood experiences, his experience with friends, and how they made him the person he is. We see the presence of both vicarious and firsthand experiences imprints; both were deemed equally important and were therefore retained in this case.

Marquis and Tilcsik (2013) say that "understanding the survival and potential decay of imprints is a key task for future research" (p. 39). Using a similar theoretical framework as the resource-based view (Figure 2), I argue that the next generation will add, layer, reorder, leverage and shed certain parts of their family's history leading to different imprinting outcomes (Sirmon & Hitt, 2003).

It is still poorly understood how existing imprints interact with new imprints. However, Simsek et al. (2015) suggests that the interaction between imprints may occur through a sedimentation process. Thus, new imprints can be thought of as a layering of the various imprints through a process of adding, layering, reordering, shedding, and leveraging (see Figure 5 below). The process used to retain (or shed) imprints begins with the addition of various sources of knowledge. Then, these imprints are layered one on top of the other and reordered as the person sees fit, based on environmental conditions. Next, shedding of specific imprints occurs when the imprint's utility is low, although Marquis and Tilcsik (2013) suggest that this shedding may not be permanent. Finally, the person will use the imprint to regulate their behaviours in a given environment. The act of leveraging becomes essential when looking at the perception of an imprint's utility as it affects the imprint's outcomes.

Figure 5: How imprints develop into final imprints



As depicted above (Figure 5), new imprints can be considered layering of the vicarious imprints upon firsthand imprints. The individual will absorb the vicarious imprint and integrate it with their firsthand imprints through a process of adding, layering, reordering, shedding, and leveraging. The process used to retain (or shed) imprints begins with the addition of knowledge derived from both firsthand and vicarious imprints.

The order of this imprinting process and the permanency of the shed information will depend on the next generation's perceptions of the utility of the family history in their current situation and the environmental turbulence they may be experiencing.

The decision to keep or shed specific imprints was termed "commitment" (see Figure 4 above). As firsthand imprints are added to vicarious imprints, the imprint's utility is evaluated, and a commitment to keeping or shedding them is made. Keeping in mind that adaptive and exaptative entrepreneurial behaviours describe innovative activities, these behaviours occurred when most firsthand imprints were shed in favour of vicarious imprints. This unique source of imprints provides a deeper connection to the past, which is based on continuity, resulting in innovations within traditional products. For instance, the participants who showed a commitment to the past displayed adaptive, entrepreneurial behavioural outcomes. While still innovative, their activities were conducted within the realm of the existing business. In addition, the descriptions of these innovations were related to ensuring a connection with the past and passing on their legacy into the future. Without any reference to firsthand imprints, we can see that the firsthand imprint types played minor roles, indicating that they were readily shed from individuals' cognitive schemes in favour of the enduring vicarious imprints.

On the other hand, exaptative entrepreneurial behaviours formed through the combination of firsthand and vicarious imprints. The diverse imprint sources resulted in expanding innovations to include non-traditional products. For example, the participant who showed more

exaptative entrepreneurial behavioural outcomes readily drew on all their imprints. In this case, the connection to the past was clear, and incorporating their firsthand imprints was also apparent and led to stronger innovations. Indeed, this individual credited his formative experience in other fields with enabling him to develop an entirely new service within the family business.

Three theoretical contributions regarding the imprinting process were made through this case study. First, although in agreement with Marquis and Tilcsik (2013), these findings refine their claims that secondhand (vicarious imprints) increase or decrease the effects of firsthand imprints. Marquis and Tilcsik's (2013) statement that vicarious imprints support firsthand imprints implies that people's behaviour depends on their experiences. Therefore, the past plays a secondary role by supporting or diminishing those experiences as meaningful. The findings in this case, however, suggest that the imprinting process may begin with vicarious imprints, with firsthand imprints added later. This first finding is important because family is the child's first influence. However, if vicarious imprints are developed first, then they cannot support an imprint that has not developed. Vicarious imprints may guide the types of experiences sought later in life, influencing later behaviour. Thus, since they were developed first, vicarious imprints may play a more dominant role by also guiding firsthand imprints' formation and their perceived utility. In other words, a person's behaviour, at first, may be shaped more by their family's experiences than by their own experiences. Of course, this is not to suggest a linear process. Vicarious imprints can also develop and be added at various times throughout a person's life. The point is that vicarious imprints seem to come first in the imprinting process and do not play just a supporting role, as Marquis and Tilcsik (2013) claim.

Secondly, which imprints are retained depends on a person's commitment to their past or to their experiences. This was not addressed previously (Marquis and Tilcsik, 2013, Mathias et al., 2015, Dickel et al., 2020). In addition, previous research did not discuss how people decide which memories become important to them, which ones they remember, how they remember them, and why they remember them. This case study shows that a person grapples with how much of their past or traditions influence their future behaviours and how much of the present already does. In other words, the decision to combine these two imprint sources depends on how much of the past the person is committed to, which ultimately shapes their subsequent entrepreneurial decisions towards more adaptive or exaptative entrepreneurial outcomes in the present and in the future.

Finally, this study proposes that certain combinations of imprints might relate to a particular entrepreneurial behaviour. We now have better understanding of the relationships between different imprint types and their effects on entrepreneurial behaviour outcomes. The combination of firsthand and vicarious imprints may influence the formation of either adaptive or exaptative entrepreneurial intentions. Both adaptive and exaptative entrepreneurial behavioural outcomes involved innovative activities that benefitted the business. However, the critical foundation for the adaptive, entrepreneurial behaviours was the desire to continue the previous generation's passion for the business, highlighting how essential the vicarious imprint of the father was. Other firsthand imprints were shed while vicarious imprints endured. Meanwhile, the critical foundation for the exaptative entrepreneurial behaviours was a combination of the previous generation's passion for the business – the vicarious imprint – and the person's significant firsthand experiences (imprints) that complemented and broadened the vicarious imprint. The combination of firsthand and vicarious imprints, therefore, may make people more exaptative because incorporating one's own experiences introduces another type of innovation.

On the other hand, if a person has only one source of imprints, they may be limited in the innovations developed. The continued investigation of how these combinations work will be addressed in the following study of this thesis.

These contributions are essential to the discussion to understand which imprints are related to which entrepreneurial behavioural outcome (Dickel et al., 2020). The association between imprint and the entrepreneurial behavioural outcome is vital, given the discussion Marquis and Tilcsik started. Marquis and Tilcsik (2013) argue that there is a distinction between the historical origin and the current usefulness. This distinction determines how imprints are used and shed and is important in understanding the consequences of imprinting. This distinction allows scholars to recognize that, although imprints tend to persist, their effects on behaviour vary over time, reflecting an interplay between the past and the present. Overall, the past cannot be changed. However, by understanding the imprinting process, we may be able to tweak the effects of the past by introducing different firsthand experiences that may make the vicarious imprints less influential. If these vicarious imprints are stopping someone from developing innovations to become an entrepreneur, we may be able to address their entrepreneurial hesitation. If society wants to encourage more entrepreneurs, it is vital to understand this process and how a person's past helps or hinders their efforts to become an entrepreneur.

### **Limitations**

Expanding on the knowledge obtained through this case study requires addressing several of its limitations. First, future research would benefit by using a longitudinal approach. Although we were able to link the imprint type of all four participants to entrepreneurial behavioural outcomes, learning about a process involves the passage of time. This study has shed some light on the imprinting process through the father (and founder)'s retrospective accounting as he cycled through life. However, continuing this study into later stages of adulthood for multiple generations would provide more significant insights into the imprinting process. A longitudinal approach would allow for observing the imprinting process and how imprint shedding and adding influence individuals' entrepreneurial behaviours over time. However, issues with longitudinal studies make this approach infeasible. Given the current challenging economic climate, finding willing participants is very difficult. Furthermore, even if willing participants are found, is logistically complex to follow them over the course of their lifetime. Although the approach is ideal, it is impractical.

Second, some emergent themes would warrant further investigation. For example, the single case method could not study diverse family relationships and their effect on the imprinting process. Given that in the first study, family relationships were found to influence entrepreneurial intentions, we would need to look at this result more closely. With multiple cases, we could dive into family relationships effects because it would allow us to compare a more extensive and diverse set of observations. Thus, the variability between the different family relationships dimensions (affectual, consensual, and functional solidarity) among different families would help us further understand the effects families can have on entrepreneurial behaviours.

Finally, although the interviews were extensive, the participants were all from one family and one business. Therefore, future research should focus on increasing the number of cases to compare the observations from a diverse set of business families.

## **Conclusion**

The importance of innovations nurturing entrepreneurship in businesses remains undisputed. On the other hand, which type of innovation is most beneficial to entrepreneurial behaviour is still being debated. One contribution derived from the case is that inspiration for creation can come from various sources – firsthand or vicarious imprints. Neither one is better than the other. However, knowing that firsthand and vicarious imprints can spawn innovation helps us understand that inspiration can come from a connection to the past and personal experiences outside the business. Whether that source is from vicarious imprints only, or both vicarious and firsthand imprints, depends on how the person integrates firsthand experiences with their vicarious imprints. Although both instances nurture innovation and entrepreneurship, they lead to different outcomes. The former fuels narrower adaptive entrepreneurial behaviour and the latter leads to broader exaptative entrepreneurial behaviours. Either behaviour can rejuvenate the business, but in different ways.

There are many paths towards innovation. One is based within the interface of family and childhood. Childhood memories and family events combine to form the foundation from which all future behaviour evolves. This study has shown that three factors can help rejuvenate a business: your family's relationships, the family stories, and your experiences. The combinations of these three factors can help rejuvenate a business by using existing resources or creating new ones.



## STUDY 3

### **The inside-outside innovation debate: Can imprints be used to predict entrepreneurial behaviours?**

Walking along the beach, near the shore, one can see their imprints in the sand if one looks back. As the water washes up, these imprints can stay the same, change or disappear entirely. Like these sandy imprints, a person's childhood memories (imprints) can also adapt to the environment. As a person looks back on those childhood memories with a new, more mature perspective, their importance may remain unchanged, or they may also change or disappear. The resulting memories or imprints could play an essential role in determining future behaviour.

One behaviour that has captured the interest of business families is the innovation behaviour of the next generation. More specifically, how can the adoption of innovative behaviours be encouraged? According to Schumpeter (1934), a person who brings about an innovation is called an entrepreneur. When this entrepreneur brings their innovation to market, then they complete the cycle of creative- destruction, whereby old businesses are replaced by new businesses that exploit the innovation (Schumpeter, 1934). Therefore, innovation may start the process of entrepreneurship.

Ramirez-Pasillas and colleagues (2020) looked at different routes used by the next generation to inject innovations into their business families, from obtaining family approval to going around certain family members to start their own companies. Ramirez-Pasillas and colleagues identified three routes: imitating the family business, splitting from the family business, or surpassing the family business. All routes led to success, but how the next generation chooses their journeys remains a question. Although most papers look at the *end-result* of innovation (Georgellis et al, 2000; Lozano, 2017), however, understanding the *process* of innovation may be more important. The effects of imprints may be a key factor in explaining how the next generation chooses their journey towards innovation. Thus, we will add a psychological aspect to determine the path to innovation success by looking at how imprints, family relationships and family bonding affect the development of entrepreneurial behaviour.

Human capital is one of the most important resources that can bring a competitive edge to a business (Bezuidenhout et al., 2013). Employees' aspirations, values and perceptions influence their abilities to provide a contribution to their organizations (Schein, 1990; Schneider, 1987). We know that retaining an entrepreneurial spirit in business families is vital in maintaining business success (Suddaby & Jaskiewicz, 2020). Henry Mintzberg wrote that one thing he liked about family businesses was their spirit and soul (Mintzberg, 2016). Keeping the company within the family can ensure that its spirit and soul stay intact. These in-house candidates have a unique grasp of the firm, its vision, generations of tacit knowledge and intimate understanding of its capabilities. Since family members working in the firm have an intimate knowledge of the firm, they are perfectly poised to introduce innovations that fit with the organization's capabilities and vision. Unlike outsiders, they can inject the firm with new ideas that have a greater potential to work. This study's goal is to show patterns between the imprint type developed by family members and their entrepreneurial behaviour.

Some pioneering studies regarding *imprinting* (Marquis & Tilcsik, 2013; Mathias et al., 2015; Tilcsik, 2012) have been used as a possible explanation for the observed entrepreneurial behaviours of the next generation. Their children's entrepreneurial behaviours may depend on how family events were remembered. Imprints can motivate certain entrepreneurial behaviours such as social entrepreneurship (Mathias et al., 2015; Dickel et al., 2020). However, most of the existing research focuses on sources of imprints and critical events, but not on different outcomes (Dickel et al., 2020). Imprinting theory should not only focus on whether past characteristics are retained or not, but what these characteristics mean or how they manifest when the environment changes. This way we can see if the persistence of past imprints remains more or less functional in these new, perhaps different, environments. Three different entrepreneurial behavioural types will be identified using the imprinting theory developed by Marquis and Tilcsik (2013).

Building upon the imprinting literature (Tilcsik, 2012; Marquis and Tilcsik, 2013) and incorporating the family science literature (Mangen et al., 1988b; Silverstein & Bengtson, 1997), this study argues that different imprint types can nurture different innovative behaviours leading to entrepreneurship (entrepreneurial behavioural outcomes). Furthermore, family relationships may be involved in these associations. These interrelationships may be important for policymakers and academics to understand as they seek a way to encourage people to become entrepreneurs.

This study expands on Studies 1 and 2 in two ways. First, unlike Study 1, where the focus was on entrepreneurial intentions, this study focuses on different entrepreneurial behaviours. In addition, the participants are from business families and are more heterogeneous than the student sample used in Study 1. Second, Study 2's results will be used to examine how imprinting and family influence entrepreneurial behaviour by looking at a sample composed of business families. Thus, the emergent findings from Study 2 can be explored on a grander scale. The research question that guides this study is: How do imprints, family relationships and family bonding affect the development of entrepreneurial behaviour?

This study contributes to the business family literature in three ways: theoretically, methodologically, and practically. First, this study introduces a new antecedent of entrepreneurship development by showing how different imprint types are related to entrepreneurial behaviours across business families and their family members, thereby making a theoretical contribution to the family business literature. The research seeks to move beyond an abstract understanding of the imprinting process and provide greater detail and comprehension of how imprinting affects entrepreneurial behaviour. This contribution further leads to the contemporary conversation about developing entrepreneurial behaviour among members of a business family's next generation. The results shed specific insights on how imprints will influence an individual's future entrepreneurial behavioural outcomes (Simsek et al., 2015).

Second, this study makes a methodological contribution to the study of imprinting. Rather than examining imprinting in adulthood, as most previous studies have done (Dickel et al., 2020 being an exception), this study makes a critical case for the study of imprinting during childhood. This change in temporal focus is significant, as childhood is arguably the most important and formative period in a person's life, when they are most susceptible to external factors (Dickel et al., 2020). Moreover, few previous studies have examined the effects of

imprinting on a person's childhood (Dickel et al, 2020). Therefore, more information is needed to help practitioners and researchers understand the imprinting's impact on entrepreneurial behavioural outcomes.

Third, this study makes a significant and positive contribution to business families keen on ensuring the continuity of their livelihoods across generational lines. A business family's social context includes intense socialization for their children (Geldhof et al., 2014; Bandura, 1977). Within this context, memories social networks, and early childhood experiences combine and significantly impact a person's social identity and role. The results from this study help to explain the conditions needed to encourage innovation, as families prepare their children for their future roles within the business. In addition, the findings may suggest strategies and routines families can use to encourage the next generation to acquire imprints based on generational knowledge. This knowledge acquisition may help the next generation as they take over at the helm of their family businesses.

### **Entrepreneurship and Innovation**

Innovation can be said to nurture entrepreneurship. In addition, entrepreneurship thrives based on the notion of "creative destruction" (Schumpeter, 1934). However, little is known about how aspects of the creative-destruction cycle affect the willingness to partake in entrepreneurial behaviour.

There is also no standard definition of an entrepreneur used by scholars. Nevertheless, all scholars agree that innovation is critical in assuring business development and success, and that the entrepreneurs are the source of that innovation (Georgellis et al., 1999; Fuetsch and Suess-Reyes, 2017)). Innovation has been defined according to the entrepreneur's activities. For example, Schumpeter describes an entrepreneur as the person behind the creative force of innovation. Schumpeter also states that new innovations replace previously established products and industries. According to Schumpeter, innovation is a form of creative destruction. For example, vinyl records gave way to CDs, which were ultimately destroyed by streaming services. Schumpeter developed the idea of creative destruction as a definition of innovation (Schumpeter, 1934).

On the other hand, Drucker argues that entrepreneurs have a plan, and that innovation is more systemic (2002). He argues that innovation lies at the heart of entrepreneurship. According to Drucker (2002), innovation is an activity that introduces the organization to a purposeful change in its economic or social potential (Drucker, 2002). Thus, innovation is not based on sudden inspiration but on inspirations cultivated and systemically developed within a firm. However, the definition of innovation as activities developing something new - as Schumpeter (1934) describes – is still central to Drucker's argument (2002).

Christensen et al. (2018) describe another type of innovation whereby entrants in an industry start to serve overlooked segments in a customer base. They gain a foothold within an industry by providing cheaper product versions. Meanwhile, the industry's incumbents are too busy serving the higher-end customers who are more profitable. The new entrants eventually overtake the incumbents by keeping the advantages that drove the new entrant's success. This

innovation type causes a "disruption" in the industry resulting in the decline of the industry's prime incumbents. Aspects of Schumpeter's (1934) creative-destruction cycle can be found here.

Another type of innovation is Rogers' (2003) concept of diffusion and adoption of new ideas. The adoption rate refers to how quickly an idea spreads throughout a population. This perspective focuses on the characteristics of the innovation and the people adopting it. Although this innovation type typically refers to technology and education, this concept can easily apply to other disciplines such as management, business, and entrepreneurship. Innovation can be viewed in various ways, however, the common factor has always been the development of new concepts and products, which follows Schumpeter's influence.

Researchers have also used different perspectives in studying innovation within the business family (Fuetsch and Suess-Reyes, 2017). Some researchers use economic theories such as behavioural theories (Zahra, 2012), agency theory (Kellermanns et al., 2012), and stewardship theory (Miller et al., 2008; Kellermanns et al., 2012) to explain innovation within a family firm, while others focus on the paradoxes present within the family firm (De Massis et al., 2016; Chrisman et al., 2015). Still others use theories such as resource-based view and familiness to explain a family's influence on innovation within their businesses (see the section on "*Family relationships in business families*" for a discussion on these theories) (Fuetsch and Suess-Reyes, 2017).

Zahra (2012) applies the behavioural theory to look at family firm innovation. Organizational learning is used to promote entrepreneurship activities that enable the firm's innovation. Interestingly, although the incentive to learn is high in family firms, organizational learning depends on family cohesion. Thus, organizational learning, a precursor to entrepreneurship, depends on the level of family cohesion. Therefore, family cohesion is critical in transferring tacit knowledge. Tacit knowledge refers to the person's specific skills and routines associated with the business' operations (Varamäi et al., 2003). As such it is often hidden within the internal processes of the business (Varamäi et al., 2003). Consequently, Zahra (2012) suggests that researchers should further explore the family's influence on organizational learning.

Stewardship theory focuses on the goal alignment and trust observed between different stewards of the business (Davis et al., 1997). Using the stewardship perspective, Miller et al. (2008) argue that family business owners preoccupied with business longevity, focus on nurturing a beneficial community within the family business and establishing strong connections with all of its stakeholders (Miller et al., 2008). Furthermore, Kellermanns et al. (2012) focused on agency and stewardship theories to explain how family involvement affects firm performance. They found that family firms with single-generational ownership benefitted more from innovation than multiple-generation ownership (Kellermanns et al., (2012). Furthermore, firms with multiple-generational involvements outperformed those with single-generation involvement. They concluded that generational factors may be vital in understanding innovation's importance on family firm performance.

Some researchers in the family business literature describe innovation as a series of paradoxes. For example, traditionally, family businesses have been advised to explore new opportunities to continue their success (De Massis et al., 2016). The search for innovations has focused on two dimensions: depth (how deep a firm's search for knowledge is within its

knowledge base) and breadth (how widely they search for knowledge across their domains of knowledge) (De Massis et al., 2016). Recently, De Massis et al. (2016) suggested that family businesses excel at leveraging the past for future innovations. Progress has been made by looking at imprinting theory to understand how families can influence innovation through tradition (Erdogan et al., 2020). Erdogan et al. (2020) found that the imprint's content influences how families manage the tradition-innovation paradox. However, since the study was done at the firm level, it is difficult to establish how individuals were affected by the content of the imprinting process.

Another paradox used to describe the family business's innovation potential is based on Drucker's (2002) view of technological innovation. Chrisman et al. (2015) explain the ability-willingness paradox as where the firm's particular resources play against the family member's disposition to use those resources in innovative ways. Innovation is an integral part of business success. Thus, a firm's decision not to innovate to its fullest potential and how these decisions change over time with different generations remains an interesting area for future research (Chrisman et al., 2015).

In summary, apart from De Massis et al. (2015) and Erdogan et al. (2020), the other theories used to explain innovation in family firms downplay the effects of history (see Fuetsch and Suess-Reyes (2017) for the perspectives currently being used). History may provide family businesses with a unique source of innovation. The origins of innovation as described by Schumpeter (1934) – innovation as a creative force - within the imprinting framework provided by Marquis and Tilcsik (2013) are used to investigate how history in the form of imprints influences innovation within a family firm.

## **Entrepreneurial Behavioural Outcome**

Marquis and Tilcsik's (2013) seminal article describe the emergence of three imprinting outcomes: *exaptative*, *adaptive*, and *maladaptive*. Study 2 showed that different imprints have different implications for behaviour. As the environment changes, some imprints may remain adaptive, while others may find new ways to become useful and result in exaptative or maladaptive imprints. In keeping with these terms and introducing Schumpeter's (1934) definition of an entrepreneur (based a person or firm's ability to innovate), these three imprinting outcome variables were used to study the next generation's entrepreneurial behavioural outcomes.

The criteria to distinguish between these different implications of imprinting lie in being able to "distinguish [...] between the [historical] origin [of the imprint] and the current utility of imprinted characteristics, and [...] conceptualizing actors as carriers of intersecting imprints" (Marquis & Tilcsik, 2013, p. 44). This means that people may differ in evaluating the current usefulness of imprints based on how they layer and intertwine different imprints developed from past events. The following describes each of the three imprinting outcomes of entrepreneurial behaviours.

**Exaptative.** A term initially coined by (Gould, 1991), exaptation refers to a "character [...], evolved for other usages (or for no function at all), and later 'co-opted' for their current role" (Gould & Vrba, 1982, p. 6). This concept was developed in response to a need to

distinguish a biological evolution that arises due to chance instead of a response being built consciously through natural selection (Gould & Vrba, 1982). As a central concept in evolutionary psychology, exaptation was further refined to reflect the idea that "the [new] features [...] did not originally arise for their current use but rather were co-opted for new purposes" (Buss et al., 1998, p. 533). Its importance in evolutionary psychology reflects that not all adaptations evolve to fill a need. Instead, some adaptations evolve and find a use other than the evolutionary need initially intended. In business, exaptative behaviours would be defined as those that allow the next generation to start new projects while still having the business family's support (Combs et al., 2021). Although the current family business may cease to exist, the business family's legacy will endure as the next generation thrives in their new business family roles.

**Adaptive.** With roots in biology, adaptation refers to a change "towards a fit for a [()] particular role [ ]]" (Gould & Vrba, 1982, p. 4). According to Gould and Vrba (1982), adaptation can be both a process and a state of being. Regardless of how it's being used, the main difference between adaptation and exaptation (and the reason for the need to develop the concept of exaptation according to Gould) is that, in the case of an adaptation, the change of fit (or biological evolution) was done consciously and built through the process of natural selection (Gould & Vrba, 1982). Although adaptations are considered inherited traits, the environment influences which traits will be adapted and developed for the future well-being of the species (Buss et al., 1998), much like the fiddler crab grows an abnormally large major claw to attract females (Swanson et al., 2013). It is a conscious effort on the part of the species to adapt certain traits perceived by the species to be instrumental to their survival. For example, an absent father figure in early childhood could explain why the next generation may refrain from relationships involving a long-term commitment (Buss et al., 1998). In Study 2, we see that two of the founder's sons (Noah and John) developed adaptive, entrepreneurial behaviours as they introduced innovations within the family business. Their innovations were designed to improve the existing business and further the business family's legacy.

**Maladaptive.** Not much importance has been given to the maladaptive case. Marquis and Tilcsik imply that this is a case where there is a disconnect between the original utility of the behaviour and the current perceived usefulness of the behaviour. In other words, the next generation member will not see the utility of their parent's entrepreneurial behaviour and will shed this imprinted information since it is perceived as useless in the current environment. However, the next generation may become entrepreneurial, but without the expectation of family support or the obligation that their entrepreneurial activities are intended to further their business family's legacy. They strike out on their own, without their family's support, separate from their business family's legacy, carving their path whether it is entrepreneurial or not.

### **Imprinting within families**

This section addresses three topics in the imprinting literature: what imprinting is; how imprinting differs from learning within business families; and, why imprinting, as a historical recollection of events, is vital in business family entrepreneurship.

#### **What is imprinting?**

Imprinting is an old concept that has been given a new role in explaining the importance

of past histories on the current behaviours of individuals (Mathias et al., 2015; De Massis et al., 2016). Although the concept of imprinting has already been used to explain organizational and individual behaviours (Marquis & Tilcsik, 2013), it has yet to explain why some families are effective at imprinting the next generation while others fail to do so. Similarly, it remains unknown why individuals raised in the same family might get imprinted differently, contributing to their different innovative behaviours.

A recent focus on imprinting has shown that this process may be responsible for the progression of the family history (Mathias et al., 2015). The imprinting literature already points out that certain family content gets imprinted on the next generation (Tilcsik, 2012). Still, we don't know how this occurs and why it might differ among siblings. To date, siblings are treated as by-products of the focal next-generation member, and we only know that there is more unexplained heterogeneity in what siblings' experience and retain.

### **Why is imprinting a historical recollection of events: A type of family history, and why does it matter?**

The salient events that become part of an individual's imprinting process can essentially be thought of as belonging to the individual's and their family's shared history. Indeed, recent studies in family business point to the importance that family history plays in the family business and the succession process. De Massis and colleagues (de Massis et al., 2016; Erdogan et al., 2020) have recently suggested that tradition may play an essential role in innovation. Indeed, achieving a balance between searching for new knowledge and incorporating past knowledge may be the key to creating a sustainable competitive advantage. A firm's traditions are difficult for potential competitors to duplicate. They offer a new theoretical framework – innovation through tradition - however, they do not know the process or how innovation through tradition works to develop a sustainable competitive advantage (De Massis et al., 2016).

Hjorth and Dawson (2016) have suggested including historical family narratives in business studies, claiming that these narratives will make for a richer understanding of the entrepreneur. This understanding is more reflective of the entrepreneur as a whole. However, they do not explain how history can be used (or leveraged) by the next generation to ensure the business family's continuity or why the next generation should use the past to guarantee their future.

Suddaby et al. (2010) describe how rhetorical history can become a source of competitive advantage. They describe how certain "historical" events can be up-played or downplayed depending on what parts of the story the historian wants to emphasize. For example, recent protests in Nova Scotia over the statue of British commander Edward Cornwallis show how history can be engineered to remember the subjective past, not the objective past we tend to think of. The statue was erected as a monument to celebrate the founder of Halifax, Nova Scotia. However, recently Cornwallis' past dealings with the Mi'kmaq have taken center stage. For example, the stories of his practice of issuing bounties in exchange for Mi'kmaq scalps or his declaration that it would be better to run the Mi'kmaq's out of the Nova Scotia territory for good, have reignited the call to re-examine Cornwallis' controversial legacy. This new brutal perspective of Cornwallis' legacy is currently being up-played, and has resulted in the statue's removal on January 31<sup>st</sup>, 2018 (Roache, 2018).

Furthermore, stories of his brutal treatment of the Scottish highlanders after the Battle of Culloden further justified the statue's removal. At first, the stories of Cornwallis's treatment of the Mi'kmaq and Scottish highlanders were likely downplayed because at the time, putting a bounty on and paying for the scalps of your enemies, although brutal, was an acceptable practice, which today would be considered gruesome. Any link to it would result in the rewriting of history such that even Halifax's founder could escape the re-evaluation of his past. Interestingly, history also depends on who is telling it – the historian's view and the point he or she is trying to make. In the case of Cornwallis, others who support him blame the local French priest, claiming it was his influence that spurred the Mi'kmaq's attacks on Cornwallis' early English settlement. In addition, Father Jean-Louis Le Loutre was also responsible for the Acadians' betrayal resulting in their expulsion from the Nova Scotian colony. We can therefore see that depending on who is telling the story, Cornwallis' legacy can be viewed as either one to be celebrated as Halifax's founder or as an eighteenth-century villain to be despised and forgotten (MacDonald, 2018).

Thus, when a family uses their history to differentiate themselves from their competitors (using their family history as a unique source of competitive advantage), they tend to ensure they are shown in a positive light. Thus, the family history that is publicly shared depends on who is telling the story, why they are telling it and what societal norms are in place at the time. This trifecta will determine the family history's unique competitive advantage.

Jaskiewicz et al. (2015) found that the entrepreneurial legacy (a form of rhetorical history) plays an essential role in developing transgenerational wealth. However, what content is included or what the process is, has yet to be understood. This literature shows the importance of including a persuasive accounting of the family's stories and narratives to understand the shaping of family firms. Narratives are said to consist of "the interaction of stories, emotions, myths, legends, life experiences, conversations [...]", and while some stories are passed on within families, others may be hidden. Thus, the resulting family history takes place within the confines of the family sphere (Hamilton et al., 2017, p. 7). Furthermore, different family spheres may represent different transfer modes for the family history. Indeed, perhaps the type of family one grows up in may influence the content and the process of family history transference.

### **Imprinting is a form of rhetorical history**

In this way, imprinting can be used as a mechanism to propagate the history of entrepreneurial families and thus encourage entrepreneurship among the next generation. Accordingly, developing an entrepreneurial legacy within business families that motivates the next generation's entrepreneurship within the family business has been considered a form of rhetorical history (Jaskiewicz et al., 2015).

### **Family relationships in business families**

The literature on business families focuses on how family firms develop and use their resources. Business families have unique advantages that include a shared sense of values and access to various financial and human resources. However, their ability to function effectively depends on how well family members manage conflicts (Horton, 1986). It is also understandable that family relationships can create an emotional context from which decisions are made. This emotional context is also true in business families. Shepherd (2016) argues that emotions may



serve as a unique resource within a business family, which exerts an influence on management decisions. Furthermore, Miller and Rice (1988) contend that a family is the primary source of socialization within society. Thus, the family relationships built over time between each member should be considered when studying the functioning of the firm.

Historically, family businesses have been studied using various perspectives looking at the ways in which families have an impact. Aldrich and Cliff (2003) use systems theory to develop the family embeddedness perspective, which argues that people do not make decisions in a vacuum. Instead, people are “embedded” in a social system that sometimes influences their decisions very subtly. Thus, a person’s decision to start a business may be influenced by their significant others (Aldrich and Cliff, 2003).

Habbershon and Williams (1999) also extend the use of systems theory, which focuses on the family system as it interacts with the business system (Habbershon et al., 2003), by incorporating aspects of the resource-based view to develop the concept of familiness. They define familiness as a distinct level of resource bundles and capabilities that results from the system interactions between the family unit, business entity, and individual family members (Habbershon et al., 2003). Further concept development by Habbershon, Williams and MacMillan (2003) developed a unified systems model demonstrating how the interactions between the family, business and individual family members improve firm performance (see also the review by Weismeier-Sammer, Frank and von Schlippe, 2013).

The above perspectives all look at family businesses from the business perspective. They acknowledge that families affect their businesses, and as such their dynamics and emotional context should be included when studying family businesses. Recently, these studies have concluded that family business governance is as heterogeneous as the families themselves. Lacking the necessary theoretical foundations, some family business scholars have suggested to turn to the family science, in particular sociology and psychology, which have long studied the differences among family members (Jaskiewicz and Dyer, 2017; Gagne et al., 2014; Chua et al., 2012; Dyer, 2003). Therefore, incorporating validated theories from the family sciences may provide an interesting new avenue in understanding the heterogeneity within families and its effects on their businesses. In this study, the dimensions defined by intergenerational solidarity theory were used to identify the different family relationship types, and the work done in the imprinting literature to help explain the next generation’s entrepreneurial behavioral outcomes. Intergenerational solidarity theory is used to explain the development of various relationships between different generations of the same family (Silverstein & Bengtson, 1997) and alludes to the concept of family closeness (Mangen et al., 1988). With this, we can understand the role family relationship types play in developing social capital that affects entrepreneurship within the business family and their firms.

Considering family relationships may help to shed light on the imprint's transfer process. Silverstein and Bengtson (1997) developed a typology based on empirical evidence, describing six different family relationship dimensions. For example, families who have multiple generations living under the same roof may have imprints that may be reinforced as the multiple generational experiences overlap, thus leaving no room for innovative ideas (Kammerlander et al., 2015). On the other hand, other family types who are not as close may have more flexibility, thus encouraging exploration of new opportunities leading to increased instances of

entrepreneurship.

Building on the works of Marquis and Tilcsik (2013) and Silverstein and Bengtson (1997), the connections between family relationships, imprinting types, and the next generation's entrepreneurial behaviour were explored. For example, certain family types may become too close over time, discouraging the exploring of new opportunities for innovation and growth, which decreases entrepreneurial behaviour outcomes in the next generation (Kammerlander et al., 2015). Therefore, families that live together, work together, and play together, may feel a greater sense of tradition and refrain from breaking away from tried-and-true business practices and opportunities.

To address the issue of how to foster innovations within business families, this study is guided by the following research question: How do imprints, family relationships and family bonding affect the development of entrepreneurial behaviour?

## **Methods**

A deductive and inductive, mixed-method, multiple case study approach was used to investigate how imprints, family relationships and entrepreneurial behavioural outcomes are related.

### **Data collection**

Participants were contacted via personal networks and business organizations. The criteria used to select the participants were that they had to be above the age of majority (18 years or older) and belong to a business family. Out of approximately 461 initial contacts, 27 participants from business families were included because they met the criteria and completed the survey. The final data set included 12 women and 15 men. The two age groups represented in the data set were 18-34 and 45+.

The data were collected using a mixed-methods approach. First, a survey was conducted, with both qualitative and quantitative questions. Links to the survey were either given directly to participants or passed along through a third-party organization. In addition, some of the participants also participated in short, semi-structured interviews. The variables captured were imprints (qualitative and quantitative), entrepreneurial intentions (quantitative) and family relationship types (quantitative).

Participants received compensation if they answered all the questions about the variables of interest. At the end of the survey, they were asked to provide an email address to receive a 20\$ gift card from a Canadian multinational coffee and fast-food restaurant. The university ethics committee approved this compensation method since the participants' anonymity was maintained.

Once all the data were collected, factor analysis using SPSS was conducted on the entrepreneurial behavioural outcome variable and family bonding variable. This was to ensure that these variables correctly captured the construct under investigation.

Finally, I went through each participant's responses and, using a deductive approach,

looked for patterns and associations between the variables of interest like imprints, family bonding and entrepreneurial behavioural outcome.

## **Variables**

### ***Entrepreneurial behavioural outcomes***

This measure was obtained through a series of close-ended questions, inspired by the works of Marquis and Tilscik (2013) and Schumpeter's definition of an entrepreneur (1934, 2011).

In this study, two aspects had to be present to consider the activities entrepreneurial. According to Schumpeter, the first aspect refers to a person engaging in one or more of the activities that define entrepreneurs. Schumpeter (Becker et al., 2011) described an entrepreneur as engaging in certain behaviours, such as introducing into the organization:

- A new good or a new quality of a good.
- A new method of production
- A new market
- A new source of raw material
- A new organization.

If a business family member engaged in any of these activities, they were considered to have undertaken entrepreneurial behaviours.

The second aspect referred to the business family member's entrepreneurial behaviour type. This classification was based on the definition presented by Marquis and Tilscik (2013). If the person engaged in any of Schumpeter's entrepreneurial behaviours above *within* the context of their existing family's business, they are said to have engaged in adaptive, entrepreneurial behaviour. If the person engaged in any entrepreneurial behaviours *outside* the context of their existing family's business (but still under the umbrella of their family's business), they are said to have engaged in exaptative entrepreneurial behaviour. Suppose the person engaged in any entrepreneurial behaviours *apart from* their existing family's business (in other words, the activity had no ties to the current family's business). In that case, they are said to have engaged in maladaptive entrepreneurial behaviour.

To ensure that the items reflecting the three classifications were reliable, SPSS factor analysis, with a varimax rotation, was performed on all the items measuring the three entrepreneurial behavioural outcomes: adaptive, exaptative, and maladaptive. Three factors emerged with factor loadings between 0.553 and 0.927 (see Appendix D: Entrepreneurial behavioural outcome). The items which measured each entrepreneurial behavioural outcome all group on the same factor. For example, all five items that were supposed to measure adaptive, entrepreneurial behavioural outcome loaded on the same factor. These three factors indicated that the items did measure their corresponding dimension.

Each participant was coded as belonging to one of the three entrepreneurial behavioural outcomes categories. If most of the participant's responses indicated that they made changes

*within* their family business, they were coded as adaptive. If most of the participant's responses indicated that they made changes *outside* their family business, they were coded as exaptive. Finally, if most of the participant's responses indicated that they made changes *apart from* their family business, they were coded as maladaptive. This resulted in 9 participants being coded as adaptive, 12 as exaptive, and 6 as maladaptive.

### ***Family Bonding***

Another important aspect of family businesses arising from the case study from Study 2 was the importance of the family bonding experience. This aspect was measured in two ways. First, family bonding that occurred through dinner conversations. The case study from Study 2 indicated that meaningful business-related discussions might occur at the dinner table. Participants were asked how often they were involved in family business discussions at the dinner table and if their opinions were respected. This dynamic would help us understand how much they knew about the business and their level of involvement in the business at a young age.

Second, family bonding that occurred during participation in family vacations. The case study from Study 2 indicated that family closeness was especially heightened during family trips. Therefore, participants were asked how often they took family trips and whether these were fun or an extension of business activities. They were also asked if they had any say in the place or activities during the family vacation. The objective of these questions was to understand the degree of bonding and level of independence experienced by the participant.

Using SPSS, factor analysis was performed with an oblimin rotation to ensure that all items loaded onto the same factor. Indeed, all items loaded onto one factor, indicating that they measured the same construct.

The questions for both family bonding dimensions were based on the qualitative data from Study 1 and the interviews from Study 2. Certain themes were extracted from the data and developed into the family bonding scale. The self-made items can be found in Appendix G: Questions about family dinners and family vacations.

### ***Imprints***

This measure was obtained through a combination of open-ended and close-ended questions. The open-ended questions used the cognitive interview survey format that was developed in Study 1. The participants were asked to look at six pictures and think about the childhood events that came to mind. The pictures were from "Points of You" and were selected to correspond to themes often associated with families and businesses. As the participants chose one or two pictures that resonated with them the most, they were asked to answer six questions. The questions asked to describe a childhood event, how old they were at the time of the event, and if the event influenced their career choices and world views. The participants were also asked if there was a person that influenced them. The pictures and questions were also used in Study 1.

In addition, two closed-ended questions were added to the imprint measure to reflect whether the imprint events could be classified as firsthand or vicarious. They were a modification of the questions asked in Dickel et al.'s (2020) study. Together, these two measures

(the qualitative descriptions and the quantitative responses) were used to understand better the effects of imprint types on a person's memory development.

Eight participants in this study were interviewed to augment the information obtained through the survey. Participants were contacted first to set up an interview, which lasted from five to ten minutes. After completing their interview, the participants were directed to the survey by email. The short interviews established a context that helped create a richer understanding of the imprints described in the survey, thereby allowing for a more in-depth interpretation. These interviews were made possible because direct contact information was available for these participants. The remaining participants were contacted through a third-party organization, which did not allow its members to be contacted directly, making interviews impossible.

### ***Family relationship types***

Family relationship types were assessed using a scale developed by Silverstein and Bengtson (1997), which has been used in various studies with reliable results (Mangen et al., 1988; Silverstein & Bengtson, 1997). The questions measure three intergenerational solidarity theory dimensions: affectual, consensual and functional. These items were also used in Study 1.

Using SPSS, factor analysis was performed with an oblimin rotation on all the items measuring the three family relationship dimensions. Three factors emerged with factor loadings between 0.816 and 0.986 (see Appendix E: Family relationship dimensions). The items that measured each family relationship dimension all group on the same factor. For example, all seven items meant to measure affectual solidarity loaded on the same factor. These three factors indicated that the items did measure their corresponding dimension. However, the three items measuring consensual solidarity had large, negative factor loadings indicating that they may need to be reversed scored when interpreted. A bivariate correlation was performed to examine the relationships between the three dimensions. They all showed significant, positive correlations with each other. The mean index was calculated for each of the three family relationship dimensions.

## **Results**

### **Descriptive data: Adaptive**

Nine of the 27 participants were coded as having adaptive, entrepreneurial behavioural outcomes. These participants are characterized by having made most of their changes within their family business, making them entrepreneurial, but within the realm of the existing firm. Therefore, an entrepreneurial activity such as introducing a new product, production method, or raw material, entering a new market, or creating a new organization would be developed within the family business.

Within this group, 7 identified as male and 2 identified as female. In addition, they ranged in age, with the largest segment being between 18-24 (4 participants) followed by 45-54 (3 participants). Most of the group identified as being white (4 participants). In addition, 4 other participants identified as being either English or French Canadian (2 participants each). The

remaining participant identified themselves as being Middle Eastern. Their education level was equally diverse, with the majority obtaining a bachelor's degree (5 participants) and the rest having either a college diploma or a master's degree (2 participants, each). This group was more heterogeneous than the one in Study 1.

All the participants indicated that they currently worked for the family business and either had sole decision power or had some say in their business decisions. Most of the group expressed an interest in expanding their family business (6 participants). However, they all indicated they wished to stay within their current industry, typical of people with adaptive, entrepreneurial behavioural outcomes. Five participants revealed that they were thinking of leaving their family business to pursue more lucrative careers or a better lifestyle.

Three participants indicated vicarious imprints and one participant displayed a mixture of both firsthand and vicarious imprints. Most of the participants (5 participants) stated that most of their imprints were firsthand imprints. For example, Austin specifically mentioned the impact of a plane crash and a trip with his father.

*"I was in a plane crash at a young age. That experience led me to a career in aviation. Developed a fascination with airplanes." (Austin)*

*"I remember travelling to Hudson's Bay by ship with my father when I was young. Being on a ship showed the importance of teamwork and following rules." (Austin)*

Ava stated that with her parents' encouragement, she developed her sense of creativity, which serves her well in her role at the family business.

*"Je pense qu'en ayant développé mon imagination pendant de nombreuses années, je pense que j'ai développé ma créativité. Aujourd'hui, cela m'aide beaucoup à être créative (en marketing par exemple) et pour la résolution de problème. Et comme quand je jouais, je pense que tout est possible dans la vie si on met notre "mind into it" (Ava)*

*[Translation: "I think by having developed my imagination for many years, I think I developed my creativity. Today, it helps me a lot to be creative (in marketing for example) and for problem solving. And like when I was playing, I think everything is possible in life if we put our "mind into it" (Ava)]*

Three out of five participants with firsthand imprints also stated that they had low consensual solidarity (i.e., they did not share their family's values and beliefs). On the other hand, all the participants noted they had average or high levels of affectual solidarity (i.e., they liked their family members). Functional solidarity was evenly distributed among the participants within the high, medium and low levels. Thus, although they feel affection towards their family members, they do not necessarily think they share the same values and attitudes.

Certain patterns emerged when looking at these adaptive cases. For example, with one exception, the participants who indicated high affectual solidarity also showed high consensual solidarity and average levels of functional solidarity. Interestingly, the one participant who indicated high affectual solidarity and low levels of consensual solidarity also indicated a low

level of functional solidarity. It would seem that high levels of affectual solidarity are needed to encourage the adoption of the family's attitudes and values, including the view of resource sharing (functional solidarity). However, at average levels of affectual solidarity, participants indicated low levels of consensual solidarity and its effects of functional solidarity were split between high and low levels. Perhaps a minimum threshold of affectual solidarity needs to be achieved in order to encourage the passing on of values and attitudes (consensual solidarity), some of which may include resource sharing.

Regarding family bonding, participants indicated that business discussions took place at the dinner table. They felt their opinions were always respected, however, they also felt that their parents kept aspects of their family businesses from them. In addition, they felt like they had to agree with their parents most of the time.

Most of the participants did take family vacations together, which were seen as fun experiences, rather than as business trips. Their parents wanted to know what they were doing, but they were free to do their own thing if they wanted.

To summarize, this group worked in the family business and kept any expansive plans within their current sphere of influence. However, they did indicate that most of their imprints were firsthand. In addition, they come from close families where their opinions mattered, but certain aspects of the business were hidden from them. They did have some degree of autonomy, as seen through their family vacations, which were probably a fun time focused on family bonding.

### **Descriptive data: Exaptative**

This group consisted of twelve participants, 6 of whom identified as female, and 6 as male. The age groups were evenly distributed, with the largest group ranging from 25-34 (5 participants). This group had a more diverse ethnicity than the previous group, with the largest ethnic group being English-Canadian and Mediterranean, followed by Asian and Black participants. Most participants obtained a bachelor's (7) or master's degree (4).

Like the previous group, they all work in the family business and have a full or partial say in its operations. Most of the group expressed an interest in expanding their family business (10 participants) within the same industry (8 participants). However, the larger percentage indicated that they would consider expanding their family business by entering new product markets (6 participants) *and* new market levels (4 participants, i.e., regional, national or international levels), which is more typical of people with exaptative entrepreneurial behavioural outcomes. Interestingly, 6 respondents noted their intention to leave their family business because they wanted more independence, had family issues or to start another business. Although a lower percentage would leave their family business when compared to the adaptive group, it was because they wanted to strike out on their own or start something new. Despite their wish to leave the family business, all indicated that the company would continue with or without them.

This group indicated that their imprints were mostly vicarious experiences (6 participants). For example, Emily stated that her negative memories of working with family

made her choose to limit her involvement in their business.

*“After seeing the divide that the family business could sometimes bring to my family, I knew that I wouldn't want my future to be affected by business decisions. I chose to pursue a career in a completely other field that I love and keep my involvement in my family's business to a level that would not impact my relationship with any of my family members.” (Emily)*

Two participants indicated that they had formed firsthand imprints. For example, Edwin stated that his experiences working in the family business helped him to mature.

*“Our family was not that well off during my childhood. Helping in the family business and dedicating less time to childhood activities have definitely made me mature for my age compared to my peers. Being mature beyond my age has definitely impacted the way I make certain decisions.” (Edwin)*

Eve also indicated that her experience working for a big corporation led her to return to the family business to find her happiness.

*“I was working for a big corporate company, doing what I had studied to do, and woke up one morning miserable decided to quit and join the family business. 7 years later, I regret to not have done it before” (Eve)*

Three participants indicated they had a combination of firsthand and vicarious imprints. They had personal experiences, but were heavily influenced by family members. For example, Ella's childhood was fun, but she was dependent on her sibling. Eli stated that he had memories of his journey but was influenced by his mother. For these participants it was difficult to determine which imprint type had more impact.

Interestingly, all participants indicated that a family member had influenced them. As Evan stated, “My father was my mentor.”

This group described their family relationships as having high affectual and consensual solidarity, and low functional solidarity. They feel close to their family members, but neither need nor expect to share resources with them. Ten participants mentioned that discussions about the family business occurred during dinner. For example, Emily stated the following:

*“Dinner table conversation discussing product sales and margins. Having Sunday dinner always came down to what was happening in the family stores and what one was doing well that another wasn't. These conversations often discussed specific employees.” (Emily)*

Most participants also noted that their opinions were respected (8 participants) and felt included in the business conversation (9 participants). In addition, half the participants indicated that they never felt compelled to agree with what was being said (6 participants). Furthermore, most participants felt that their parents did not hide aspects of the business from them (8 participants).

For the most part, the participants indicated that they did take family vacations, which



created some fun memories. Most participants stated they could do what they wanted, but their parents wanted to know what they were up to and were primarily responsible for determining the vacation. Given that the parents chose the type of vacation, 8 participants agreed that their family vacations were not about the family business.

In summary, although a lower percentage of participants wanted to leave their family business, their main reason was to gain more independence. This group also indicated that they had primarily vicarious imprints. However, in comparison to the adaptive group, they noted that mentors had a more significant influence. Regarding their involvement in the business, they felt that their opinions were respected and that their parents never kept anything from them. In addition, based on their family relationships, they had high affection for their family members and tended to share the same values and attitudes as their family members. However, they had no expectations of receiving or sharing family resources. Furthermore, their family vacations were probably responsible for their high degree of closeness as the business was put aside to have a fun, shared experience.

### **Descriptive data: Maladaptive**

The last group consisted of six participants, 4 of whom identified as female and 2 as male. Two main groups ranged between 18-24 and over 55 years of age (2 participants in each group) and were ethnically diverse. Since this group seemed to be older than the previous two groups, they also had achieved higher education degrees such as bachelor's and master's (2 participants in each group).

Like the previous two groups, they all worked for their family businesses and had complete or partial say when making business decisions. However, unlike the previous two groups, all the participants stated that they wanted to leave their family businesses. While 2 participants indicated that they wished to retire, the rest wanted to leave for more independence or to start their own businesses. Indeed, one participant (Mary) noted that she helps in her family business only because of her desire to work in her field of study, which was unrelated to the company. Regardless, 2 participants (Mia and Milo) said that their business would cease to be a family business once they left. Most of the participants (4) also stated that they had no plans to expand their family business. Of the two remaining participants, Max indicated they would be willing to expand to a different industry and into a new product market. Maya, on the other hand, would expand within the same industry by introducing a new product and going to a new market level (regional, national or international markets).

Most participants indicated that their imprints consisted mainly of vicarious imprints with someone in their family as their primary focal influencer. For example, Maya described how childhood observations taught her how things worked in her world.

*“The financial situations of a family business is always up and down, you quickly learn as a child the importance of income but also the need to be emotionally independent from any surprising changes. So, always select the career that gives you a hard set of skills, then you will have the confidence to earn the best level of salary.” (Maya)*

Although some participants confirmed their families' influence and were grateful for the lessons learned, they didn't necessarily want to follow the same path. For example, Mary mentioned that her parents showed her that hard work and beliefs make anything possible. However, after observing their lifestyles, she still didn't want to follow in their entrepreneurial footsteps.

*“My brother studied in finance, and I decided to follow his lead since I always saw him as an example, and I really did not know what I wanted to do. I always liked the business environment but not necessarily being an entrepreneur, so I still followed his path and ended up disliking finance and switching into accounting since I liked my general accounting classes. I also know I don't want to be an entrepreneur having witness my mother and brother's lifestyles. It is not what interests me.” (Mary)*

All the participants stated that they had high affectual solidarity relationships with their family members. However, they had an average level of consensual and a low level of functional solidarity. This would indicate that although they feel a high affection for their family members, they do not necessarily feel they share the same values and attitudes or need to reciprocate any resource sharing between them.

The participants indicated that business was discussed at the dinner table most of the time. Although they felt their opinions mattered, they also felt compelled to agree with their parents. Therefore, they did feel included in the conversation. However, they felt that some aspects of the business were hidden from them to a certain degree.

For the most part, they did take family vacations together, which mainly consisted of fun times spent together. Although their parents determined the vacation itself, they were given the freedom to do as they wished and not check in. However, for most participants (4), these family vacations were mainly business trips. Thus, bonding time was limited in these families.

In summary, this group indicated that their imprints were more vicarious. They had high affection for their family members, and they did share some values and beliefs, but they had no expectations of sharing family resources. They did feel that during dinnertime family business discussion, some aspects of their family's business were hidden from them; they did feel like they were part of the business. However, most of their vacations were more like business trips, which could explain the lower expectations of access to shared family resources since their shared bonds were not fully developed and prized. Surprisingly, these participants all wanted to leave the family business to pursue their dreams of retirement, independence, or other interests (Table 8).

*Table 8: Summary of descriptive data*

	Imprint type	Affectual Solidarity	Consensual Solidarity	Functional Solidarity	Family Bonding
Adaptive	Firsthand	High	Low	Mixed	High
Exaptative	Vicarious	High	High	Low	High
Maladaptive	Vicarious	High	Medium	Low	Low

## Analysis

The purpose of the analysis is to determine whether certain events or imprints can lead to specific entrepreneurial behavioural outcomes. This analysis will include a description of the results of the expected themes. The evidence can be found in Appendix F: Imprint description by entrepreneurial behavioural outcomes.

### **Do different types of imprints influence the formation of different entrepreneurial behavioural outcomes?**

The various memories differed in terms of whether it was an observation of another's experience (vicarious) or if it was based on a person's own experiences (firsthand). They also differed based on whether the person (focal person) in those memories was a family member (e.g. a grandparent, parent, sibling, aunt/uncle or cousin) or a non-family member (e.g. a teacher or a mentor).

For the adaptive cases, most of those with firsthand imprints indicated that the focal person was a non-family member. For example, Ava credited a friend, while Alex credited a high school teacher. On the other hand, those whose vicarious imprints influenced them the most indicated that their focal person was a family member. For example, Axel credited his grandparents and parents for influencing his career decisions, while Adam and Alan credit their father.

For the exaptive and maladaptive cases, all the participants indicated that their focal person was a family member, regardless of whether their imprint types were firsthand or vicarious. For example, Enzo credited his father:

*“My dad was the biggest influence over me, and he always wanted me to run the business” (Enzo).*

Eli and Edwin credited their mother's influence on their career paths. However, the maladaptive cases had a higher proportion of vicarious imprints.

Thus, the combination of imprint type and the focal person influenced the entrepreneurial behavioural outcome for the adaptive case.

### **Do family relationships influence the association between imprint type and entrepreneurial behavioural outcomes?**

Since the focal person seems to influence the connection between imprint type and entrepreneurial behavioural outcome, how the family relationship affected the focal person and the participant was investigated.

In all three cases (adaptive, exaptive and maladaptive), affectual solidarity levels were high. In the adaptive case, having high levels of consensual solidarity was associated with average levels of functional solidarity. In the exaptive case, having high consensual levels was paired with mainly low functional solidarity. Similarly, in the maladaptive case, high consensual

solidarity was associated with low levels of functional solidarity. Since consensual solidarity is about sharing values and functional solidarity is about sharing resources, these results show that the expectation of resource sharing may be essential to develop adaptive, entrepreneurial behavioural outcomes but not in the development of exaptative or maladaptive entrepreneurial behavioural outcomes. This lack of perceived resource support may be why those who developed maladaptive entrepreneurial behavioural outcomes were more willing to leave their family business. While in the exaptative case, they may be more willing to try things outside the family business.

Firsthand imprints corresponded to the development of adaptive entrepreneurial behaviour. Thus, firsthand imprints together with close family ties and support are essential for developing adaptive entrepreneurial behaviour. On the other hand, vicarious imprints corresponded to the development of exaptative and maladaptive behaviour. Thus, vicarious imprints, very close family ties (or family ties that are not too close like in the maladaptive case), and low resource support will lead to both exaptative and maladaptive entrepreneurial behaviour.

These results are interesting because Study 1 suggested that consensual solidarity influenced entrepreneurial intentions the most in conjunction with affectual solidarity. Although no conclusion could be drawn for the role that functional solidarity plays in entrepreneurial intentions, we can see that the lack of functional solidarity influences the development of different entrepreneurial behaviours. Therefore, this study refines Study 1's findings by extending the results to behaviours and refines functional solidarity's role in developing entrepreneurial behaviour. Thus, we move our understanding beyond intention and into the realm of entrepreneurial behaviour.

### **Family bonding: How important is it to family business longevity?**

Many of the participants' imprinted memories centered around family vacations or family dinners during their childhood. These joyous occasions may be projected onto the family business making it more likely that the children would stay and work for the family business.

*“L'entreprise familiale est toute ma vie. L'industrie dans laquelle je travaille est ma passion. Même mon mari est dans la même industrie que moi!” (Helen)*

*[Translation: “The family business is my whole life. The industry I work in is my passion. Even my husband is in the same industry as me!” (Helen)]*

In addition, an early introduction to the family business, which triggers the child's passion and creates joyous memories, will also spark a loyalty to the family business. For example, Eva talks about how at a young age, she was able to witness her father's passion for the business, which she exemplifies now.

*“Je me rappelle dès mon plus jeune âge mon père m'apportait dans l'entreprise familiale. Il était passionné et me montrait tout plein de choses. Au fil des années, il a été mon mentor dans toutes sortes de décisions.” (Eva)*

*[Translation: "I remember from a very young age my father brought me into the family business. He was passionate and showed me lots of things. Over the years, he has been my mentor in all kinds of decisions." (Eva)"]*

Ean echoes the effects of happy memories on his interest in staying with the family business.

“Souvenirs joyeux qui ont contribué à me construire.”(Ean).

*[Translation: "Happy memories helped make me who I am." (Ean)]*

In fact, he plans to stay in the family business until death “à la vie, à la mort” (Ean). Aside from building close family relationships, creating events that produce happy family moments may be key in ensuring a successful succession process.

### **Emergent theme: Work-life balance.**

Some participants indicated that watching their parents work hard makes them unwilling to make the same sacrifice. For example, Carl indicated that he would pursue a career that would take the highlights of his father’s work experience while leaving behind all the stresses his father experienced. Hence, he is not willing to take over the family business or start a business independently.

*“My memories about family joy have pursued me to strive for a better work-life balance than what comes with owning your own business...Primarily it is my father that affected my career decisions. I looked to follow a path that attempted to maximize what made him happy in his career well avoiding what caused him a lot of stress and unhappiness.”(Carl)*

Mary echoes that sentiment. Having seen the experiences of her mother and brother, she recognizes that becoming an entrepreneur was not for her.

*“I also know I don’t want to be an entrepreneur having witness my mother and brother's lifestyles. It is not what interests me.” (Mary)*

On the other hand, although Cole’s family was entrepreneurial, they discouraged him from “taking the leap.” Despite this, he is willing to pursue entrepreneurial ventures. He wants to be part of the family business and start his own business.

*“Growing up, everyone speaks from their own experiences and memories in life. Unfortunately, I should have not listened to other people’s opinions/experiences because that stopped me from "taking the leap...For me, family comes before anything. When, one day, I will have my own business, I will still try and find a way to help out my family.”(Cole).*

Thus, being able to balance work-life responsibilities seems also to influence their desire to either join the business side of their families or start businesses of their own.

## **Discussion**

This study looked at the interaction between family relationships, family bonding, imprints, and its effects on entrepreneurial behavioural outcome development. The purpose was to gain insight into the processes that result in different innovation behaviours that lead to

entrepreneurship. I theorize that childhood imprints are a key component of these processes.

### **Imprints and family context: Is there a relationship?**

Some studies have shown that growing up in a business family may encourage the next generation to have more inclination to become an entrepreneur (Kellermanns et al., 2012; Corbett and Hmieleski, 2007; Krueger, 2007). This indicates that entrepreneurial families create a context from which the next generation can learn from based on the previous generation's experience (Chlosta et al., 2012). The family context gives meaning to the experiences and observations made by the next generation.

The analysis extends this finding by showing that family relationships, family bonding, and work-life balance form the family context from which personal meaning is derived. Furthermore, these elements are interwoven to create a tapestry of imprint and imprint interpretation. In other words, although certain events trigger the formation of imprints, it is the family context that allows for the interpretation of these imprints and their subsequent effect on a person's behaviour. For example, in the adaptive and exaptative cases, family vacations were seen as an opportunity to bond due to shared experiences.

Contrarily, in the maladaptive case, family vacations were perceived as business trips, thereby limiting family bonding. The opportunity to create positive, lasting memories that the family members could share and bond over was lost. By observing their parents placing more unbalanced importance on augmenting the business relationship, these participants resisted becoming part of the family business. In other words, the parents became role models for the participants but for developing the contrary behaviour of not becoming entrepreneurs. Through the social learning theory, Bandura (1986) states that people will adopt the behaviours of their role models. However, in this case, the behaviour adopted by the participants (entrepreneurship) runs contrary to what their role models (i.e., their parents) exhibit. More emphasis was placed on work-life balance in the maladaptive case, most likely because as personal relationship development took on less importance for the parents, these relationships became more important for the participants.

In contrast, the adaptive and exaptative cases showed that most participants indicated their desire to continue working in the family business, which could be explained by having more shared memories from which bonds between its members could strengthen. Thus, in Bandura's terms, these participants adopted the behaviours of their role models.

Previous work has indicated that highly cohesive families are able to share and process information better than families with low cohesion (Zahra, 2012). Interactions could be seen between the family relationships dimensions. For example, in the adaptive case, different levels of affectual solidarity influenced the adoption of the family's values and attitudes (consensual solidarity), including the expectation of family resource sharing (functional solidarity). Suppose the other aspects of the family context (family bonding and work-life balance) were also present and viewed positively. In that case, it may increase the formation of imprints that view the family business in a positive light. This positive view may increase the next generations' desire to join and continue the family business. Thus, the first proposition is stated as:

*Proposition 1: Creating a positive family context will increase the associated imprints of joining the family business.*

Furthermore, imprints provide the memories' content, and family relationships provide the vehicle of socialization. Therefore, it is reasonable to assume that certain families may have more effective ways to socialize their children than others. For instance, close families already share values and beliefs (Zahra, 2012). They could also share memories and family history more effectively because the children would be more open to accepting these entities.

In contrast, if a family does not share a fundamental belief or value system, it would be more challenging to impart essential aspects of their values to their children (Zahra, 2012). Therefore, they may feel more compelled to refer to their observations to understand better the values and beliefs they should hold. Thus, for vicarious imprints, a person who is not close to their family may glean most of their information about values and beliefs from those observations, making vicarious imprints more critical in governing their future behaviours.

On the other hand, close family ties may allow people to focus more on their personal experiences. Having confidence in their interpretation of their family's values and beliefs, they don't need to hold onto their vicarious imprints to understand what they should stand for. Consequently, firsthand imprints may be more critical in governing their future behaviours.

*Proposition 2: Closer family relationships lead to more firsthand imprints.*

### **Imprints and entrepreneurial behavioural outcome**

Few studies focus on the sequence of events between the imprint source and their outcomes, especially at the individual level (Simsek et al., 2015). Although this study suggests causal relationships, this cannot be inferred since these findings would have to be supported using quantitative studies. However, the results propose further insights into the chain of events for an imprinted individual. This study suggests that imprints differ in their sources. Whether that source is from personal experiences (firsthand imprints) or observing others' experiences (vicarious imprints), they result in different entrepreneurial behaviour. There is no "right" type of entrepreneurial behaviour. However, understanding a person's entrepreneurial aspirations may be vital in determining the person's innovational tendencies. With this knowledge, a business family may be better prepared to develop a role that highlights the person's talents. The analysis showed that the adaptive case had more firsthand imprints, while the exaptive and maladaptive cases showed more vicarious imprints. Events experienced firsthand will therefore lead to carving out entrepreneurial behaviours within the existing family business (adaptive).

Many studies have indicated that being brought into the business at an early age positively influenced a person's entrepreneurial spirit, probably because it increases the child's sense of competence and connection to the family firm (Jaskiewicz et al., 2015; McMullen & Warnick, 2015; Chlosta et al., 2012). Conversations at family dinners about the business may serve this function of early business socialization. In addition, the informality of the conversation may be a catalyst whereby the child may feel less pressure to engage in the discussion than in a more formal business setting.

However, aside from hearing about the business at the family dinner table, they also need to feel included in the discussion. Having high levels of family involvement may improve innovation within the business, as different family generations are better able to understand and identify challenges and opportunities (Kellermanns et al., 2012). The informal setting of a family dinner discussion may make the child feel more at ease contributing their thoughts. However, they must also feel as though their contributions are wanted. In all cases, the participants felt included during family dinner conversations about the business to some degree, perhaps helping to plant the seed of innovation.

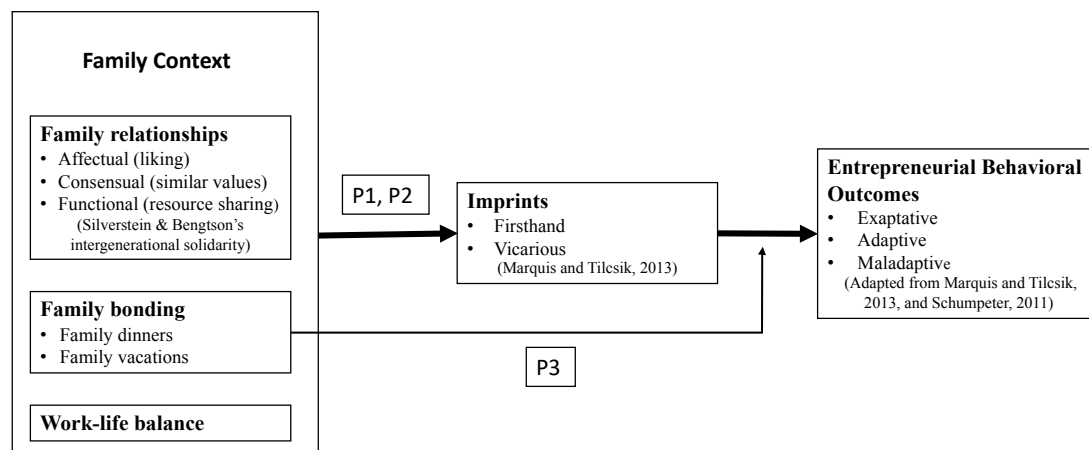
Spending shared time is important in creating long lasting relationships (Scharp and Thomas, 2016). This study supports this view since making time to bond with the family seems important in developing different entrepreneurial behavioural types. One aspect of bonding includes family vacations. In the adaptive and exaptive cases, family vacations were considered fun times away from the business. On the other hand, family vacations were considered mainly business trips in the maladaptive cases. The scenery may have changed, but these vacations were still about the business. It therefore seems necessary to create family bonding opportunities as they may help develop different entrepreneurial behavioural outcomes.

Having open discussions about the business and connecting through vacations (i.e., creating family bonding experiences) are essential in guiding the type of entrepreneurial behavioural outcomes developed. This third proposition is stated as:

*Proposition 3: Imprints and creating family bonding experiences determine the entrepreneurial behavioural outcome developed.*

These propositions are shown in the following conceptual model (Figure 5).

*Figure 6: Study 3 conceptual model*





## **A note on extremes**

This study also indicated that if family members were too close (like in the exaptive case) or less close (like in the maladaptive case), vicarious imprints may result. A possible explanation is that in the exaptive case, being too close will make you innovative but will also prevent you from breaking from the family entirely. Feeling the support of loved ones may ignite your innovative spirit with entrepreneurial confidence, but you will always reach back to feel that sense of belongingness to family.

Similarly, if you are not close to your family, as in the maladaptive case, it will be easier for you to leave the family business behind and find a new path. This lack of attachment may incite a person to become innovative enough to find their own identity apart from their family.

This study makes two practical contributions to the family business literature. First, it has been established that being brought into the business at an early age positively influences a person's entrepreneurial spirit, probably because it increases the child's sense of competence and connection to the family firm (Jaskiewicz et al., 2015; McMullen & Warnick, 2015, Thomas et al., 2017). The study confirms this notion and adds to it by suggesting that creating bonding experiences through family dinner discussions and vacations may serve the purpose of early socialization in the family business.

Secondly, suppose the goal of a family business is to continue the family legacy. In that case, one needs to find the right balance between family closeness and family member independence, while developing positive bonding experiences (Kammerlander et al., 2015). In the adaptive case, instilling the desire to continue a family legacy depends on creating family bonding experiences. In the exaptive case, the continuance of the family legacy would depend on both family closeness and bonding. Finally, in the maladaptive case, the legacy stalls if there is a lack of family bonding experiences.

Although this study does not address succession, it has important implications for research in this area. Succession has been discussed using several perspectives (Handler, 1994; Nordqvist et al., 2013). Using the stages of the family business as a theoretical framework, Churchill and Hatten (1987/1997) views the successor as a blank slate that needs to be moulded by the previous generation. However, they neglect to consider the successor's individuality. In other words, they do not consider that the successor has desires and memories, which the previous generation needs to think about during the successor's training and development (Churchill and Hatten, 1987/1997).

The integrated systems perspective used by Davis and Stern (1988) advocates the boundaries, processes and mechanisms between family and business for a successful adaptation and survival of the family business. However, as John (Study 2) suggests, family and business are too intertwined for clear boundaries to be set. Furthermore, Davis and Stern (1988) do not look at how family dynamics can shape the future of the business or how boundaries could affect knowledge transfer.

Nordqvist et al. (2013) use the entrepreneurial process perspective to study succession. They state that succession can be viewed as the previous generation's exit and the next generation's entrance. It fills the gap left by Schumpeter (1934), Gartner (1988), and Low and MacMillan's (1988) view of entrepreneurship since these early scholars did not include taking

over an existing business as a form of entrepreneurship. Nordqvist et al. (2013) suggest more research needs to be done to address what happens to the knowledge accumulated by the previous generation of family business owners when the new generation owners take over during this entrepreneurial process to understand if and how innovation can survive a takeover.

The focus of these different succession perspectives has been on understanding who will become the best successor or how to choose the best successor at a particular time. However, this study opens the discussion with a different aspect that questions how to encourage innovation among the next generation of successors over time to ensure the business' continuity. It is vital to understand the successor's dispositional type of innovation (i.e., entrepreneurial behavioral outcome) as another factor when considering the family business successor. Using aspects from the knowledge transfer perspective, this study argues that knowledge from previous generations could be transferred to the next generation through imprints (Bracci and Vagnoni, 2011). In addition, the knowledge perspective contends that the firm's resource value comes from the effective management and innovation of those resources over time (Bracci and Vagnoni, 2011). Indeed, the successful transfer of knowledge depends on observation, practice, and high-quality interpersonal relationships such as those involving mutual trust, intimacy, and honesty (Bracci and Vagnoni, 2011). Imprints from childhood memories therefore have the potential to help transfer the knowledge from incumbent to successor, a view that this study supports.

### **Limitations**

The limitations of this study refer to the circumstances surrounding sampling and data collection.

The descriptions obtained from the open-ended questions regarding imprints and childhood memories were limited and not as rich as those in Study 1 or Study 2. Two factors may explain this result. First, in Study 1, the participants were university students who may lack experience, but are also more inclined to answer questions more thoroughly, even using online surveys. In addition, the university students were familiar with the concept of the subject pool used, and the study was introduced by their professors. Although surveys are regarded as impersonal, the student's familiarity with the process and endorsements may have generated more trust and encouragement for them to provide more descriptive answers. Secondly, Study 2 was conducted through interviews. Interviews make it easier to clarify with follow-up questions to increase the richness of the responses. Indeed, certain participants who were approached through snowballing techniques also participated in short interviews. This strategy can be perceived as providing a more personal touch. Consequently, these participants provided more detailed descriptions than those contacted through panel data alone. Future studies that must include a detailed description of memories should be done through interviews; at the very least, the recruitment strategies should consist of personal contact or endorsements.

The timing of the study may have also been a factor in two ways. First, the survey was conducted during a global pandemic where people were home but possibly worried about the future of their business. Multiple lockdowns resulting in the ceasing of business operations may have created a window whereby people were available to answer the survey but were distracted by their respective situations. Consequently, the descriptive answers may have been less detailed. Secondly, the global pandemic also saw an increase in online surveys, which may have

contributed to “survey fatigue,” resulting in less attention being paid to providing detailed answers. Although the pandemic provided a “pressure cooker” for the re-evaluation and reflection of personal roles, people may have been less inclined to write it down and share it in a survey.

## **Conclusion**

Passing the responsibility of continuing the business family’s legacy to a member of the next generation may seem easy enough. However, as most business families and their advisors have come to realize, it takes more than genetics to do this successfully. This study is a first step towards understanding that, for any business success depends on finding the right people for the job. In business families, the advantage is that the “right” person can be nurtured, but only if the family recognizes and caters to the aspirations and values of the next generation. So perhaps the question is not how to nurture the next generation to take over the business family legacy in the founder’s image, but rather to craft the family business legacy to *include* the next generation’s image.

## General Discussion

We understand how vital entrepreneurship and innovation are to society (Kellermanns et al., 2008). This dissertation looks at entrepreneurship by combining what we know about the environment's impact on entrepreneurs and what entrepreneurs need to become the innovators society needs. The essential question for policymakers is: How do we, as a society, effectively create more entrepreneurs and how does family affect the creation of entrepreneurs?

This first study looked at why people decide to start a business because of (or despite) their family's expectations. Although family relationships did not directly influence a person's entrepreneurial intentions, they affected the link between family expectations and a person's entrepreneurial intentions. Being close to your family because you share the same values or enjoy being a part of your family spurs innovation. This finding supports the suggestion made by Bracci and Vagnoni (2011) that effective knowledge transfer (such as knowledge associated with innovation), needs strong family bonds based in trust, intimacy, and honesty. However, being too close was found to dampen innovations that would lead to new business creation. The first study showed that families should seek to create that ideal dynamic that allows for innovation to flourish within a fluid family context.

Additionally, qualitative information collected in this first study also showed that a person's childhood memories influenced their future behaviours. These memories form imprints that further affect innovative behaviour. Based on the first study's findings, the second study looked more closely at the development of childhood memories and their effects on future behaviour. Research to date has focused on imprints developed in early adulthood (Tilscik, 2012; Mathias et al., 2015). However, the most susceptible periods in a person's life occur during childhood (Maccoby, 1992). Examining childhood memories may therefore give researchers and practitioners a better understanding of future behaviour.

The second study investigated the process whereby childhood memories develop into innovative behaviours. From the family business literature, we know that entrepreneurial parents are more likely to raise children who will be more receptive to becoming an entrepreneur because they have access to these role models from an early age (Geldhof et al., 2014; Hoffmann et al., 2015). The single case study of a business family found that imprints developed from the observation of others must occur before those that arise from personal experience. In childhood, one's firsthand experiences are limited, therefore much of what governs a person's behaviour depends on what is learned from observing others. Hence, certain types of imprints developed, based on the experiences of a person's role model.

Furthermore, the source of imprints (i.e., those developed by observation rather than from personal experience) formed different innovation behaviours (Mathias et al., 2015). Imprints developed from the observations of others governed innovations that use existing resources within the family business context, as opposed to creating new resources to be used within the business. Interestingly, combining both types of imprints will result in pursuing innovations aimed at developing new resources to benefit the family business.

Another important implication is that positive family activities generated bonds between family members, and between family members and the business. This finding complements the family business literature, which shows that family support and closeness are important for business development (Chlosta et al., 2012; Dyer, 1994). This has important implications for enterprises whose main objective was to pass on their legacy to future generations, such as business families. Close family bonds may be vital to developing an affinity towards the business, leading to more innovative behaviours as the family members continuously want to see the business succeed.

Finally, in the third study, the findings of Study 2 were expanded by focusing on family business members to see if the same patterns observed in Study 2 re-emerged. I incorporated family bonding and imprinting theory elements to explore their effects on the family member's innovative behaviours. Close family ties combined with shared family values, lead to the adoption of more imprints developed through personal experiences. Whereas family relationships that are too close or further apart result in more imprints developed from observing others' experiences. A possible explanation for this behaviour is that people search for their role within the family (Handler, 1994). The role is defined by the family's values and beliefs. This finding also complements the literature that shows family relationships indirectly affect the transfer of knowledge, suggesting that dense social relationships constrain family members' ability to explore creative business opportunities (Chirico and Salvato, 2016).

Suppose, however, that the family's values and beliefs are not passed on to the family member. In that case, the family member will fill in the gaps through the observation of expected behaviour. These imprints will be based on observation instead of personal experience. On the other hand, if there are close family bonds, its members will know what the family's values, beliefs and role expectations are. They will focus on their own experiences within this family context to a greater degree, with the formed imprints resulting from personal experience rather than observation.

Furthermore, if the family bonds are too close, their values and beliefs resemble their family's values and beliefs to such an extent that they cannot imagine an identity away from the family or its business. Thus, they will rely on their observed imprints more than their personal experience to ensure they fulfill their roles within the family. Consequently, the innovative behaviours from these various imprinted sources will also differ. This finding is a replication of the patterns that emerged in Study 2, demonstrating that different imprint sources lead to different innovative behaviours.

It is worthwhile to note that in Study 2, the exaptive case correlated with imprints from two different sources (personal experience and observation of others' experiences). Study 3 also showed this tendency, whereby three participants indicated a tendency to create imprints from both sources, which supports and extends Study 2's findings.

In addition, a third innovative behaviour emerged, which the literature had briefly described, but largely ignored. Maladaptive entrepreneurial behaviour was described as a case where people with innovative or entrepreneurial tendencies decided to create business apart from their family enterprises. They carve out a separate path without any expectation of family

support. This description proposed by Marquis and Tilscik (2013) is reflected in this study. This study also shows that it is formed mainly in families that are not close. The memories that primarily impact this behavioural type tend to be developed through observing others' experiences (vicarious imprints). This study provided the first known instance where maladaptive entrepreneurial behaviour was seen in an empirical study.

### **Implications of the discrepancy between Study 2 and Study 3**

Study 2 found that vicarious imprints were associated with adaptive, entrepreneurial behaviours, whereas in Study 3, adaptive behaviours were related to firsthand imprints. Furthermore, in Study 2, exaptative entrepreneurial behaviours were associated with firsthand and vicarious imprints, whereas, in Study 3, exaptative entrepreneurial behaviours were related to vicarious imprints. An explanation for this discrepancy lies in examining the relationships within the family.

The **adaptive case** is the most interesting because two different types of imprints seem to be associated with the same adaptive behaviours. However, a closer look shows a difference in the family closeness described by participants. Indeed, Chlosta et al. (2012) suggest that varying family cohesion affects the ability for family members to transfer tacit knowledge from founder to successor. In this case, and for simplicity's sake, initially everything regarding family relationships was rated as either high or low. However, upon further examination, the adaptive cases with more firsthand imprints also had looser family ties. Their family relationships were deemed to be less close because they described average levels of affective and consensual solidarities. Thus, they shared some values and had some affection for their family members, and these relationships were associated with more firsthand imprints.

On the other hand, the adaptive cases that developed more vicarious imprints described their family relationships as being closer (i.e., higher levels of affective and consensual solidarities). These cases indicated that they shared more family values and had more affection toward family members. Dyer (2006) also suggests that families have an easier time maintaining social capital (goodwill generated due to social relationships) because of their stronger bonds and connections than non-family individuals (people who are not connected by family ties). This distinction between the levels of affection is important. Although both types of adaptive cases were associated with the person continuing to develop innovative strategies within the family business, the first group (those with looser family ties) may recombine the existing resources into their own image. The second group (those with closer family ties) may be more traditional and recombine the existing resources in their parents' image. Thus, the first group may need more latitude, understanding, and space to innovate, while the second group may be happy in their existing space alongside previous generations. This happy coexistence with the previous generation was observed in Study 2's case of Hephaestus Inc.

The **exaptative case** reflected the observations of the Hephaestus Inc. case study. The next generation are inclined to maintain the link with the past because they feel supported by their family. They also feel they can explore beyond the previous generation's accomplishments. They have access to both firsthand and vicarious imprints, but what they choose to use depends on what they see as valuable for fulfilling their vision. In the exaptative case, they want to find

their place while keeping their family's values close. Thus, vicarious imprints will always be available should the person choose to use them.

In the **maladaptive case**, they have close family relationships, but see that the previous generation put business before the family. While not inherently negative, it may result in weakening family ties, because the family did not take advantage of opportunities to create positive links (at least as perceived by the next generation). In this case, the next generation may become entrepreneurs, but they will do so in their way and not follow their parents' example. In other words, they may decide to retain their vicarious memories as a reminder of what not to do. This decision differs from the exaptive and adaptive cases, where the person chooses to keep their vicarious memories to guide them on their path. This observation supports the literature that found certain parental attitudes may create barriers for the next generation, resulting in suppression of their entrepreneurial behaviours (Staniewski and Awruk, 2021, Scharp and Thomas, 2016).

### **Can family help/deter the creation of more entrepreneurs?**

Overall, in keeping with the existing literature, this dissertation shows that family does affect the creation of entrepreneurs to a certain degree (Staniewski and Awruk, 2021; Arregle et al., 2007; Krueger, 2007; Scherer et al., 1989). Moreover, in business families, we see the impact of the family's influence more readily; we can extend these observations when looking at other entrepreneurial ventures (Habbershon and Williams, 1999).

One of the critical factors that nurture and influence entrepreneurial creation is open communication and family bonding experiences. A second factor is closeness to the family's values and attitudes. Finally, the degree to which one likes, trusts, and respects one's family members also influences entrepreneurial behaviours.

Families that offer open communication between the older and younger generations are seen as positively creating the self-efficacy the next generation craves along the path to entrepreneurship. Communicating freely and feeling as though your opinions matter all seem to generate and contribute to the sense of belonging within families.

It is important to create family bonding experiences, such as family vacations that serve as a chance to regroup and reconnect (Lehto et al., 2012). During the pandemic, families grew closer as they were forced into a confined space with little influence from the outside. The pandemic also saw families break apart, but that could also be explained by how close the relationship was before the pandemic. Underlying issues can be ignored until they resurface in a crisis or dealt with when there are no other distractions. Family vacations can create an environment with few distractions. The momentary pause of daily activity allows the family members to reconnect, thereby reenergizing their bonds. People who described these vacations as a time for reconnection also felt drawn to their families. Those for whom family vacations were focused on business and did not offer the opportunity to reconnect, drifted further apart.

However, the bonding experience is not limited to family vacations. Any family activity that recreates the sensation of connection between its members is important. Indeed, situated learning environments can take place in everyday settings. In this environment type, family

members gain a sense of how the past, present, and future fit together and their respective roles (Konopaski et al., 2015). Taking part in family traditions, such as winemaking in the fall for Italian families or making Pysanka (colored eggs) at Easter for Ukrainian families, are activities that bring the past to the present to strengthen family bonds and preserve their legacy. These activities recreate the past and influence future behaviour of either continuing the legacy or walking away from it. It would be easy to recreate this feeling by extracting these positive activities, but what if these traditional activities are associated with strife? How do we address the negative feelings to allow the legacy to continue? The answer may lie in re-interpreting the strife to heal the scar it left.

In an interview on *Your Morning* (Bain, 2022), Sarah Polley, a well-known actress and writer, said that she experienced a traumatic childhood experience on a movie set. As an eight-year-old child actress, she perceived some of the movie's special effects as being dangerous. She carried these scars with her until her twenties, when she met the man responsible for the special effects used in the movie. He suggested they watch the film together and revisit the events that caused her trauma. This exercise allowed her to experience them in another mindset (that of an adult) that allowed her to process the event differently. She described the experience as being positive, which helped heal the scars of her childhood memories - her imprints of the traumatic events.

Although Sarah Polley's imprinted event was traumatic, and most events we experience may be adverse but certainly not traumatic, we can use the same technique to help would-be entrepreneurs revisit events in their past that prevent them from leaping into entrepreneurial ventures. By dealing with their own "trauma," the adult may re-interpret the imprint using a mature lens of understanding rather than through a child's perspective. If it works in traumatic instances, it can possibly work for imprints that are not traumatic but may be distasteful. As previously described, unlike learned behaviours, imprints can be unlearned. Thus, revisiting "traumatic" entrepreneurial imprints may enable someone to unlearn the imprint and eventually become an entrepreneur.

For instance, Carl (in Study 3) indicated that he was not opposed to starting his own business, but he didn't want to work in his family business. Moreover, if he were to start his own business, he would make sure that he did not become his father. It is possible that the imprint of his father and how the business affected his family is stopping him from becoming an entrepreneur. Revisiting this imprint and moving it from a child's perspective to an adult's view may encourage him to become an entrepreneur more readily. If we can do this for other would-be entrepreneurs, we may create more entrepreneurs to fill society's needs.

Healing the scar by revisiting the memory may be the answer to tap into a greater pool of would-be entrepreneurs. Entrepreneurs who decline to enter the family business (or start a business of their own) because of a negative memories may benefit from participating in this healing process. Influencing the healing process is easier to do if we understand how memories become guides for our future behaviours. By understanding the imprinting process, we can influence their outcomes.



## How does society create more entrepreneurs?

As a society, finding people who are hesitant to become entrepreneurs and influencing them to start their journey is key to creating more entrepreneurs. The focus should therefore be to encourage those with entrepreneurial families and an interest in entrepreneurship, but who do not have the necessary support.

Currently, the government funds programs to help entrepreneurial ventures. However, most of the programs are inaccessible to marginalized individuals (e.g., youth, women, minorities, immigrants, indigenous peoples); don't address what the entrepreneur's real needs are (like mentors); or require applications that are too long and onerous to make it worth the time to complete (Hassannezhad Chavoushi et al, 2021). One approach could involve introducing family-friendly policies that focus on mentorship, a more straightforward process for submitting funding applications, and family counselling programs.

A mentorship program where mentors describe their process of becoming an entrepreneur could be an effective tool. For example, a business family member who writes books on their journey of rejoining the family company may help others make their own decisions. Mentorships programs may already exist, but access is limited to a handful of mentors. If mentors could document their stories in a way that gives more people have access to them, would-be entrepreneurs may find one that resonates and can nurture and influence their behaviours. Creating a list of entrepreneurs willing to tell their stories either in person or through documentation would be a necessary building step. Would-be entrepreneurs could gain knowledge from various sources and mentors, developing a database of more than just entrepreneurial know-how, but that also taps into a social support system. Receiving advice from people whose situation is similar to theirs (for example, single minority females) may be more helpful in creating new entrepreneurs among marginalized members of society.

Offering a more straightforward funding process may also be helpful for entrepreneurs who lack financial support but have the relational support needed to create the resilience typical of entrepreneurs. The criteria for funding should also be changed to reflect the influence of family and a person's social circle on entrepreneurship and innovation. Easing the funding restrictions to include elements of family support (rather than solely financial elements) may be more helpful to would-be entrepreneurs who need this funding to get started. It's easier to bring ideas to fruition if you have access to financial funding *and* family support. Indeed, the granting of funds should focus on family support and not only on a person's financial background. For example, perhaps some indigenous entrepreneurs cannot get loans because they have no collateral, but their community support for the business makes them potentially successful entrepreneurs.

Building programs that allow would-be entrepreneurs to access counselling services will also help. Counsellors specializing in unpacking memory interpretation could help people unlearn imprints that prevent them from becoming entrepreneurs. These programs need to make access to these counsellors easy and financially supported. Thus, regardless of their financial situation, anyone could benefit from revisiting imprints that prevent them from being innovative entrepreneurs.

Thanks to stories like Sarah Polley's and those from participants in this dissertation research, we have a better understanding of the imprinting process and its outcomes. We also know that it is possible to deal with the ghosts of the past and heal. Modifying a person's memory perception will help change their behaviour. Counsellors could help in this endeavour by reviewing imprints that stop people from becoming entrepreneurs. Programs supporting this type of intervention may be another much-needed vehicle towards creating more entrepreneurs.

Overall, this thesis makes theoretical, methodological, and practical contributions. Theoretically, this study showed that family relationships and childhood memories are essential when looking at entrepreneurial behaviour (Heuer and Kolvereid, 2014; Mathias et al., 2015; Dickel et al., 2020). Furthermore, it provides a better understanding of the imprint development process (Marquis and Tilcsik, 2013). In particular, one can follow the imprint development process as it starts with the sequence of the imprint type (firsthand or vicarious) acquired, which leads to the commitment towards which imprints are kept, which in turn leads to different entrepreneurial behavioural outcomes (adaptive, exaptive and maladaptive) (see Figure 4).

Methodologically, I show that cognitive interviews (the technique of showing powerful images to trigger memories that improves a person's recollection of them) should be the method of choice when looking at imprints, particularly since imprints are made up of emotional content and individual interpretation (Fisher and Geiselman, 1992).

Practically, policymakers should include family-friendly policies and counselling when developing policies to encourage entrepreneurial development (Cassandra Dorrington, CCSBE, October 2021). Therefore, as demonstrated, while imprints tend to persist, how they are interpreted will contribute to deciding which ones will be kept and which ones will be shed. This decision will influence the types of innovations that result, which will lead to the development of entrepreneurs. For policymakers to make effective policies, they need to understand the imprinting process.

## Appendix A: Family relationships factor loadings and table of correlations

**Pattern Matrix<sup>a</sup>**

		Component		
		1	2	3
Affectual	RQ40_1	<b>.522</b>	.064	.408
	RQ40_2	<b>.724</b>	.001	.101
	RQ40_3	<b>.910</b>	.025	-.133
	RQ40_4	<b>.833</b>	-.044	-.016
	RQ40_5	<b>.809</b>	-.015	.016
	RQ40_6	<b>.484</b>	.063	.406
	RQ40_7	<b>.771</b>	.031	.104
Consensual	RQ42_1	.130	-.054	<b>.752</b>
	RQ42_2	-.070	.009	<b>.935</b>
	RQ42_3	.094	-.008	<b>.815</b>
Functional	RQ52	.026	<b>.811</b>	-.122
	RQ54	-.136	<b>.848</b>	.149
	RQ56	.091	<b>.783</b>	-.142
	RQ58	.027	<b>.824</b>	.088

Extraction Method: Principal Component Analysis.  
 Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

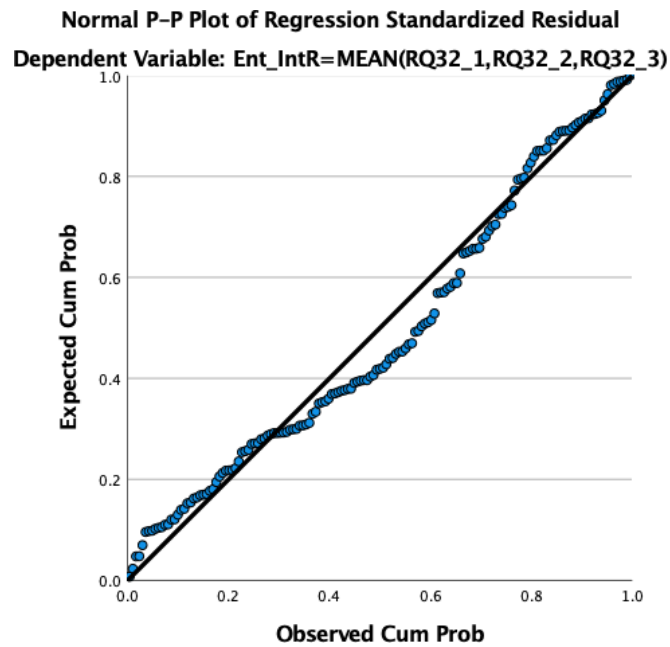
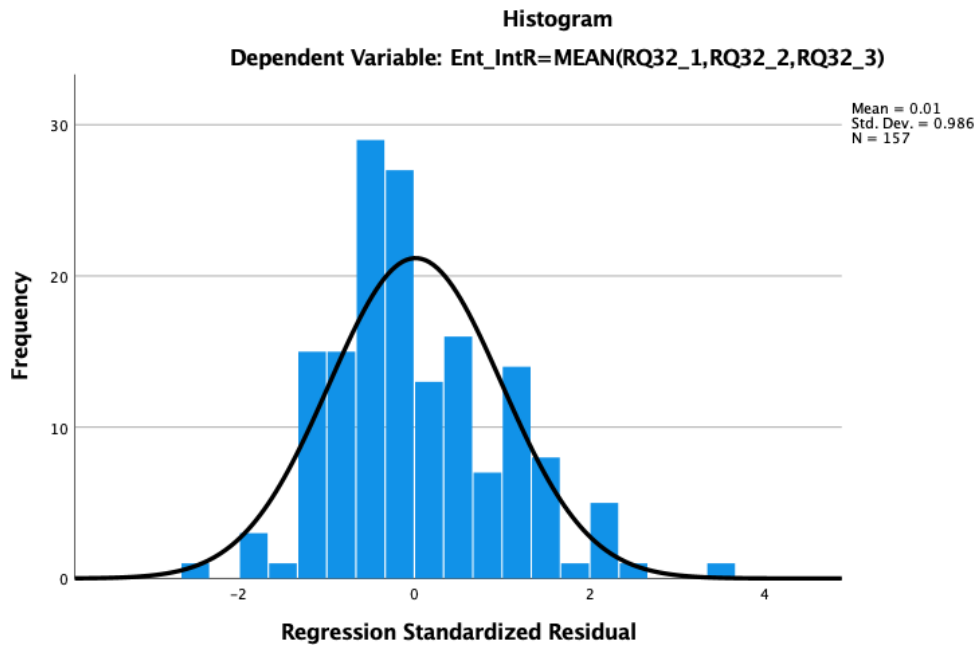
*Table of Correlations of independent variables*

	Affectual	Consensual	Functional	Subjective norms
Affectual		0.682*	0.130*	0.220*
Consensual			0.001	0.224*
Functional				-0.057
Subjective norms				
*p<0.01				

## Appendix B: Normality and linear regression graphs

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*Test for normality for the dependent variable, entrepreneurial intentions*



### Appendix C: Inductive codes and emerging themes

Open coding	Secondary themes	Emergent concepts
Stories about founding generation Current stories about the family Following in father's footsteps Lesson to pass on Parenting style Childhood memories about the firm Family childhood memories Importance of history Outside work experience Inside work experience Outside education Inside education	Family stories Business stories Importance of remembering history Importance of passing on history Personal experience	Imprints (firsthand/vicarious)
Role within the business New products New processes New services New markets	Innovations within existing products and processes New industry innovations	Entrepreneurial behavioural outcomes (adaptive/exaptative)
Love of music Love of the hunt for business opportunities Love of creating something Importance of money versus pride Pride in something you built	Love Pride	Passion
Providing for yourself Being given a choice Identity development Exploring career options	Independence	
Family pride Family culture Family roles Sibling rivalry Birth order Work-life balance Family bonding	Family interaction	Family relationships

## Appendix D: Entrepreneurial behavioural outcome

**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Q14_1	-.039	<b>.721</b>	-.176
Q14_2	.114	-.088	<b>.765</b>
Q14_3	<b>.927</b>	-.021	-.046
Q19_1	-.130	<b>.774</b>	.031
Q19_2	-.159	.272	<b>.735</b>
Q19_3	<b>.893</b>	-.261	.137
Q20_1	-.193	<b>.649</b>	-.182
Q20_2	-.384	-.164	<b>.553</b>
Q20_3	<b>.888</b>	-.251	-.038
Q21_1	-.093	<b>.855</b>	.169
Q21_2	.003	.259	<b>.771</b>
Q21_3	<b>.700</b>	-.272	-.142
Q22_1	-.202	<b>.650</b>	.228
Q22_2	-.070	-.199	<b>.631</b>
Q22_3	<b>.858</b>	-.025	-.175

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

## Appendix E: Family relationships dimensions

### Pattern Matrix<sup>a</sup>

	Component		
	1	2	3
Q18_1	<b>.880</b>	.021	-.017
Q18_2	<b>.919</b>	-.035	.003
Q18_3	<b>.949</b>	-.005	.048
Q18_4	<b>.816</b>	.055	-.153
Q18_5	<b>.947</b>	.022	.136
Q18_6	<b>.866</b>	-.002	-.077
Q18_7	<b>.932</b>	-.023	-.027
Q27_1	-.007	.031	<b>-.984</b>
Q27_2	.010	.011	<b>-.986</b>
Q27_3	.033	-.010	<b>-.982</b>
Q34	.017	<b>.859</b>	.084
Q35	-.022	<b>.833</b>	-.076
Q37	.021	<b>.904</b>	.047
Q38	-.011	<b>.842</b>	-.095

- Q18\_1 to Q18\_7: Affectual solidarity
- Q27\_1 to Q27\_3: Consensual solidarity
- Q34, Q35, Q37, Q38: Functional solidarity

Extraction Method: Principal Component Analysis.  
 Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

### Correlations

		Affect_index	Consensual_index	Functional_index
Affect_index	Pearson Correlation	1	.364**	.354**
	Sig. (2-tailed)		.001	.001
	N	79	79	79
Consensual_index	Pearson Correlation	.364**	1	.418**
	Sig. (2-tailed)	.001		.000
	N	79	79	79
Functional_index	Pearson Correlation	.354**	.418**	1
	Sig. (2-tailed)	.001	.000	
	N	79	79	79

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## Appendix F: Imprint description by entrepreneurial behavioural outcomes.

Adaptive							
	Why specific pictures were chosen	Detailed descriptions of memories	Age of memory	Have these memories affected your outlook	Person that influenced their career choices	Was the described person the main reason for your career choices	Imprint type
<b>Abby</b>	Can relate to my childhood	Hands remind me of my grandmother, dandelion something I would do	Under 12	n/a	High school teacher	no, salary & job security were	Firsthand and vicarious
<b>Adam</b>	Joy and Everything is possible definitely reminds me of my mother's characteristics	Being an overly positive person, the joy picture makes me think about her way of thinking. And the everything is possible picture reminds me of my mother's persistence to always believe in myself. Especially the day I had to leave home for the first time.	18	My mother has always been the person to send me positivity in any form. Having such a person close to you in your life is surely advantageous as it may help you mentally.	My father congratulating me on implementing new processes that more effective and more efficient for the company early on, knowing I could still do a lot more in the future.	Yes	Vicarious
<b>Adri</b>	Joy: Nous avons eu une enfance très joyeuse, sans histoire pourrais-je dire. L'entreprise familiale nous a donné les moyens de faire ce que nous voulions et faire une multitude de choses. Une famille qui s'entendait très bien.	Nos voyage familiaux presque tous les étés en famille.	Entre 7 et 12 ans	Oui, toujours être curieux, se renseigner, chercher. Toujours puiser dans la culture pour trouver des réponses à mes questions et adopter des points de vue différents.	Il y a deux ans, lorsque mes parents sont partis en voyage une semaine et m'ont laissé les rennes de l'entreprise et j'ai réaliser que le style de vie que cela procurait était très agréable.	Non, il y a aussi l'aspect financier. C'est l'entrepreneuriat offre une qualité de vie supérieur. De plus, je ne supporte pas l'idée de rendre des comptes à un patron. L'entrepreneuriat c'est la liberté et ça mes parents me l'on fait comprendre très tôt, vers 10-11 ans. Mes grands parents paternels et maternels étaient aussi des entrepreneur. Il doit y avoir un gêne.	Firsthand
<b>Aiden</b>	journey	lived abroad when i was 8	8	saw many different cultures.	no	no	Firsthand



<b>Alan</b>	Persistence et Journey	Lorsque ma mère était à la maison et elle s'occupait des trois enfants pendant que mon père travaillait 6 jours semaines pour s'assurer que nous ne manquions de rien	5 à 12 ans	Oui, cela m'a appris l'importance de toujours en donner plus et faire les efforts nécessaires pour le bien de l'entreprise familiale et du même coup notre propre famille.	Mon père qui à toujours travailler de longues heures pour que l'entreprise puisse survivre aux différentes crises économiques que nous avons eu au cours de l'existence de l'entreprise.	Non, mais c'est la raison pour laquelle j'ai une bonne éthique de travail à ce jour et que j'investi tout mes efforts pour la réussite de l'entreprise. C'est un modèle de détermination et persistence pour moi.	Vicarious
<b>Alex</b>	Difficult	Hardship	5	yes	Yes a friend introduced me to a new career path	maybe	Firsthand
<b>Austin</b>	I choose journey and learning. I travelled with my father and my mother was involved in education.	I remember travelling to Hudson's Bay by ship with my father when I was young. Journey of a lifetime.	I was 12.	Being on a ship showed the importance of teamwork and following rules.	I was in a plane crash at a young age. That experience led me to a career in aviation. Developed a fascination with airplanes.	Yes. Would drive by airport every weekend on way to summer cottage. Always new that one day I would end up working at the airport and I did.	Firsthand
<b>Ava</b>	Everything is possible : La petite fille qui souffle sur la fleur me rappelle moi quand j'étais petite, je fais la même chose. En soufflant j'imaginai mon monde où je voulais être et les rêves que j'avais	Je jouais beaucoup dans mon imagination, j'étais toujours dehors, dans le jardin et je créais mon propre monde. J'adorais ça et mes parents m'encourageaient beaucoup à rester dans mon monde aussi longtemps que possible car c'était un monde d'enfant et heureux. Se sont des bons souvenirs	Je devais avoir entre 7 et 10ans. C'est à ce moment que je jouais le plus dans le jardin toute seule ou avec ma meilleure amie	OUI ! Je pense qu'en ayant développer mon imagination pendant de nombreuses années, je pense que j'ai développé ma créativité. Aujourd'hui, cela m'aide beaucoup à être créative (en marketing par exemple) et pour la résolution de problème. Et comme quand je jouais, je pense que tout est possible dans la vie si on met notre "mind into it"	Ma participation au programme "Circuit-Sur la voie de la relève" de HEC Montréal. C'est un programme qui a pour objectif de donner les outils aux jeunes dans l'entreprise familiale. Ce programme m'a apporté tout ce dont j'avais besoin pour me décider à rejoindre !	Oui	Firsthand

Axel	My upbringing and life has been a journey that has required a lot of persistence. Much has been hard, nothing comes easily, and the struggle is real.	The picture of the hands reminds me of my grandfather with whom I spent a great deal of time and looked up to very much. Persistence, means I must fight for every inch in life.	Various ages throughout the years.	They have. Parents and grandparents influence had great impact on decisions.	Both of my parents and grandparents influenced my career decisions as I spent much time with them. Given I spent significant time with the older generation, I tend to have a more traditional outlook at times.	In part.	Vicarious
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Exaptative							
	Why specific pictures were chosen	Detailed descriptions of memories	Age of memory	Have these memories affected your outlook	Person that influenced their career choices	Was the described person the main reason for your career choices	Imprint type
<b>Eli</b>	I chose the learning one as it has memories of my journey	I am not entirely sure	I was around 10	they are	yes probably my moms influences	yes I would say so	Firsthand and vicarious
<b>Ella</b>	my childhood was fun	I rely a lot on my sibling	6	I am dependant	I look up to my sibling and she will decide for me	yes	Firsthand and vicarious
<b>Evan</b>	persistence and difficulty are two things that I pursue	difficulty with everyday life persistent to continue with my goals	in my twenties	yes, always try to make new goals in life and health	my father was my mentor	yes	Firsthand and vicarious
<b>Emma</b>	Learning - watching parents deal with the business. Persistence - parents were always talking and spent every waking moment dealing with the business	No thank you ;)	roughly 12 yrs old	n/a	n/a	n/a	Vicarious
<b>Enzo</b>	everything is possible because our parents told us to believe in what we do	when I wanted to join the family business I started to think that I might be able to run it as well as my dad did so he told me everything is possible and I should believe in myself	I was 22 at that time	Now I believe if I make up my mind everything is possible	My dad was the biggest influence over me and he always wanted me to run the business	Yes , because of my dad I got into the business	Vicarious
<b>Edwin</b>	I chose the difficulty picture, it reminds me that as a kid I was different from others because of my involvement in the family business.	I remember when the neighbour kids would ask me to come out and play after school, but I had to finish my homework first and help out in the business before I get a chance to play.	Around 7 or 8.	Yes. Our family was not that well off during my childhood. Helping in the family business and dedicating less time to childhood activities have definitely made me mature for my age compared to my peers. Being mature beyond my age	My mother wanted me to do a career that I will be happy in.	Yes	Firsthand

				has definitely impacted the way I make certain decisions.			
<b>Eve</b>	Joy because it reminds me of how free we were to have fun, and live carelessly as children without stress to perform at school or act a certain way. My parents raised us to be kids and enjoy	Summers spent with my family (including my extended family) at my grandmother's house all gathered around the table, having a genuine good time	7-10 years	Yes, because it put the emphasis on family in my life, as well as prioritize the well being of my family, and now my own children	I was working for a big corporate company, doing what I had studied to do, and woke up one morning miserable decided to quite and join the family business. 7 years later, I regret to not have done it before	Yes, my parents were the biggest factor.	Firsthand
<b>Emily</b>	I chose difficult and learning, because I feel like my childhood was filled with difficult conversations that I was too young to understand and had to work hard to understand.	Dinner table conversation discussing product sales and margins. Having Sunday dinner always came down to what what happening in the family stores and what one was doing well that another wasn't. These conversations often discussed specific employees.	For as long as I could remember. This is still happening.	These lessons have helped me sit back and listen to information, process it for myself, question it, and be critical about what is being said. I feel like they have taught me to make my own decisions, not to be scared to voice these decision, and to stand by and defend my decisions.	After seeing the divide that the family business could sometimes bring to my family, I knew that I wouldn't want my future to be affected by business decisions. I chose to pursue a career in a completely other field that I love and keep my involvement in my family's business to a level that would not impact my relationship with any of my family members.	Yes. That and a passion for my field of study.	Vicarious
<b>Emir</b>							
<b>Ean</b>	mon grand père était l'ancien dirigeant et s'occupe de nous .	souvenirs joyeux qui ont contribué à me construire.	6 à 10 ans	oui. en gardant les valeurs de mes grands parents. en revenant vivre dans le village où ils ont vécu.	mon grand père maternel, rien à voir avec l'entreprise. Mon père, qui est un modèle pour moi.	oui	Vicarious
<b>Eva</b>	J'ai choisi «learning», car j'ai appris énormément au côté de mon père au fil des années. J'ai choisi «difficulty», car j'ai été témoin d'évènements	Learning: Je me rappelle dès mon plus jeune âge mon père m'apportait dans l'entreprise familiale. Il était passionné et me montrait tout plein de choses. Au fil des	5 ans	Oui, je remarque avoir des valeurs similaires à mon père qui découle de l'entreprise familiale. Aussi, la façon de travailler et toujours	L'épuisement de mon père au fil des dernières années, m'a poussé à rentrer dans l'entreprise suite à sa demande de venir l'aider et a donc orienté mon choix	Oui, mon père et l'entreprise familiale sont basé sur mon principal choix de carrière.	Vicarious

	très difficiles survenus au fil des années dans l'entreprise familiale.	années, il a été mon mentor dans toutes sortes de décisions. Difficulty: Je me souviens dès mon jeune âge, je ne voyais pas beaucoup pour père il partait très tôt le matin et revenait très tard le soir, je pouvais passer plusieurs jours sans le voir et je trouvais ça difficile. J'ai aussi été témoin d'évènements difficiles au sein de l'entreprise qui ont avaient un impact sur mon père à la maison. Stress et frustration étaient souvent au rendez-vous dans les années économiques difficiles et lors d'évènements marquants comme le décès du président de l'entreprise (son frère) à l'époque.		vouloir donner le meilleur service possible au client découle de mon père.	d'études.		
<b>Elle</b>	Persistence: lorsqu'on travaille fort et que nous continuons même lorsque c'est plus difficile, on a beaucoup plus de chance de réussir.  Everything is possible: quand on se fait un plan et qu'on le suit, l'atteinte de nos objectifs est possible.	Mes parents ont toujours travaillé très fort durant leur carrière (entreprise familiale). Ils ne comptaient pas leurs heures, ils ont délaissé certaines activités ou du temps avec leurs enfants pour consacrer leur énergie à leurs objectifs d'affaires. Ils nous ont montré à mon frère et à moi, à rester positif même lorsque ça ne se passe pas comme prévu et redoubler d'efforts pour réussir (école, sports, travail, etc).	10-12 ans	Je crois seulement que se sont les valeurs que mes parents m'ont inculquer et c'est ce qui fait que je m'en souviens.	Mes parents m'ont certainement influencer, car ils m'ont transmis leur passion pour notre domaine d'activité auquel j'ai étudiée pour ensuite me joindre à l'entreprise.	oui	Vicarious

Maladaptive							
	Why specific pictures were chosen	Detailed descriptions of memories	Age of memory	Have these memories affected your outlook	Person that influenced their career choices	Was the described person the main reason for your career choices	Imprint type
<b>Mia</b>	joy	innocence	9-12	no	clients at family business	yes	Vicarious
<b>Milo</b>	We are a hard working family who don't give up easily	My father's hands and how hard he worked. The visit our family had to white sands desert.	12, 40s	Probably reflect the value we give to hard work and persistence as being keys to success	I read a book about geology that made it seem interesting. Then while working as a labourer I met a real live mining engineer and heard his stories.	Yes	Vicarious
<b>Max</b>	Persistence and learning	no matter what event happened including fathers death we persisted in the difficult job of farming  learning because when you take over a farm at age 17 you learn new stuff every day	Persistence my whole life Leaning age 17	Yes I don't suffer fools or people that give up and blame society for there ills	My uncle was a steady influence	No the whole family was	Firsthand
<b>Mila</b>	good life	we had a good times my parents work hard though	??	maybe i am more freer	my schools	would like to try more	Firsthand
<b>Maya</b>	they appealed to me at first glance, with some feeling stronger about than others	the time that it took for me to eventually be old enough to take control of my own life.	7 or 8	appreciation of the world and understanding of how things work were the biggest areas of impacts. Most people learn things the hard way.	the financial situations of a family business is always up and down, you quickly learn as a child the importance of income but also the need to be emotionally independent from any surprising changes. So, always select the career that gives you a hard set of skills, then you will have the confidence to earn the best level of salary.	yes	Vicarious
<b>Mary</b>	joy and everything is possible because my parents always made sure that we were happy and they always proved us that anything was possible with belief and	i dont have a particular memory but everyday both my parents always did everything they could to make us happy, whether is by spending quality time, buying things that made us happy, doing a special activity etc. I think my and my brother'S happiness is their number 1 goal in life so much as they always priotized us over themselves. Regarding the everything is possible, my parents are religious and so are we	eversince i was born	100% im certainly more hard working and positive than i could have been without my parents.	My brother studied in finance and i decided to follow his lead since I always saw him as an example and I really did not know what i want to do. I always liked the business environment but not necessarily being an entrepreneur, so i still followed his path and ended up disliking finance and switching into accounting since i liked my general accounting classes. I also know I dont want to be an entrepreneur having witness my mother and	yes	Vicarious

	hardwork	and the picture reminds me of church. we used to go to church with my mother every sunday and she really believed that everything was possible if we prayed for it and also if we would work hard for it. ex: getting to the uni we want, doing what we want, getting the job we want, etc...			brother's lifestyles. It is not what interests me.		
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## **Appendix G: Questions about family dinners and family vacations**

### Questions about family dinners

1. My family discussed the family business at the dinner table (Likert scale: Always-Never)
2. How true are the following statements: During discussions about the family business at the dinner table... (Likert scale: Definitely true - Definitely false)
  - a) I felt that my opinions were always respected.
  - b) I felt I had to agree with what was being said, even if I did not want to agree.
  - c) I always felt included in the conversation.
  - d) I always felt they were hiding certain parts of the business from me.
  - e) I felt that the tone of the conversation depended on the kind of day my parents had. For example, I was encouraged to participate if they had a good day and discouraged from participation if they had a bad day. I never really knew what kind of day it was going to be. (5)

### Questions about family vacations

The following questions asks about your family vacations. Please indicate how true the following statement is for your family:

1. My family took vacations together as a family at least once per year (Likert scale: Always – Never).
2. How true are the following statements about your family's vacations: My family vacations were... (Likert scale: Definitely true - Definitely false)
  - a) fun times spent bonding with one another.
  - b) always determined by my parents with no input from me or my siblings.
  - c) times where each member of the family could do their own thing if they wanted.
  - d) very inconsistent. Each day depended on my parents mood of the day. Some days were fun and other days were not.
  - e) exercises in martial law. My parents always wanted to know where we were going and what we were doing.
  - f) not really vacations. We changed the scenery, but it was always about the family business.



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