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Which mechanisms are used by teenagers to create functioning ventures despite their presumed lack of experience and resources?

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Abstract

There is a rising phenomenon of teenagers starting ventures, some starting as early as ten years old. These entrepreneurial profiles seemingly lack experience and resources but still manage to create viable businesses, which shake the well-established assumptions about entrepreneurs. Despite this, teenagers are distanced from current research. This thesis aims to unpack the mechanisms that allow teenage entrepreneurs to create functioning ventures. The study uses an abductive approach, gathering empirical data through semi-structured interviews with six participants who all ran viable businesses between age 10 and 19.

- 1) Our findings indicate that teenagers enculturate their nuclear family's entrepreneurial knowledge and experiences.
- 2) We discovered that teenagers benefit from having more freedom in their actions due to their status.
- 3) We found that teenage entrepreneurs can overcome their resource reliance by being agile.

Prior research has focused chiefly on the precursors to teenage entrepreneurship and entrepreneurial intent during adolescence. As we explore the hidden mechanisms of teenage entrepreneurship, our studies contribute to the research field of study by discovering teenage entrepreneurs' actions followed by their entrepreneurial intent. In addition, we give a perspective on how teenagers' entrepreneurial actions differ in comparison to adults.

Keywords: *Teenage entrepreneurship, adolescence, entrepreneurial, opportunity, cognition, mechanisms, behaviors, individuals, venture creation*

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Table of content

1. Prologue	5
2. Introduction	6
3. Theoretical framework	9
3.1. Pathways to teenage entrepreneurship: a biopsychosocial development	9
3.1.1 Biological factors	9
3.1.2 Psychosocial factors	9
3.1.3 Entrepreneurial Intention, Entrepreneurial Mindset and Entrepreneurial Alertness	10
3.1.4 Individual factors	12
3.2 Transition from entrepreneurial predictors to entrepreneurial action	13
3.2.1 Opportunity recognition	14
3.2.2 Cognition and behaviours	14
3.3 Concluding remarks	16
4. Methodology	17
4.1 Research Design	17
4.2 Case selections	19
4.3 Data collection	20
4.4 Data coding and analysis	21
4.5 Limitations	24
4.5.1 Risk of biases	24
4.5.2 Challenges with data collection	25
4.6 Ethical considerations	26
5. Findings and Analysis	26
5.1 Latent learning through participant-observation in their nuclear environment	27
5.2 Being a teenager; using a status granting more freedom and less stigma	28
5.3 Overcoming their high reliance on resources by being agile	31
6. Discussion & Conclusions	33
6.1 Aim of the study and research findings	33
6.2 Implications for academia	37
6.3 Recommendations for future research	38
6.3.1 Why are teenagers underestimated; time for a paradigm shift?	38
6.3.2 Is Internet entrepreneurship a new reality?	39
6.3.3 Is gender in teenage entrepreneurship a factor to consider?	39
6.3.4 New disciplines and New levels of analysis	39
7. References	41
8. Appendices	49
8.1 Appendix A - Interview topics	49
8.2 Appendix B - Letter of consent	50

1. Prologue

Scholars might argue that it is necessary to wait while pursuing a venture until you are old enough and have the right amount of knowledge, experience and resources. While this might be true for some, this was not the case for Boyan Slat. When Boyan was 16 years old, he took a diving trip to Greece; he was surprised that there were more plastic bags in the water than fish. He wondered, “Why don’t we just clean it up?”. That was the catalyst that would make him be a part of making the world a better place by taking a step toward action and change. With merely 300 euros of savings as start capital, Boyan decided to quit his studies and founded The Ocean Cleanup, a non-profit organization. The idea was to create a system that extracts the floating plastic from the ocean before breaking it down into dangerous microplastics. Boyan Slat raised USD 90,000 through crowdfunding by using social media as leverage. Now, this award-winning organization has more than 120 engineers on board and is on its way to fulfilling a global environmental mission (The Ocean Cleanup, 2022).

However, Boyan is not the only one; Nina, Janice, Max, Frank, Lisen, and Anna all started a business under the age of 20 and still managed to navigate the entrepreneurial world, whether it began as a passion or as an extension of a creative mind. So how can teenagers have entrepreneurial stories to tell when they are seemingly unfit for engaging in entrepreneurship, i.e., lacking knowledge, experience and resources?

2. Introduction

It is often assumed that, to start a venture, one needs a certain amount of knowledge, prior experience and resources (Oosterbeek., van Praag & Ijsselstein, 2010; Amit, Muller & Cockburn, 1995; Davidsson, 2006). However, up to now, literature in entrepreneurship has mainly focused on studying entrepreneurs who typically fit those criteria, consequently on adults, who most of the time have acquired sufficient resources, knowledge and experiences (Krueger & Brazeal, 1994; Shane, 2000; Baron, 2006). Therefore, there is a recurring limitation in the sample studied, as well as a restriction in the predominant topics of the literature promoting those assumptions that focus, for example, on opportunity recognition (Gabrielsson & Politis, 2012; Shane, 2000; Ward, 2004; Baron, 2006) learning from failure (Politis, 2005), and decision-making (Sarasvathy, 2001).

However, we could observe that those expectations regarding entrepreneur requirements might be disputed as there is a rising phenomenon of teenagers starting ventures as young as ten years old. Those profiles that seemingly lack knowledge, experience and resources still managed to create viable businesses which shake these well-established assumptions. Despite this observation, teenagers have been distanced from research, and there is currently an existent data gap. Only a limited amount of research has been conducted on teenage entrepreneurs as individuals. Nonetheless, the data collection is not sufficient yet to understand this phenomenon since the current literature does not seem to be including them explicitly. There is also a lack of extensive studies. The topics developed so far are limited to: influence from peers, characteristics and traits (Jhaveri & McGrane-Cherry, 2017; Obschonka, 2016), entrepreneurial intention (Patuelli, Santarelli & Tubadji, 2020), and limitations teens can face. The methods used were primarily quantitative (Obschonka, 2016; Jhaveri & McGrane-Cherry, 2017; Patuelli, Santarelli & Tubadji, 2020; Ciloci, 2020; Santarelli & Tubadji, 2020) and there is a need for more qualitative studies to theorize this phenomenon. The authors who wrote about teenage entrepreneurs themselves pointed out the deficiency of data in the field. Geldhof, Weiner, Agans,

Mueller & Lerner (2014, p. 89), for instance, state in their study that "Our findings represent only the tip of what may be a significantly larger iceberg".

Further, Geldhof et al. (2014) explain that "The field currently lacks a thorough understanding of the development of entrepreneurship, especially during late adolescence and early adulthood ". Besides a few biographies of young entrepreneurs and some studies of young entrepreneurs' business profiles (Hartmann & Swartz, 2006; Casnocha, 2007; Hulsink & Koek, 2014), little is known about this kind of entrepreneur. Notably, there is a lack of data on what explains why and how some teens are teenage entrepreneurs regarding enabling conditions and factors. We found that only one study touched upon the behavioural attributes of teenagers (Dinis, do Paco, Ferreira, Raposo, & Rodrigues, 2013). However, we believe that this study is limited as Dinis et al. (2013) collected their data through a quantitative questionnaire. Most of the research done on teenagers has established a correlation between having a direct entrepreneurial influence such as a parent or peers (Geldhof et al., 2014; Patuelli, Santarelli & Tubadji, 2020) and the entrepreneurial intention, that is to say, one's desire to potentially engage in entrepreneurial activities (Dinis et al., 2013). Nonetheless, we could hardly find any research that studies the later stages of entrepreneurial activities, and the kind of action they took.

In this thesis, we will focus on teenagers. They are sometimes mentioned as the youth, adolescents, late adolescents, early adulthood or teenagers. Definitions broadly vary whether they are taken from a juridical, cultural, physical or psychosocial standpoint. In this thesis, we will refer to "teenagers" and "teens" and adopt a definition of the concept considering biological growth and societal role transition. According to Arain, Haque, Johal, Mathur, Nel, Rais, Sandhu, & Sharma (2013), "Adolescence is the developmental epoch during which children become adults – intellectually, physically, hormonally, and socially". Thus "teenagers" will evoke individuals aged between 10 and 24 years old, according to Sawyer, Azzopardi, Wickremarathne & Patton (2018). This age frame is justified by precocious puberty and the complete development of the frontal cortex at age 25 (Arain et al., 2013) and delayed timing of role transitions in entering adulthood, which now tends to happen later in life due to, for example, more comprehensive education. We wanted to dig deeper into the stories of teenage entrepreneurs with an open mind to understand if their entrepreneurial mechanisms are any different from adults. Therefore, we conducted an empirically driven qualitative and abductive

study on teenage entrepreneurs. We interviewed six individuals who all started a venture between the ages of 10 and 19 and investigated their behaviours to which they managed to overcome the lack of knowledge and experiences.

Our research highlights a few environmental precursors that influenced teenagers' behaviours. As a result, we gained more insight into the critical aspects of their entrepreneurial processes and journey, looking into the factors that allowed them to successfully pursue a venture, despite the current literature's presumption. Furthermore, some of our findings reinforce theoretical aspects of contemporary entrepreneurial literature, enabling us to build upon it and transfer it to teenagers. At the same time, we witnessed some mechanism that seems to be unique to teenagers and enables them to create a viable venture. Therefore, in this study, our research was driven by the following question:

Which mechanisms are used by teenagers to create functioning ventures despite their presumed lack of experience and resources?

In the following sections, we will discuss and review the current literature related to our research question, followed by the methodology we used to gather the data, the findings we obtained and a discussion section, where we analyze our data in perspective and relation to the literature. Finally, we will summarize our discussion in a conclusion section, including limitations and future research.

3. Theoretical framework

This chapter presents a review of the current literature about teenage entrepreneurship that is relevant to our research question.

3.1. Pathways to teenage entrepreneurship: a biopsychosocial development

3.1.1 Biological factors

Before analysing the phenomenon of teenage entrepreneurship in itself, researchers have been trying to figure out why it happens in the first place. Researchers chose the biological path in several studies to link the likeliness of becoming an entrepreneur when having an entrepreneur parent. Those studies were quantitative and permitted to establish a positive link between the two, suggesting that entrepreneurship can have an epigenetic origin (Obschonka, 2016). Lindquist, Sol & Van Praag (2015) support this by stating that having an entrepreneur parent implies that their biological child has an increased probability of becoming an entrepreneur by 60%. Therefore in our research, we can explore those pre-birth factors among our participants to see if they might have benefited from an intergenerational advantage.

3.1.2 Psychosocial factors

The social environment of teenagers makes an impact. Hulsink & Koek (2014) found that a common trigger for starting a company at a younger age was social capital, which the young entrepreneurs often received from their parents. In another study by Patuelli, Santarelli & Tubadji (2020) on Palermo high-school students aged 15 and 16, they found a solid primary and secondary peer effect on high-school students and their entrepreneurial intention. Getting influenced by an entrepreneurial parent relates to vertical transmission, and getting influenced by entrepreneurial peers is known as horizontal transmission (Patuelli, Santarelli, & Tubadji, 2020). However, authors like Geldhof et al. (2014) suggest that having an entrepreneurial parent is only one path toward entrepreneurship. It is not solely what motivates a young person to become an

entrepreneur. Instead, they suggest that other factors, such as self-regulation, might be of greater importance in measuring entrepreneurial orientation and intent (Geldhof et al., 2014; Damon, 2008).

3.1.3 Entrepreneurial Intention, Entrepreneurial Mindset and Entrepreneurial Alertness

A study conducted by Schmitt-Rodermund & Vondracek (2002) aimed to discover the factors that influence Entrepreneurial Orientation in adolescence. The findings were that high conscientiousness, openness to new experiences, and low agreeableness was influential. Besides that, "Willingness to Expend Effort, i.e. the willingness to learn new things, be curious, and work hard to achieve one's goals", would be equally important. Furthermore, Schmitt-Rodermund & Vondracek (2002) found that this willingness was influenced by the need for social recognition and an entrepreneurial family member.

The relationship with parents is the most influential factor in entrepreneurial intent, while the effect of peers is only secondary. Geldhof et al. (2014) conclude that self-regulation, innovation-orientation and proximity with entrepreneur role models in childhood can help predict one's entrepreneurial intent. According to Bird (1988), *Entrepreneurial intentions* are defined as the conscious state of mind that directs personal attention, experience, and behaviour toward planned entrepreneurial behaviour. Accordingly, entrepreneurial intentions are the strongest proximal predictor of entrepreneurial activity (Schmitt-Rodermund, 2004). Furthermore, Schoon & Duckworth (2012) established that entrepreneurial intentions predict entrepreneurial activities as an adult. In contemporary research, entrepreneurial intention is a trendy topic and is mainly linked with vocational development (Hirschi & Fischer, 2013; Obschonka, Silbereisen & Schmitt-Rodermund, 2010; Schoon & Duckworth, 2012).

In addition to the entrepreneurial intent, the entrepreneurial mindset has been studied. According to Obschonka (2016), three main factors contribute to developing an entrepreneurial mindset. Firstly, a supportive entrepreneurial environment with available entrepreneurial models, an authoritative parenting style, and peer interactions help to develop "a sense of identity, status, competence, and self-efficacy." Therefore, an entrepreneurial mindset is seen as an early

adaptation because it results from agentic interactions with supportive environments, according to McClelland (1961) and is considered a precursor to an entrepreneurial mindset in adulthood. This claim is supported by Oschonka (2016), who states that the entrepreneurial mindset in adulthood is a developmental outcome that is a consequence of ongoing and lifelong interactions between these levels of development. This being said, for Oschonka (2016), development involves the formation of identity, including the development of an entrepreneurial self-concept that emerges from biological and ecological contexts.

In addition to those concepts, entrepreneurial alertness became a crucial topic in entrepreneurship research (Baron, 2006; Gaglio & Katz, 2001; Tang, Kacmar, & Busenitz, 2012). Kirzner (1979) defined *entrepreneurial alertness* as a process and a perspective granting an individual the ability to perceive new opportunities overlooked by others. Sharma (2019) states that the focus on entrepreneurial alertness in literature explains other concepts such as opportunity recognition and helps researchers understand how opportunities are recognized and pursued in a venture (Tang, Kacmar & Busenitz, 2012). For example, the study of entrepreneurial alertness has permitted researchers to establish that entrepreneurs "use different cognitive mechanisms at different moments to recognize if an opportunity is worthwhile" (Tang, Kacmar & Busenitz, 2012, p. 28). Early entrepreneurial competencies are a set of behaviours or propensities that are indicators of future self-employment and entrepreneurial orientation. Oschonka (2016, p. 2) defines those competencies as "inventing (e.g., designing or creating something during leisure time), leading (e.g., captaining sports clubs or serving as class spokesperson), and engaging in commerce (e.g., trading things with friends). These early competencies predict entrepreneurial intentions and behaviour in adulthood and different aspects of the entrepreneurial mindset, such as entrepreneurial attitudes and self-efficacy beliefs". The study of the role of age-appropriate early entrepreneurial competencies can help establish links between personality and entrepreneurial abilities. Other researchers argue that early competencies such as creativity, leadership, self-esteem, and proactivity and motivation reflect the kinds of early entrepreneurial competencies that are developmental precursors of entrepreneurial activity in adulthood (Oschonka, Silbereisen & Schmitt-Rodermund, 2010; Oschonka, Silbereisen, Schmitt-Rodermund, & Stuetzer, 2011; Schmitt-Rodermund, 2004; Schmitt-Rodermund, 2007). According to Oschonka, Silbereisen & Schmitt-Rodermund (2011), early entrepreneurial competencies can be linked to the presence of entrepreneurial role

models in the teenager's life and an authoritative parenting style from those role models. Obschonka, Silbereisen & Schmitt-Rodermund (2010) also relates that teens who showed entrepreneurial competencies in leadership, inventions, and commercial activities around 15 also had higher entrepreneurial skills later in their lives. Schmitt-Rodermund (2004) argues that the study of entrepreneurial personality profiles can predict age-appropriate early entrepreneurial competencies in adolescence and therefore signal possible future entrepreneurial careers, and therefore is relevant for explaining the phenomenon of teenage entrepreneurship (Schmitt-Rodermund, 2007).

3.1.4 Individual factors

According to some authors, entrepreneurship is predictable with social abilities in adolescence. For Aldrich & Zimmer (1986), entrepreneurship requires social competencies because entrepreneurship is, to them, a "social process". Obschonka, Duckworth, Silbereisen, & Schoon (2012) found that social competencies such as social skills or peer acceptance in childhood can predict entrepreneurial status at age 34, even after checking for family context and personality traits. To Obschonka et al. (2012, p145)," This suggests that the relationship between social competencies and entrepreneurship cannot be fully explained by underlying dispositions (personality) or by familial circumstances, but may represent an independent and meaningful long-term effect of early social competencies". The quality of social skills during childhood and teenagehood can predict one's entrepreneurial success in adult life. (Obschonka, 2016) Therefore, social competence can be a relevant factor in our interviews.

According to Schmitt-Rodermund's (2007) entrepreneurship studies, adolescents' early entrepreneurial competence also manifests in their entrepreneurial personality profile. Early entrepreneurial precursors are considered characteristic adaptations of an individual and an expression of biological factors (Oschonka, 2016). Therefore, studying one's personality can suggest whether they have an entrepreneurial profile that can be measured.

For example, the measurements can be conducted through a BIG 5 trait approach which includes measuring: extraversion, conscientiousness, agreeableness, openness to experience, and neuroticism. According to Rauch & Frese (2007), these are all relevant traits for entrepreneurship. Furthermore, according to Obschonka et al. (2017, p. 487-501), personality

factors related to the Big 5 model have proven to be a "robust and consistent predictor of entrepreneurial outcomes, competencies, motivation, self-identity, and passion in a variety of studies and samples. Prior research suggests that personality is an important predictor of entrepreneurial intentions (Crant, 1996). These suggestions are consistent with general theories on career choice, such as Holland's RIASEC (De Fruyt & Mervielde, 1997) vocational personality model (Schmitt-Rodermund, 2004), with the assumptions that: "the choice of a vocation is an expression of personality" (Obschonka, Silbereisen, & Schmitt-Rodermund, 2010, p7). For a long time, entrepreneurship has opted for trait-based approach research. This approach is justified by the claims that personality traits play a role in explaining a person's entrepreneurial success (Rauch & Frese, 2007). An example of these traits could be the need for achievement and risk-taking (Obschonka, Silbereisen & Schmitt-Rodermund, 2011) or proactivity (Uy, Chan, Sam, Ho, & Chernyshenko, 2015).

The entrepreneurial identity is more or less stable. It can be a compound of stable factors such as biological ones and tangible developmental factors subject to plasticities such as personality, competence growth, mindset and self-concept. An example of how one can evolve within their identity is active self-selection and co-creation of relevant learning environments (e.g., specific college courses, circles of friends, occupational specializations) (Obschonka, 2016). Consequently, education within entrepreneurship (formal or informal) and surrounding oneself with a relevant network contribute to developing one's entrepreneurial identity and abilities (Obschonka, 2016).

3.2 Transition from entrepreneurial predictors to entrepreneurial action

The previous section explained the pathways to teenage entrepreneurship, presenting prior studies on how different factors influence entrepreneurial intent. Nonetheless, to be classified as an entrepreneur, there is more expected than having the intention to pursue a venture. Hence, the entrepreneur must take the initiative and follow the entrepreneurial predicted intent by actions. The following section will review the current literature on how entrepreneurs can successfully recognize and pursue entrepreneurial ventures.

3.2.1 Opportunity recognition

Different kinds of mechanisms trigger entrepreneurial action. One of those behaviours is called opportunity recognition, with theories on how someone finds the opportunity to exploit. Shane (2000) emphasizes the importance of prior experiences achieved from education and work when connecting a solution to a particular problem. Gabrielsson & Politis (2012) mention that experiences in different business functions positively affect idea generation, but being too much of a specialist in one business function might have a negative impact. Ward (2004) similarly argues that creativity links existing knowledge but that novel idea does not necessarily come from prior knowledge. Ward (2004) describes that some ideas are generated through something called conceptual combination, meaning that the entrepreneur merges two separate concepts or images and is merged into one idea. Ward (2004) also describes analogy reasoning, which means ideas are generated by mapping ideas from the entrepreneur from a familiar domain into another. As most people have a creative flair, Spinelli & Adams (2016) argues that creativity peaks during childhood because life tends to become increasingly structured and defined by institutions the older you get. However, some entrepreneurs happen to find their opportunities somewhat naturally. Shah & Tripsas (2007) labels this as user entrepreneurship. The process of user entrepreneurship begins with a user who has an unmet need, the user initially experiments and creates a novel solution to satisfy their own need. However, after getting approval from the community and the public, the user recognizes a potential opportunity, forming a firm and entering the commercial market. Milanese (2018) accounts for how opportunity recognition derives from passion and hobbies in a hobby-related entrepreneurial process model. The entrepreneur practices a domain passion using their accumulated knowledge and skills for creating a commercial prototype, takes feedback from the community, and thus spotting an opportunity to exploit.

3.2.2 Cognition and behaviours

Entrepreneurial characteristics have already been studied in individuals multiple times. For example, entrepreneurial traits and cognitive theories, the importance of personality traits, behaviours like risk-taking, need for control and achievement are highlighted (Obschonka et al., 2012; Neneh, 2019; Perez-Lopez et al., 2019). However, even individuals with similar

demographic characteristics have significant differences in their entrepreneurial behaviours (Obschonka et al., 2012; Amarakoon, Weerawardena, Verreyne & Teicher, 2019). Therefore, the current studies focus on entrepreneurs' behavioural intentions linked to their individual cognition. Currently, self-regulation theories and planned behaviour theories are used. As a result, Zhao & Xie (2020) decided to investigate how emotion and reason influence decision-making while focusing on cognitive bias, which previous studies have not addressed. Cognitive bias is generally considered a negative factor (Krans, Bosmans, Salemink & De Readt, 2019). However, some expressions of it, such as optimism and overconfidence, can positively impact business owners, such as quick, minimalist decision-making (Onie, Gong, Manwaring, Grageda, Webb, Yuen & Most, 2019). For Kinari (2016), optimism and overconfidence are linked to a cognitive bias within entrepreneurship. Optimism can be defined as underestimating the difficulty of a task (Heger & Papageorge, 2018), and overconfidence by overestimating one's chance to succeed in their endeavours (Chaudhary, 2018). We believe that, for our research, this cognitive bias of overconfidence and optimism can be applied to the youth since adolescence is a core developmental process where one is in between the naivete and credibility of childhood and the awareness and realizations coming along with the adult self. Furthermore, Zhao & Xie (2020) specify that a notable difference is to be made between college students and actual business owners because their psychological characteristics are proven to differ. Therefore, different conclusions can be made according to where the sample is at in their entrepreneurial journey.

Pejic, Aleksic & Mer kac-Skok (2018) explore determinants of entrepreneurial intentions in the theory of planned behaviour and the individual innovative cognitive style. Focusing on the individual, they could study the influence of three innovation-related cognitive factors separately: personal attitude on entrepreneurship, subjective norms, and perceived behavioural control. The authors found a correlation between those factors and entrepreneurial determination, suggesting that entrepreneurs have remarkable antecedents and cognitive propensities before starting a business. Those factors could be present from a young age already and at a variable intensity in individuals. Adomako, Danso, Uddin & Damoah (2016) argue that cognition is a crucial factor to consider when explaining the entrepreneurial behaviour leading to action and success; "the relationship between entrepreneurs' optimism and entrepreneurial persistence is enhanced at higher levels of cognitive planning and creating styles. Interestingly, the cognitive knowing style negatively moderates the relationship between optimism and entrepreneurial

persistence." However, it supposes some cognitive aspects are innate or pre-constructed in the brain. Like Design Thinking, Design Cognition is an educational tool that can be taught to learn and improve one's opportunity recognition and opportunity creation abilities (Garbuio, Dong, Lin, Tschang & Lovallo, 2018). Some thought processes gained through education relevant to entrepreneurship can be; explanatory abduction, innovative abduction and analogical reasoning. (Garbuio et al., 2018) Therefore, we imagine that any age group exposed to those theories can gain this entrepreneurial knowledge.

The entrepreneur's behaviour also plays a vital role in pursuing a venture sparked by an idea. Overconfidence can, for example, lead individuals to underestimate the risk of an opportunity and, therefore, might be more prone to implement an innovative idea (Bernardo & Welch, 2001, p.302). The entrepreneur might then instead focus their attention on the high potential gains of the venture rather than the related risks of failure. Hence, the entrepreneur might genuinely believe that they will succeed with their idea and proceed with it (Hirshleifer, Low & Teoh, 2012) since overconfidence might result from passion. Chang (2002) explains the positive effect of passion by explaining that it helps us work harder and with a more significant effect without noticing the effort. Hence, passion makes us more persistent. An entrepreneur's persistence is essential when founding a business, as there are numerous difficulties and numerous obstacles (Wu & Dagher, 2007). "Entrepreneurs who are tenacious in pursuing their goals have a greater chance of success" (Spinelli & Adams, 2016).

3.3 Concluding remarks

We have presented the precursors of teenage entrepreneurship through biological, psychosocial and individual factors. Furthermore, through current literature, we have understood teenage entrepreneurs' premature entrepreneurial intentions and traits that can predetermine whether they will pursue a venture successfully or not. Nonetheless, the current literature gives us an engrossing view of how social environment and vertical transmission affect entrepreneurial behaviour through quantitative studies (Schmitt-Rodermund & Vondracek, 2002; Schmitt-Rodermund, 2004; Rauch & Frese, 2007; Obschonka, Silbereisen & Schmitt-Rodermund, 2011; Schoon & Duckworth, 2012; Hirschi & Fischer, 2013; Lindquist, Sol & Van Praag, 2015; Obschonka, 2016; Santarelli & Tubadji, 2020; Patuelli, Santarelli, & Tubadji, 2020). However, prior literature on teenage entrepreneurship did not suggest the actions

to which teenagers managed to create a functioning business, recognize opportunities and how they manage to overcome the challenges of entrepreneurship, despite their presumed lack of knowledge and experience. Hence, we dived into the current literature on entrepreneurial action, mainly based on adults, in these theoretical areas, which we believe are appropriate, to understand whether these theories apply to the teenage entrepreneurship phenomenon. The following chapter will explain our qualitative methodology of choice to discover the teenage entrepreneurship phenomenon with our theoretical framework.

4. Methodology

This chapter describes our motive for choosing a qualitative approach. In this research, we explore the phenomenon of teenage entrepreneurship through critical realism. We assume that some current knowledge about entrepreneurship, primarily based on adults, can be transferred to a younger segment of the population (Gioia, Corley & Hamilton, 2013). Therefore, a part of our research might be supported by current findings present in the existing literature regarding overcoming obstacles when founding a new venture, such as recognising an opportunity and developing it in the form of a venture, despite lacking experience and compared to experienced adults. In the following sections, we will discuss our Research Design, Case Selection and Data Collection, Data Coding and Analysis. Lastly, we will clarify the Methodological Limitations and the Ethical Considerations relevant to our research.

4.1 Research Design

To do so, we will use the "case study approach" as a mode of inquiry, "case studies" as a methodology for generating data for analysing, and "cases" as a unit of inquiry based on the interviews with selected individuals based on their individual entrepreneurial stories during teenagehood (Yin, 2018). The data set will be based on multiple-case studies, meaning we will depend on a pre-selected sample of 6 informants whom all founded a venture before they were 19 years old. Collecting data from multiple individuals allows us to increase the possibility of reliability and confirmability of our findings. This procedure will help us contribute to a theory-building process that relies on the existing literature while generating new data through

interviews from multiple-case research (Eisenhardt, 1989). Additionally, a multiple-case study allows for comparison across individual levels of analysis around the teenage entrepreneurship phenomenon. A multiple case study is also appropriate for our research as it provides increased flexibility, not solely dependent on existing theories. Hence, we can generate, add and relate to new theoretical angles throughout the data collection (Eisenhardt, 1989). Our findings have a constructivist nature. We are updating knowledge and learning on the matter and enriching epistemological knowledge in the field as we will apply theoretical and scientific empirical methods to lead our study. The research's epistemological and ontological angle is critical realism. Bell, Bryman & Harley (2019) explains how social phenomena are produced by mechanisms that are not directly accessible through empirical observation. Hence, for critical realism, the task is to uncover these mechanisms and thus explain how a social phenomenon exists. Hu (2018) argues that social events occur when a set of related entities acts in a certain way (mechanisms). Since we aim to understand how teenagers manage to create functioning ventures, despite their presumed lack of resources, we aim to uncover the hidden mechanisms beneath this social phenomenon. Therefore, we believe that critical realism is the most appropriate approach. As for the reasoning, we are using an abductive one. Abductive reasoning is strongly tied to an inductive approach and is a sound logic when explaining an observed phenomenon. Using abductive reasoning, the researcher works iteratively between theory and data (Bell, Bryman & Harley, 2019). This reasoning is applicable in our case, as we reflect on our empirical data through the existing theories in the theoretical framework chapter. After analysing our data, we learned new perspectives that we did not plan for. This implies that we had to reshape our theoretical framework afterwards and dig for new theories and data that could support our new findings. We also expanded our horizons through this abductive process by including ethnographic concepts in our discussion, as we found new dimensions and connections that could be made interdisciplinarily during our analysis. Hence this thesis uses existing theories to explain the phenomenon of teenage entrepreneurship while opening new potential connections. We decided to approach our respondents with a semi-structured interview. By using open questions and adapting the questions to each interviewee, we can maximise our intake of qualitative data while at the same time leaving room for some discovery angles we did not have in mind (Bell, Bryman & Harley, 2019). Thus, in our finding sections, we can extract themes from our data coding and link them to literature while also suggesting new potential research

directions. Thus, rather than solely examining a single case, this research uses a multiple-case study approach instead, identifying unique and common data from the selected cases. Besides that, Yin (1994) argues that multiple-case studies provide a more substantial base for theory building.

4.2 Case selections

The limits established for our sample selection were participants who are currently or used to pursuing a venture during teenagehood. The participants we approached were mainly based in Europe and North America and experienced running an established business between ages 10 and 24. Firstly, we reached out to either our first- or second-degree connections from our close networks. Secondly, we looked into potential profiles by researching LinkedIn or Google search engine. Our first step was to pre-select teenagers according to our established age and accomplishments criteria, meaning the business was running, viable and profitable. Over time, our selection criteria have changed. For example, we initially wanted to interview exclusively innovative and successful teenagers whose venture was solving social, environmental or technological issues impactfully and positively in their communities or localities. However, finding respondents was challenging, so we removed those criteria and focused on any kind of business to enlarge our sample opportunity. We then contacted them via email or private message through LinkedIn to introduce them to our thesis project while specifying that we would need one or two interviews from them. The first interview acts as a screening method. After getting the desired number of respondents, we interviewed them either in person or through Zoom.

Out of the 26 participants asked, seven responded positively to our request. In the end, six respondents were interviewed in our limited time frame. Before our interviews, we requested our participants to fill in a letter of consent, agreeing that we would use their transcription as empirical data for our study (*see Appendix B*). As one of our participants requested to be anonymous, we gave each participant and their company's name an alias. We conducted interviews with the following panel of 6 teenage entrepreneurs:

Table 1: Participants we interviewed, with different aliases.

Name:	Anna	Max	Janice	Lisen	Frank	Nina
Age when started:	13	17	10	19	17	18
Interviewed on:	07/04/22	08/04/22	11/04/22	12/04/22	19/04/22	03/05/22
Occupation at the time:	Founder & Student	Founder & Student	CEO & Founder	Founder, Student & Musician	Founder & Student	Founder & Student
Company:	“Indie merch”	“RetroGame”	“Janice fashion”	“Artist roots”	“Queen pancakes”	“ModernXmas”
Category:	Fashion	Tech	Fashion	Music/ Branding	Food	Design
Location:	Sweden	UK	USA	UK/ France	Sweden	Spain

4.3 Data collection

To collect data, we opted for interviews with our participants. The first step of this process was crafting questions oriented according to some general assumptions about why teens could achieve their entrepreneurial goals without the knowledge and resources, that the current literature presents as essential to running a viable business. The goal of the interview questions was to enable the possibility to compare data between teenagers with above-age average entrepreneurial accomplishments. Thus, potentially notice patterns between them despite the nature of different backgrounds, environments, projects, and possibly latent specificities behind their success. Our questions were framed so that the data we collected could answer both "how" and "why" teenage entrepreneurs managed to achieve an entrepreneurial activity without the expected experiences that are often assumed to be required to create a successful venture (*See Appendix A*). Since our interviews would be semi-structured, our questions list was more indicative and acted as a base frame to capture the key themes for our research. We tried to stay as explorative as possible, knowing that we would not necessarily ask all questions to every participant since they might address some topics by themselves and that some questions might be

irrelevant to their path. Additionally, we were open to asking questions specific to their journey or improvising some new questions to react to what they just expressed to describe their experiences from their perspectives (Gioia, Corley & Hamilton, 2013).

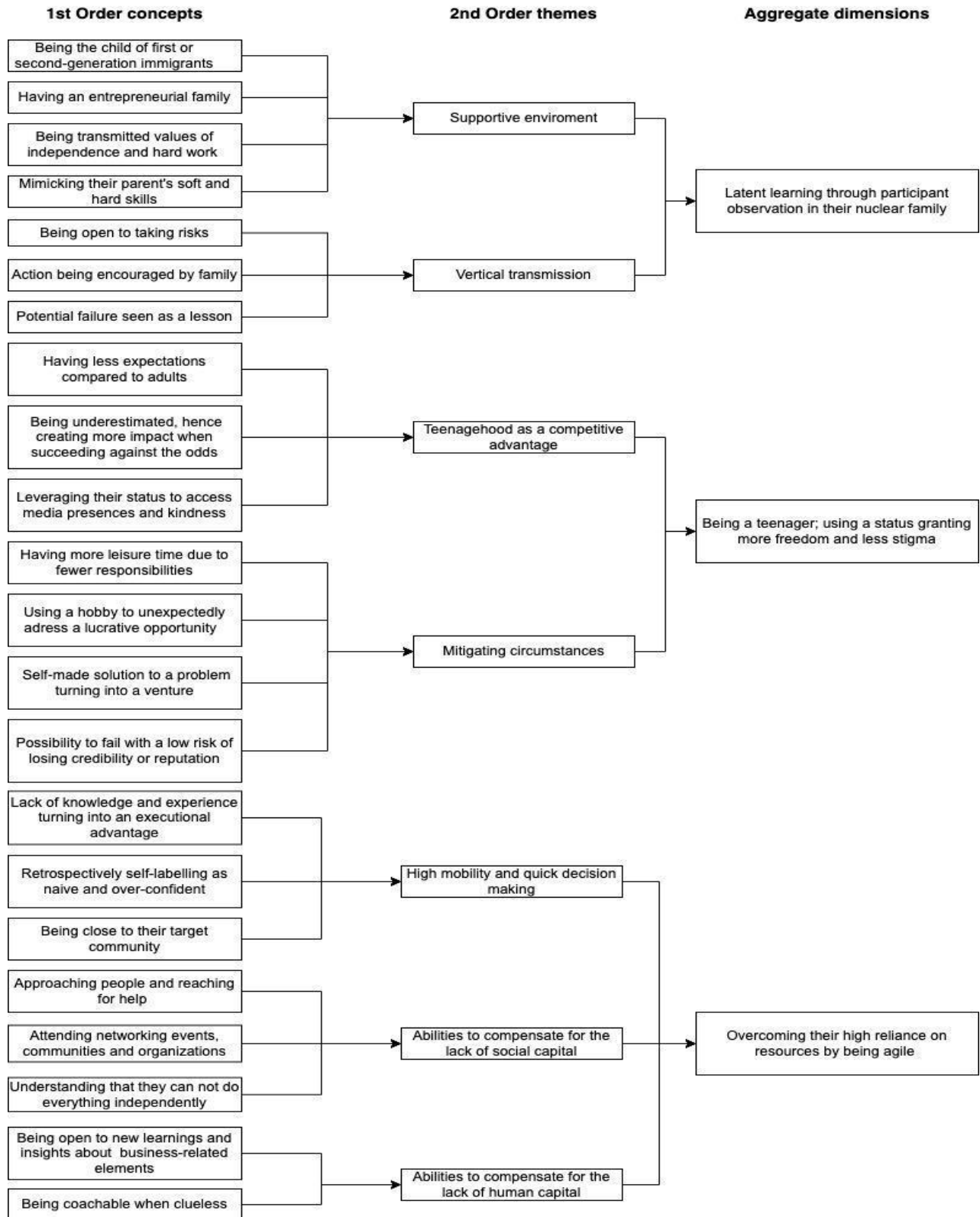
Our data were collected from 6 participants with a wide variety of teenage entrepreneurship experiences, who are currently pursuing a teenager or used to during teenagehood. After approaching them and introducing them to the study, we booked an interview with them either in person or digitally. The interviews were recorded with a dictaphone and then put into a transcription software, which allowed us to record their statements accurately. In addition to our interviews, we used secondary data sources such as researching our participants' journeys and achievements on their LinkedIn profiles, company websites and news articles to support or question our participant's entrepreneurial abilities. Our data was collected between the 16th of February and the 3rd of May 2022. Retrospectively, the interviews gave us the information we needed to see recurring patterns between our participants, even though they were not connected, and create some links to the literature. Sometimes, we realized that our different questions led to the same answers or that the elements we were looking for were answered before asking about it. Other times, we realized that our questions gave us irrelevant answers that would not be useful to our findings.

4.4 Data coding and analysis

After the interviews were done and automatically transcribed into our software, we verified that the text matched the audio and the speaker, and if not, we modified the transcription. Then from our transcriptions, we could start operating the coding process. After transcribing, we used a triple-axis of analysis to code our transcript into results (Gioia, Corley & Hamilton, 2013). Afterwards, we overlaid the collected data into a tab from participants into several themes, determined by general topics such as "role of parents", "challenges and feelings", "early entrepreneurial influences", "behaviours", and "enabling conditions". First, we used direct quotes, keywords and describing sentences. Afterwards, we could extract recurring experiences and quotes, such as " We just tried and sold, hoping that it was profitable" or "I always wanted to learn", and turn them into action verb sentences that became our first-order data. Next, the data

collected through oral interviews were structured into written transcription and charts using informant-centric terms (Gioia, Corley & Hamilton, 2013), for example, "Being open to taking risks" or "Actions being encouraged by family". Next, all the first-order categories were grouped around second-order themes, which were more abstract and theoretically charged. Examples of these would be "vertical transmission" and "high mobility and quick decision making", which are theoretical references to entrepreneurial literature and could relate to our sayings participants. Afterwards, we mapped our power quotes to each second-order theme to structure our findings section efficiently. Finally, considering those themes and the data supporting those, we distillate the cumulation of some themes into the third order of analysis, where we theorized and built up our aggregated dimensions (Gioia, Corley & Hamilton, 2013). Examples of these aggregated themes would be "Latent learning through participant-observation in their nuclear family" or "Overcoming their high reliance on resources by being agile". This data manipulation allowed us to transition from direct data from our informants to theorizing the phenomenon into a theoretically supported data set we could work on and analyze, basing ourselves on previous related research (*see the entire data structure in Table 2*).

Table 2. Data structure



4.5 Limitations

4.5.1 Risk of biases

The risks of biases we might encounter reside both from our and our respondents' sides. On the one hand, there is a risk that some of our selected respondents do not help us gain new insights or that the questions we ask are not optimal to help us maximize our findings. We therefore established and designed criteria to select fit informants before our data collection. Also, we decided to conduct a pilot interview to test whether our questions would suit our topic and teach us relevant information. Our pilot interview conducted with Anna went well. It taught us the necessary elements to establish a general profile, background story, evolution of their entrepreneurial journey, how they felt and what they thought at the moment, and even a retrospective point of view of what it meant for them now. Therefore, we decided to keep the same base structure for future interviews.

On the other hand, as our respondents are now older than when they created their venture, there is a chance that they respond from an experienced adult prism and can not accurately respond to how they were thinking as a teen. Moreover, their answers could be biased since the more they evolved, the more knowledgeable they became. However, we found it helpful that they could be self-reflective and aware of their journey, processes and lessons. We could see first-hand what their own experience meant for them, which allowed us to spot some behavioural patterns that otherwise might not have been aware of unless they distanced themselves from their past. Finally, since our research is qualitative, there is a chance that our findings are not favourably representative as we interviewed six informants. Therefore, we can not generalize the entire population empirically from this case study (Bell, Bryman & Haley, 2019). Yin (1994) argues that multiple-case studies provide a more substantial base for theory building even if we have corollary intentions to generalize our findings to theory (Bansal & Corley, 2011). Another critique of qualitative research is the risk of subjectivism and impressionism, which means that the study relies on the researcher's views about what is significant to consider (Bell, Bryman & Haley, 2019). The consequence of that limitation is that the double-filtering of respondents can not allow an objective representation of current teenage entrepreneurs, but that is not our aim either since we decided to focus on teenagers who successfully managed to create functioning ventures. It is legitimate to wonder how the theory could generalize if the selected cases are not

representative of every teenage entrepreneur; that is why our sample focused on the ones oriented towards a business and in their early stages. However, that limitation can suggest an opening for future research to filter teenage entrepreneurs into more specific categories or industries or to initiate comparative or longitudinal studies to have different kinds of data for further research.

4.5.2 Challenges with data collection

Since we will have multiple-case research, we will face the impossibility of presenting "relatively complete and unbroken narratives" (Eisenhardt and Graebner, 2007, p. 29). That means that we collected six individuals' chronological and linear stories from our six respondents, respectively. However, because we had to fraction, agglomerate and overlay the collected data, we cannot convey the idiosyncratic sense behind each informant's stories which might lessen the meaning and sense of each element if those are taken out of context. We propose emerging theory not by comparing our cases but rather by "recognizing patterns of relationships among constructs within and across cases" (Eisenhardt and Graebner, 2007, p. 25). Therefore, the relevance of our abductive approach is to find potential significant patterns or data, helping us get a better understanding of why teens can successfully exploit opportunities and compensate for an apparent lack of resources and experiences. On the one hand, we can spot if a specific attribute in teens precedes the appearance of opportunity recognition. On the other hand, we can understand what behaviours allow teens to hinder practical obstacles despite their young age. Qualitative interviews sometimes get criticized for being less flexible in dealing with unexpected topics or issues of respondents (Bell, Bryman & Harley, 2019). Therefore, to maintain an explorative approach, we conduct semi-structured interviews, where we still can discover similar patterns but are still open to exploring unexpected topics or issues. Besides that, we also acknowledge that interviews provide limited insights into the teenager's behaviour, primarily relying on verbal accounts of conduct and not actions. The implication is that features in their social life are less likely to be revealed (Bell, Bryman & Haley, 2019). However, we are not aiming to draw precise and accurate conclusions about teenage entrepreneurship. Instead, we focus on generating theories and examine whether application of current literature through a dual abductive lens and an interpretive approach. Hence, this research allows for more deductive reasoning in the future, where scholars will be able to generate hypotheses from our views, thus

concluding our remarks more accurately. Therefore, our research is theory-building rather than theory-testing research (Eisenhardt & Graebner, 2007).

4.6 Ethical considerations

Interviewing individuals can be sensitive as they reveal personal information. Hence, we need to consider morals and ethics. Altogether, we try to follow the suggested main principles that researchers are expected to cohere (Bell, Bryman and Harley, 2019). Including avoidance of harm by obtaining informed consent from the participants, where the interviewee signs a consent form that they understand the participation of research and what research requires from them, furthermore the purpose, methods and expected outcomes (*See Appendix B*). We also apply for privacy protection through confidentiality and the principle of withdrawal. As interviewers, we consent that respondents can access or withdraw their contributions and information without any consequences of any kind. Besides, we also ask for their consent to be recorded through the interviews solely as a basis of transcription. Additionally, we planned that some participants might be underage at the time of the interview. Therefore, an additional consent form signed by the legal representatives or parents of the individual will be required. However, all of our participants happened to be above the age of 18. Hence we did not use this measure.

5. Findings and Analysis

In the first part of this chapter, we present how our teenage entrepreneurs managed to learn openness to taking risks, conduct entrepreneurial actions and learn from failure thanks to vertical transmission and a supportive environment. Secondly, we present our findings on how teenagers use their teenagehood as a competitive advantage, and how they managed to transform a personal interest into a lucrative business in a less concerning environment than adults. Lastly, we present our findings on how our participants use their agility to make quick decisions, and compensate for their lack of social and human capital. Altogether, our findings unpack the mechanisms that enable teenagers to create a functional venture, despite their lack of experience and knowledge. The presented findings are reinforced by current entrepreneurial literature while giving us room for new potential research angles.

5.1 Latent learning through participant-observation in their nuclear environment

When asking the informants about their inspirations and influences on entrepreneurship, they mentioned that their family, studies and mentors, both formal and informal, were the primary motivators behind pursuing a venture. Our respondents often mentioned that their parents were "supportive" but mostly "did not understand what they were doing". To those with an entrepreneur parent like Lisen, or a parent working directly in the related industry like Max, the respondents benefited from vertical transmission of knowledge and an entrepreneurial mindset to seize opportunities and monetise them (Geldhof et al., 2014; Patuelli, Santarelli & Tubadji, 2020). More than half of the respondents mentioned having first-generation immigrant parents or expatriate parents. The respondents linked this to action patterns they inherited or mimicked from their parents. These actions would, for example, be "Do It Yourself" behaviours, meaning doing things themselves instead of paying for a product or a service, being positive towards taking action and working hard to reach their goals. This mindset seems deeply ingrained in some of our respondents. When Anna was asked how she became interested in entrepreneurship, she replied, "from my father". Anna explained this by saying, "(...) he has always been of the mindset of doing things yourself. And I think that is why he ingrained that in me and my brothers... that we are capable of doing things ourselves". She later explained that her older brother also pursued a venture himself.

When asking the respondents whether they would receive equal influence from people of her age back then, Nina highlighted that people of her age would be someone she would learn from and share things with, but from her parents and teachers, there is a "power difference". Nina further explained that when she was younger, she was more used to having a teacher, parent, or someone to look up to and, therefore, more influential. These findings indicate that teenagers are influenced by vertical transmission from authoritative figures rather than horizontal transmission from peers. These findings further explain Patuelli, Santarelli & Tubadji's (2020) findings of how the relationship between parents is the most influential, while the effect of peers is only secondary.

Most respondents admitted not knowing what to do initially, but tried and then observed whether it worked or not. When asked whether their entrepreneurial actions were planned or how they knew what steps to take, most respondents used a similar process. Instead of planning and researching, the teenagers used what they found to be the most logical reasoning, of trying and seeing what worked. We could see how a mindset was planted from their environment through our respondents. For example, Nina mentioned that one of her parents told her something inspirational that she still acknowledges "To get from A to D, you have to go from A to B and C". Instead of making efforts and trying to avoid the anticipated errors and surprises, the respondents saw value in taking risks. Nonetheless, the teenagers saw the benefits of understanding mistakes and acknowledged that surprises are inevitable but could be used as meaningful insights. Furthermore, most respondents mentioned that their parents encouraged this behaviour and were very supportive. Perhaps, teenagers thrive in a supportive environment, where they can observe and absorb their parent's soft skills and entrepreneurial behaviours to their advantage.

5.2 Being a teenager; using a status granting more freedom and less stigma

This part will briefly present the significant challenges that our respondents experienced. Next, we present our most pressing findings on how teenage entrepreneurs leverage and benefit from having fewer responsibilities and lower stigma compared to adult entrepreneurs.

All the respondents managed to acknowledge the challenges during their teenage venture. To some, it was business management aspects: upfront costs, scaling-up, operations, logistics, and calculating prices. To others, it was social capital gaps, such as having the wrong kind of network and feeling lonely, lost and isolated within their venture. Some informants mentioned that just the fact of being young came with some downsides. For example, just by being a teenager, they felt that they often were not taken seriously by clients or peers and were discredited on their abilities. Max even saw these perceptions from others as a driver for his business. When asked if he had any certain behaviours or actions that stood out compared to other teenagers, he mentioned that he "just wanted to be taken seriously". Despite this acknowledgement, every respondent used their teenagehood to benefit their competitive

advantages. One pattern that appeared was that the younger they were, the more attention they received from the media, which helped their business in terms of visibility and came as solid storytelling and branding narratives. For example, when asked whether there was an advantage in being a teenage entrepreneur, Janice responded: "I did a lot of press and was able to get more press, I think, because of my age, so it helped in that sense". Others would explain how their success relied on them being teenagers. Frank gave an example of how they were succeeding on the idea that they were teenagers rather than that they were selling pancakes. Frank further explained that a competitor opened a pancake restaurant in their hometown but had to close down. From Frank's perspective, this was since the competitor only sold pancakes, but Queenpancakes managed to succeed as they had the advantage of being labeled as teenagers. The respondents also highlighted that the public was kinder to them than they would have been to adults. In addition, they mentioned that their age was a strength when it came to being in tune with new trends. Our respondents even explained how they felt like they were seen as "Superheroes" or even "Rockstars" by their surroundings. In addition, they mentioned how the external surrounding was motivating and impressed by their endorsements. As a result, some received funding directed towards youth entrepreneurship through grants handed out by organizations.

When asked how they managed to find their business opportunities, it was portrayed as "natural" or a "day by day process" closely related to their personal interests. Some started their business as a hobby that turned into a lucrative business. Several respondents explained how their business started as a leisure-time activity. Anna explained that her process started rather unexpectedly "(...) a hobby that grew into something I realized I could monetize off". Most of the entrepreneurs mentioned that they had a persisting interest in their type of industry and explained how they always "loved" working with, for example, art, fashion, or technology. Some founded their venture as a reaction to dissatisfaction in everyday life. For example, Max did not enjoy the educational system he underwent. Hence, taking it into his own hands started a more appealing solution, creating programmable game consoles. Anna was dissatisfied with the high cost of band t-shirts, hence creating her own unique ones. When asked if there were any specific points where they realized that they were an entrepreneur, most explained that it "grew naturally" or when the passion and hobby started to "switch over to being more of a job".

Besides being retrospectively challenged by their lack of operational knowledge, the teenagers did not highlight any significant challenges or setbacks. On the contrary, they explained how they felt thrilled by "challenging themselves" and "taking a risk" without fearing significant consequences. Instead of seeing the consequences of failure, they saw it as an opportunity to "get the experience" and "learn". When we asked whether they saw money as a significant motivator for pursuing a venture, every informant opposed it. Some explained how they wanted to start a business because they thought it was "cool" or "fun". These motivators indicate no particular financial pressure when pursuing their teenage venture. Nina highlighted this by expressing how she was willing to do new things for the "sake of them" without the "pressure", and that was more particular when you were young compared to now. Some saw teenage entrepreneurship as a moment to "mess up", and two participants mentioned that they did entrepreneurial activities prior to their ventures, such as selling handmade keyrings or purses. Each informant also mentioned receiving support from their parents, whether financial resources or advice, giving them a favourable environment where they could bootstrap without risk of personal bankruptcy. Considering these perspectives, we could see an emerging pattern of teenage entrepreneurs and how they did not fear the risks or losses. Instead, they saw it as an enjoyable opportunity to monetize their hobby and learn, with only their obligatory responsibilities, such as education, holding them back. Perhaps, this has to do with their less concerning environment. Moreover, compared to an adult, our respondents had their families to lean on, living at home at the time, without having the pressure of responsibilities of running a household and personal finance. Furthermore, they did not have a professional status to be concerned about without any professional work experience, where there are no significant losses to take into account. Instead, the teenager's passion for their ventures is impressive as they are, whether they succeed or not.

Taking all this into account, teenagers manage to leverage their means despite the challenges in their current situation. This mechanism shows signs of an effectual behaviour, similar to Sarasvathy's (2001) theories about effectuation logic, where the entrepreneur manages to utilize the resources and means close at hand.

5.3 Overcoming their high reliance on resources by being agile

This part will present the findings on how teenagers overcame their high reliance on resources present in the early stages of entrepreneurship. Our most pressing findings were that teenage entrepreneurs use quick decision making and the ability to compensate for their lack of social capital and human capital, through openness to new learnings and social competencies.

Most of the teens we interviewed started their activity to serve themselves and then realised demand among their peers, for example, at school. By being part of the community they were trying to serve and reach, they had insider access to the demand. Hence, it increased their agility to gain feedback and adapt their products to their targeted audience. Additionally, being young granted our respondents the ability to “tune in” much faster with recent trends and to be reactive. Each informant used social media to leverage their venture, whether they used Tumblr, Facebook or Instagram. Lisen mentioned that nowadays, a "16-year-old TikToker" could access the same amount of information as an adult through the internet. But sometimes, our teenagers acknowledged that they were actually lacking information, stating that back then they were overconfident, over-optimistic and even naive, which they believe was helpful when it came to acting and risks and what enabled them to move forward quickly. Lisen explained this phenomenon as "the less you care, the less you know" and had a belief that this was one of the "strengths" of teenage entrepreneurs. She explained how they just "did things" rather than waiting and "doing research". This finding corresponds to Hirshleifer, Low & Teoh's (2012) research on how overconfidence moves the entrepreneur's attention to the high potential of gains rather than the risk of failure. Perhaps this results from fewer experiences, which gives them less of a barrier to making decisions. Hence, having the ability to make quick minimalist decisions (Onie et al., 2019).

The informants often mentioned peers and family who contributed to and influenced their venture. Most of them also received support from organisations, mentorship and kickstarting programs. Instead of purposefully searching for employees, the teenagers used the people close at hand and leveraged their abilities to their utmost. Some utilised their friend's and peers' skills as leverage. Max, for example, recognised that one of his friends had video editing skills, hence

allowing his friend to do the video editing in the early stages of the venture. In addition, several respondents mentioned that reaching out for help and not expecting to do everything independently was helpful. For example, Janice mentioned: "I did a lot of networking and found mentors, which was part of how I learned the next steps I needed to take".

Furthermore, we asked our informants if they could attribute their success to some traits or habits. They answered; being energetic, passionate, persistent, driven or organised. Commonly, they all showed characteristics of significant social competencies during our interviews that can be supported by their abilities of "networking", "approaching", and "asking" whenever they needed help during their teenagehood. Janice, for example, attended talk shows, which she used to her advantage by presenting her idea and leveraging her branding. We asked Max how he managed to meet his first investor; he replied, "We went to a bar, and there were a bunch of tech people, and I happened to get in touch with one who was interested in investing". Therefore, our findings correspond to prior research on how social competencies can predict entrepreneurial statuses in the future (Aldrich & Zimmer, 1986; Obschonka et al., 2012; Obschonka, 2016).

A pattern found amongst the respondents was acknowledging the importance of being open to mentorship in order to receive new learning opportunities. Anna and Nina mentioned that being "curious" and "eager to learn" helped them. Lisen mentioned how talking to mentors was especially useful when being clueless, as she believed that "books could solve not everything". As a result, the teenagers reduced the informational gap due to reaching out to and taking feedback from their mentors or network which supports prior research supporting "openness to new experiences" traits (Schmitt-Rodermund & Vondracek, 2002 & Rauch & Frese, 2007) Furthermore, some saw an opportunity to transfer the knowledge from their formal education to their venture. When asked how they came up with their idea, half of them found inspiration from their formal education, e.g., a course in design, a mechanics course, or a course in entrepreneurship. For example, when we asked Nina how she learned how to operate a laser cutter, which was a major part of her venture, she replied: "It was when I saw the laser cutter. I wanted to figure out how it worked and what I could do with it. That would be the spark. And then, in the third year, we had a design course."

Teenage entrepreneurs seek, consider, and integrate feedback from their surroundings to benefit their relationships. From these findings, we can tell that teenage entrepreneurs use their agility to make expeditious decisions and compensate for their lack of human and social capital and are hence able to overcome their high reliance on resources.

6. Discussion & Conclusions

"Opportunities are seized by those who are prepared to seize them" (Krueger & Brazeal, 1994). This quote supports the main finding that we could conclude from this research; age is an irrelevant discriminating factor when it comes to entrepreneurship. Our participants all created a service or product from scratch before putting it on the market. After observing the behaviours and answers of our respondents, we can suggest they have cognitive capacities helping them be innovative and creative. Hence, we argue that our respondents fit the description of an entrepreneur. We believe this is true since since they all managed to:" recognize and interpret the information available to identify the opportunity, possess the cognitive properties and skills to evaluate the opportunity and have the willingness and required skills to exploit that specific opportunity." (Shane & Venkataram, 2000)

6.1 Aim of the study and research findings

This thesis aimed to unpack some behavioural mechanisms through which teenage entrepreneurs engage in entrepreneurial activities, such as creating functioning ventures without prior experience. After interviewing six informants, we could understand different factors allowing them to unleash some entrepreneurial mechanisms. Furthermore, we empirically observed some patterns attributed to latent and hidden factors. From our data, three main concluding findings emerged based on the analysis of our results.

Firstly, we suggest that, simply by being immersed in their nuclear families growing up, teenage entrepreneurs benefited from a latent learning process using participant-observation-like mechanisms. The totality of our participants had an entrepreneur parent or were raised in a first- or second-generation immigrant family. We propose that being an entrepreneur and being an

immigrant imply a similar mindset and similar characteristics, namely: being open to new experiences, working hard to achieve their goals and willingness to learn new things (Schmitt-Rodermund & Vondracek, 2002), persistence (Wu & Dagher, 2007; Adomako, Danso, Uddin & Damoah, 2016), high need for achievement and risk-taking (Obschonka, Silbereisen & Schmitt-Rodermund, 2011), proactivity (Uy, Chan, Sam, Ho, & Chernyshenko, 2015), and adaptation capacities (McClelland, 1961). We want to add that we saw high levels of independence expressed by low external reliability (at least in their beginnings) and that entrepreneurial action was encouraged by a supportive environment created by the family. Our respondents acknowledged that their families supported them by teaching them to be fine with taking risks, being encouraged to take action and try things out, and not be scared of a potential failure that would turn into a learning experience otherwise.

In response to current literature, which states that an entrepreneur shall have a certain amount of knowledge and experience in order to run ventures (Krueger & Brazeal, 1994; Shane, 2000; Baron, 2006), we suggest that biological and ecological contexts (Oschonka, 2016) could be a sufficient form of "entrepreneurial education". We believe that this is sufficient thanks to mechanisms that children and then teenagers unconsciously develop, similar to participant-observation (Dewalt, Dewalt, Wayland, 1998). Indeed, by being immersed in their own families and as they grow as individuals, the children are exposed to their family members showing entrepreneurial behaviours and mindsets while being encouraged to engage with them in day to day activities. By observing firsthand how their parents, for example, generally deal with situations while being active participants in those situations, they could learn, experiment and mimic some entrepreneurially oriented soft and hard skills. Moreover, their involvement in activities due to being a family member probably did not impact the functioning of the family since there is a hierarchical order between parents and children, where the parents lead how things operate as part of their parenting. Our suggestion can be supported by ethnographic literature: "Children learn their own culture through participant observation (...) observing the behaviour of others around us and participating in our society led us to our knowledge of (...) all the other tacit and explicit aspects of our culture." (Dewalt, Dewalt, Wayland, 1998, pp 265-266). In that sense, a nuclear family would be a cultural unit with practices, beliefs, customs and behaviours. From there, if we consider a family with entrepreneurial qualities as a form of

culture, we could suggest that the mechanism through which children themselves become entrepreneurial is through a process of "enculturation". In this metaphor, the child would be a native ethnographer and observer (Dewalt, Dewalt, Wayland, 1998) while simultaneously being part of what is observed (Soulé, 2007). This adjustment process of Enculturation is defined by Gavelek & Kong (2012) by “ the process whereby individuals learn their group’s culture through experience, observation, and instruction. To learn is to develop the knowledge and skills needed to participate in the communal, cultural practices and to become a fully functioning member of the community.” Therefore, one of our suggested mechanisms is that teenage entrepreneurs were exposed to entrepreneurial culture as part of their nuclear families through unconscious participant-observation as former children. Hence, they benefited from an enculturation phenomenon that could explain how they were comfortable navigating the entrepreneurial world seemingly naturally when they got older. Furthermore, we can conclude that teenage entrepreneurs learn by observing and doing while using effectual processes (Sarasvathy, 2001), which helps them with their entrepreneurial intentions and during their entrepreneurial execution of creating and running their ventures. These findings imply that teenagers' presumed lack of experience and knowledge to engage in venture creation are compensated by natural, implicit and vertical transmission (Patuelli, Santarelli, & Tubadji, 2020) of tacit knowledge. Hence, our findings confirm the biopsychosocial and epigenetic transmission theories, which states that having a self-employed relative influences entrepreneurial intention (Patuelli, Santarelli, & Tubadji, 2020). However, we add the suggestion that immigrant families have and transmit similar qualities to their children. Then, we suggest a learning mechanism similar to participant-observation within their families as a sufficient form of influence to impact their entrepreneurial intention and mindset, alertness, and action in creating their activity.

The second of our findings is that being a teenager is a status that can grant more freedom in actions associated with less stigma and repercussions than adults. Our respondents acknowledged several factors that allowed us to differentiate them implicitly and explicitly from entrepreneur adults. Everything suggests that by living at their parents' place, our respondents did not have to manage a household and provide for themselves as opposed to an adult. By having fewer responsibilities and concerns than an adult who needs to strategize to fulfill and pay for their basic needs, they do not have this mental load to consider. This conducive environment can be

one of the reasons why they could jump from passion to business during their free time and could focus on it with fewer distractions. As our respondents started a business from a passion or hobby for themselves, which later turned into a scalable business, all of our respondents manifested a form of "user entrepreneurship" (Shah & Tripsas, 2007). The fact that they could jump from a passion to a business implies that, on the one hand, they had leisure time to develop their hobby linked to fewer responsibilities due to being minor, taken care of by their parents. On the other hand, they could risk trying things out and not fear losing their credibility since they were not building on a reputation with prior experience, as an adult expert in the industry would. Therefore, they had a lot of room and freedom to experiment with their projects with less stigma and fear of failing. Turning their passion into a lucrative venture shows that they manifested entrepreneurial alertness (Baron, 2006; Gaglio & Katz, 2001; Tang, Kacmar, & Busenitz, 2012) by perceiving an opportunity that others might not have seen (Kirzner, 1979). Our respondents used their teenagehood as a competitive advantage for their entrepreneurial processes. A recurring pattern among them is that they were not taken seriously due to their young age when engaging in entrepreneurship. However, their persistence and ambition in pursuing their venture helped them turn their young age into an advantage that could create surprise in their surroundings, since they were perceived to succeed against all odds. This perception resulted in them receiving more attention and kindness from the public or their clients and therefore gaining support. Janice, Frank and Max could leverage their young age as part of a storytelling and branding strategy, which granted them eventually much more media presence than if they did the same activity as an adult. This data implies that by simply being a teenage entrepreneur, younger than average, they could benefit from this status as individuals in their families, and as business owners in their markets. What would appear as a weakness according to prior research, was actually a strength that they could use to compensate for their lack of individual capitals.

Finally, our last finding suggests that by being agile and using several strategies, teenage entrepreneurs can overcome their high reliance on resources (material, financial, social) and compensate for and develop their lack of social and human capital. When it came to increasing their social capital, the teenager started the process by realizing they could not do everything independently. This realization triggered the process of attending networking events, enrolling in mentorship programs or just approaching individuals to reach out for help. Teenagers increase

their human capital by being coachable when they realize they have a knowledge gap in business-related elements. Often, they had many questions without answers: how to have fair pricing, find a manufacturer, or how logistics worked. However, by being open to learning from others, they could fix those informational gaps and then take action. By receiving guidance from formal and informal mentors and having role models, they manifested social competencies and age-appropriate early entrepreneurial competencies (Obschonka, Silbereisen & Schmitt-Rodermund, 2011), which confirms the former relevance of vertical and horizontal transmission in our participants. These findings further indicate that our participants had the necessary entrepreneurial precursors showing in their personality and behaviours, which helped them in their entrepreneurial processes or in starting their venture. By engaging in user entrepreneurship and being their clients in the first place, our teenage entrepreneurs had the considerable advantage of being close to their clients and communities as they were part of it. Hence, they had an advantageous knowledge of their clients and fast access to insights about their products. As adolescence is a crucial developmental stage of life, several of our informants admitted that when they first started their business, they were naive, overconfident and optimistic. While those appear to be negative traits, thanks to this cognitive bias (Kinari, 2016), the teenagers benefited from a quick and minimalist decision-making process (Onie, Gong, Manwaring, Grageda, Webb, Yuen & Most, 2019). Thus, their initial lack of knowledge and experience turned into an executional advantage where they could be quick to try things out, quick to learn, and quick to unlearn in case they turned out to be doing something wrong. These indications imply that teenagers are underestimated. That is to say, a lack of experience and a lack of knowledge turns out to be the reason they can be so agile, with high mobility and a fast learning rate. Teenagers do not build on habits set in stone. They can evolve without overthinking, acting and reacting, and correcting their trajectory accordingly, thanks to their high plasticity and self-regulation skills (Geldhof et al., 2014).

6.2 Implications for academia

Our contributions to the subject of teenage entrepreneurship are multiple:

1. We captured several mechanisms through which teenage entrepreneurs engage in venture creation and gain a better understanding of how they did and what allowed them to. We

could do so by having a qualitative approach, as opposed to the majority of quantitative studies on the subject.

2. We focused on what actions have been done and taken by entrepreneurial teenagers instead of focusing on teenagers' entrepreneurial intentions.
3. We could suggest the integration of other disciplines into understanding the phenomenon better, such as the use of ethnographic concepts to explain entrepreneurial learning mechanisms at a young age.

However, our findings could be strengthened and broadened by studying a more significant sample of respondents, which would be more representative of the population of global teenage entrepreneurs. Then, the mechanisms we studied are dependent on several factors. As we used a critical realism approach, we acknowledge that some underlying factors might be hardly accessible, measurable and comparable. At this stage, we can only have an empirical data collection that possibly cannot explain the teenage phenomenon in sufficient depth. For example, an interdisciplinary study involving more cognitive and behavioural analysis could lead to new suggestions and patterns that could be tested with quantitative research to validate and expand our present findings. Also, we studied individual levels, and could see that solo-entrepreneurs were different from those who started a venture as a team; that is a distinction we could not elaborate on considering our small sample.

6.3 Recommendations for future research

Our data allowed us to contribute to the current literature by suggesting three main findings and raised some problems that could be worth exploring in future research and generate new research angles. Finally, we suggest exploring several paths to add even more contributions to the literature by considering contemporary reality and its related problematics.

6.3.1 Why are teenagers underestimated; time for a paradigm shift?

From their testimonies, our respondents said that a recurring problem for them was not being taken seriously by potential key partners or society. They all attributed this observation to being young. However, they did manage to create functioning ventures, despite how little some people

believed in their capacities. Therefore, the rising phenomenon of teenage entrepreneurs suggests that they might not go against the odds and that their young age could be a promising strength. Future research could examine the link between this paradox and highlight why teenagers should stop being underestimated in their entrepreneurial abilities.

6.3.2 Is Internet Entrepreneurship a new reality?

Assumptions about entrepreneurship should be actualized and redefined and considered the new reality of the internet era. The banalization and increased reliance of society on the Internet and social media can suggest a transformation of ways of communication, learning and sharing. Therefore, considerable changes within empirical knowledge could occur in terms of what it means to become an entrepreneur nowadays. Current teenagers have only known a world with the Internet and mastered it to their advantage. When creating a business, we could suggest that mastering algorithms, access to data or developing social networks could be a reason for its success. Some of our respondents mentioned finding their communities, target customers or mentors through the Internet and also engaged in e-commerce, digital marketing and analytics.

6.3.3 Is gender in teenage entrepreneurship a factor to consider?

Another direction that future research could explore is a comparative approach to female versus male teenage entrepreneurship. This suggestion comes from the fact that one of our respondents, Lisen, said, "it was more challenging to be a woman than being young" during her journey. This could add an intersectionality dimension to the research of teenage entrepreneurship, where an additional challenge of being young would be to be a particular gender.

6.3.4 New disciplines and New levels of analysis

As entrepreneurship seems to require biological, developmental and contextual characteristics (Obschonka, 2016), future research should use interdisciplinary approaches to capture the complexity of the underlying predispositions allowing the phenomenon of teenage entrepreneurship, such as a deeper understanding of cognitive characteristics. It seems like domains such as biology, psychology, sociology, and education have been majoritarian used. We

suggest research exploring cognitive sciences to study the potential propensity of neurodivergent profiles within teenage entrepreneurship. It could explain teenage entrepreneurs' remarkable abilities to spot seemingly overlooked patterns, recognize opportunities, and act and react fast and behave creatively. As Tang, Kacmar & Busenitz (2012) suggest, entrepreneurs use different cognitive mechanisms. They sometimes have unusual ways of processing information and actions to navigate their entrepreneurial journeys, and being able to do so at a young age might reveal a higher propensity for those cognitive mechanisms while simultaneously benefiting from some cognitive biases.

Similarly, as we used an abductive approach in our research, we had to go back and forth between our findings and theoretical frameworks. We included ethnographic resources to suggest the explanation of a pattern we saw emerging during our data analysis. As anthropology, by essence, studies what can be attributed to innate human biology and what can be attributed to learned behaviours as part of a culture, it could be interesting to apply it to teenage entrepreneurs. We believe that anthropology can sort out what is natural to them and their culture and social environment's influence on them. Our research analyzed an individual context taking into account proximal ecology (Obschonka, 2016). Hence there is an opening for future research to focus on other levels of analysis.

An example of this could be regional, national or macro-cultural context to examine the potential differential influence it can have on a young entrepreneur (Obschonka, 2016). This potential future research would respond to this current paper, as we state that tacit knowledge comes strongly and implicitly from growing up in certain kinds of families. It could be that culture or levels of analysis that are not "individual" could answer our question of what mechanisms allow teenage entrepreneurs to manage viable ventures.

7. References

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8. Appendices

8.1 Appendix A - Interview topics

Part 1: Relate or not to the current entrepreneurial theory mostly based on adults

- Would you consider yourself an entrepreneur?
- Do your peers and relatives do any entrepreneurial activities or have they done it before?
- How did you know what steps to take?
- Did you research related to business creation?
- What was the most important success element of starting a business?
- Which experiences and people did you find most valuable for you when starting the business?

Part 2: Understanding what explains teen entrepreneurs' success from a behavioural stand, to root it back to a potentially peculiar cognition style.

- Why did you decide to pursue a venture? What inspired you?
- Tell us the main challenges you faced during the venturing process, how did you manage to overcome them?
- How did you spend your school breaks? Was/is it any different from your classmates or peers?
- How did you come up with the idea?

8.2 Appendix B - Letter of consent

Consent form to take part in research

..... voluntarily agree to participate in this research study.

- I understand that even if I agree to participate now, I can withdraw at any time and refuse to answer any question without any consequences of any kind.
- I have had the purpose and nature of the study explained to me and I have had the opportunity to ask questions about the study.
- I understand that participation involves being interviewed about my perspective on entrepreneurship and the motives for pursuing a venture.
- I agree with my interview being audio-recorded and used as empirical data.
- I understand that I am entitled to access the information I have provided at any time while it is in storage.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.
- **I would like to be anonymous in any report on the results of this research.**
This will be done by changing my name and disguising any details of my interview which may reveal my identity or the identity of people I speak about

Signature of research participant

Signature of participant / Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher / Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher / Date