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ADHD Behavior and Entrepreneurial Behavior: The Mediating Role of Entrepreneurial Intention

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ABSTRACT

The fundamental objective of this research is to study the relationship between Attention-Deficit/Hyperactivity Disorder (ADHD) behavior and entrepreneurial behavior in Tunisian students. Based on the theory of person-environment adjustment (P-E), the theory of planned behavior (TPB) and the analysis of data collected from 267 Tunisian students using a self-administered online questionnaire, the results of the present study showed no relationship between ADHD behavior and entrepreneurial action. However, entrepreneurial intention plays a mediating role in this relationship. These results constitute a theoretical contribution to the entrepreneurial field. Similarly, the results of the current study lend further support to the person-environment "P-E" theory, which posits that the functionality of a component of ADHD behavior depends on its fit with the environment. In particular, the uncertain and autonomous entrepreneurial environment could be an attractive career choice for people who display hyperactive/impulsive behavior. As for the theory of planned behavior "TPB," the results of this study also show that intention is a fundamental antecedent of entrepreneurial behavior. This research has practical implications. Its results can be used by stakeholders in the entrepreneurial ecosystem (teachers, incubators, career coaches,… etc.) to detect future entrepreneurs and absorb the unemployment of Tunisian university graduates.

Keywords: ADHD behavior, Inattention, Hyperactivity/impulsivity, Entrepreneurial intention, Entrepreneurial action.

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سلوك اضطراب فرط الحركة ونقص الانتباه (ADHD) والسلوك الريادي: الدور الوسيط لنية ريادة الأعمال

خالد طمزيني[1]

ملخص

الهدف الرئيسي من هذا البحث هو دراسة العلاقة بين سلوك اضطراب فرط الحركة ونقص الانتباه (ADHD) والسلوك الريادي للطلاب التونسيين. بناءً على نظرية تعديل البيئة الشخصية (P-E)، ونظرية السلوك المخطط (TPB)، وبناءً على تحليل البيانات التي تم جمعها من 267 طالبًا تونسيًا باستخدام استبيان عبر الإنترنت، أظهرت نتائج الدراسة الحالية أنه لا توجد علاقة بين سلوك ADHD والعمل الريادي. ومع ذلك، تلعب النية الريادية دورًا وسيطًا في هذه العلاقة. تشكل هذه النتائج مساهمة نظرية في مجال ريادة الأعمال. وبالمثل، فإن نتائج الدراسة الحالية توفر مزيدًا من الدعم لنظرية تعديل البيئة الشخصية "P-E"، التي تفترض أن وظيفة أحد مكونات سلوك ADHD تعتمد على ملاءمتها البيئية. على وجه الخصوص، يمكن أن تكون بيئة ريادة الأعمال المستقلة وغير المؤكدة خيارًا وظيفيًا جذابًا للأشخاص الذين يظهرون سلوكًا مفرط النشاط/متسرعًا. أما بالنسبة لنظرية السلوك المخطط "TPE"، فقد أظهرت نتائج هذه الدراسة أيضًا أن النية سابقة أساسية لسلوك ريادة الأعمال. والجدير بالذكر أن هذا البحث له أيضاً آثار عملية. وبالتالي، يمكن أن يقوم أصحاب المصلحة في بيئة ريادة الأعمال (المدرسون، والحاضنات، والمدربون المحترفون، ... إلخ) باستخدام هذه النتائج لاكتشاف رواد الأعمال المستقبليين واستيعاب بطالة خريجي الجامعات التونسية.

الكلمات الدالة: سلوك اضطراب فرط الحركة ونقص الانتباه، الغفلة، فرط النشاط/الاندفاع، نية تنظيم المشاريع، العمل الريادي.

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1. Introduction

In recent years, academic entrepreneurship communities have developed and focused on research that interweaves mental health and entrepreneurship (Wicklund et al., 2020; Torrès & Thurik, 2019; Stephan, 2018). Mental-health research covers biology and genetics (hormones, genes) (Rietveld et al., 2021; Nicolaou et al., 2020), neuroscience (de Holan, 2014), physiological states (cortisol, sleep, physical health) (Gunia et al., 2020; Williamson et al., 2019; Weinberger et al., 2018; Guiliani & Torrès, 2017), mental health and well-being (Wach et al., 2020; Murnieks et al., 2020; Overall, 2020) and impulsivity, narcissism, hypomania and dyslexia (Hatak et al., 2020; Wicklund et al., 2018; Leung et al., 2021), among many other topics.

The present research focuses on the specific links between mental disorders and psychiatric symptoms and entrepreneurship. One such disorder that has caught the attention of researchers is attention deficit/hyperactivity disorder (ADHD) (Verheul et al., 2015; Thurik et al., 2016; Wiklund et al., 2016, Canits et al., 2019).

The American Psychiatric Association defines ADHD as a neurodevelopmental disorder characterized by inattentiveness and/or hyperactivity and impulsivity (APA, 2013). Individuals diagnosed with ADHD display difficulty organizing tasks and activities, significant failure to pay close attention to detail and a tendency to make careless mistakes (Greidanus & Liao, 2021). Polanczyk et al. (2007) stated that ADHD affects over 5% of the world's population. Pelham et al. (2007) argued that ADHD has an estimated annual economic cost of 42.5 billion dollars in the U.S. Antshel (2018) reported that, according to recent census data, approximately 11 million adults in the United States have ADHD.

Despite the negative aspects of ADHD, The Economist (2012) noted an association between ADHD and entrepreneurship, citing entrepreneurs with ADHD who have successfully created and grown their businesses, such as Richard Branson (Virgin Group), Paul Orfalea (Kinkos), David Neeleman (JetBlue) and Ingvar Kamprad (Ikea) (Verheul et al., 2015; Antshel, 2018; Canits et al., 2019). Since then, entrepreneurship researchers have begun to pay more and more attention to the relationship between attention deficit hyperactivity disorder (ADHD) and entrepreneurship. Moreover, rather than viewing ADHD as a deficit, this research stream has empirically shown associations between ADHD and several aspects of entrepreneurship, such as entrepreneurial orientation (Thurik et al., 2016) and entrepreneurial action (Patel et al., 2019; Verheul et al., 2016; Wiklund et al., 2017).

The results of research undertaken by scholars like Patel et al. (2019), Verheul et al. (2015), Wiklund et al. (2017) and Yu et al. (2019) to study the link between ADHD and entrepreneurship are encouraging. However, many gaps remain in terms of theory development and empirical investigations. For instance, Greidanus and Liao (2021) argued that the effect of ADHD symptoms on several aspects of entrepreneurship (e.g. entrepreneurial intention and action) has not been definitely determined. Some research results have shown a positive relationship, while others have shown a negative relationship (Antshel, 2018; Lerner et al., 2018; Moore et al., 2019). Dimic and Orlov (2014) and Verheul et al. (2015) noted that several studies have explored the relationship between ADHD and entrepreneurial intention and orientation, whereas studies focusing on entrepreneurial action are scarce (Patel et al., 2019; Verheul et al., 2016; Wiklund et al., 2017). Verheul et al. (2015) also pointed out that entrepreneurial intention depends on ADHD behavior based on the person-environment fit theory (P-E). In this regard, entrepreneurial intention is often seen as the starting point for the development of entrepreneurial behavior. This stems from the Theory of Planned Behavior (TPB) (Ajzen, 1991), which assumes that intention is a key determinant of entrepreneurial action. However, Van Gelderen et al. (2015) argued that

intention is a weak predictor of entrepreneurial action. In addition, they argued that ADHD impulsivity may increase the intention-action gap.

Thus, beyond the need to focus on the relationship between ADHD and entrepreneurship (Antshel, 2018; Wiklund at al., 2016), there remains a need to build on the research that explores the influence of ADHD on entrepreneurial action (Patel et al., 2019; Verheul et al., 2016; Wiklund et al., 2017) and the impact that entrepreneurial intention might have on this relationship. Moreover, while studies have examined the relationship between entrepreneurial intention and entrepreneurial action (Ajzen, 1991; Neneh, 2019; Shinnar et al., 2017; Shirokova et al., 2016; Gieure et al., 2020; Kong et al., 2020), there is a lack of understanding of the relationship between ADHD behavior and entrepreneurial intention (Verheul et al., 2015; Lerner et al., 2018; Leung et al., 2020).

This paper addresses the aforementioned gaps by developing a conceptual model to explain and empirically test the relationships between ADHD behavior, entrepreneurial intention and entrepreneurial action in Tunisian students. Thus, the research question is as follows: Does entrepreneurial intention mediate the relationship between ADHD behavior and entrepreneurial action?

This fundamental question can be broken down into three sub-questions:

1. Is there a direct relationship between ADHD behavior and entrepreneurial action?
2. Is there a direct relationship between ADHD behavior and entrepreneurial intention?
3. Is there a direct relationship between entrepreneurial intention and entrepreneurial action?

To answer these questions, we first discussed the theories mobilized in the context of our study (the person-environment [P-E] theory and the theory of planned behavior [TPB]). Second, we defined the key concepts of our research (attention deficit/hyperactivity disorder [ADHD], entrepreneurial intention and entrepreneurial action) by analyzing their dimensions and domains. Our review of the relationships between these different research concepts based on previous work led us to develop a series of hypotheses and construct our conceptual model. We tested these hypotheses by drawing on data of 267 Tunisian students.

Consequently, this paper makes three main contributions. First, we contribute to a more comprehensive theoretical explanation of the ADHD-entrepreneurship relationship**.** The results of the current study further support the person-environment (P-E) theory, which posits that the functionality of a component of ADHD behavior depends on its fit with the environment (the university environment in our case). In particular, the uncertain and autonomous entrepreneurial environment could be an attractive career choice for people who display hyperactive/impulsive behavior. Moreover, as stated by Canits et al. (2019: 371) "*choosing a homogeneous context may be a necessary condition for identifying the relation between different aspects of entrepreneurship (such as entrepreneurial intention) and personal traits (such as those measured using psychological-disorder scales)*". As for the theory of planned behavior (TPB), the results of this study show that intention is a fundamental antecedent of entrepreneurial behavior. Subsequently, our current research aims to contribute to the nascent literature of psychological disorders and their relationship to the entrepreneurship field by focusing especially on entrepreneurial intention and behavior. By doing so, our study will validate and extend prior research.

Second, we contribute empirically to the cumulative knowledge within the growing field of ADHD-entrepreneurship literature by examining the role of entrepreneurial intention in the development of entrepreneurial action in individuals with hyperactive/impulsive behavior based on hypotheses derived from the theory. To our knowledge, no prior studies have examined the mediating role of entrepreneurial intention in the relationship between

ADHD behavior and entrepreneurial action and none has investigated the direct effect of ADHD behavior on entrepreneurial action.

Third, our results offer several applied contributions that will help both those with ADHD behavior and stakeholders in the entrepreneurial ecosystem. Incubators should not only be aware of the challenges posed by ADHD behavior, but also understand these individuals' particular needs, develop mechanisms to promote their intention and facilitate the road by offering them services adapted to their needs, to help these "energetic" young people develop their entrepreneurial intention and found their own companies. Entrepreneurship teachers could emphasize hyperactivity/impulsivity, which manifests itself both physically and verbally, to encourage students who display this behavior to explore the option of entrepreneurship in order to improve their career choices. Helping them develop the skills and perseverance necessary to found their own businesses could ultimately reduce the unemployment rate among young Tunisian university graduates. In addition, career coaches should help individuals with ADHD behavior overcome interpersonal and business-related challenges in their entrepreneurial activities by recommending well-designed strategies.

This study could thus be of interest to all those involved in the process of creating a new business, since it clarifies the interaction of the individual with his/her work environment and the interaction of the characteristics of ADHD behavior with the development of entrepreneurial intention, which will be transformed into entrepreneurial action. As noted by Wiklund et al. (2016: 15), "*given that acting entrepreneurially is crucial in today's hyper-competitive, high-velocity global business environment, findings that "negative" ADHD characteristics facilitate entrepreneurial action would challenge explicit and implicit assumptions within both these literatures, opening up new avenues for theoretical development.*"

2. Literature Review

In this section, we will first discuss the theories mobilized in the context of our study. Second, we will define the key concepts of our research (attention deficit/hyperactivity disorder [ADHD], entrepreneurial intention and entrepreneurial action) by briefly analyzing their dimensions and domains.

2.1 Theoretical Framework

Two theoretical approaches are mobilized for this study. The theory of person-environment adjustment (P-E) is used to analyze the career choices of individuals who display ADHD behavior. The theory of planned behavior (TPB) conceptualizes intention as an immediate antecedent of behavior.

2.2 The Person-Environment (P-E) Fit Theory

Research exploring the link between Attention Deficit/Hyperactivity Disorder (ADHD) and entrepreneurship, while nascent, often draws on the person-environment (P-E) fit theory developed by Kristof-Brown et al. (2005). Indeed, the use of person-environment (P-E) fit theory as a theoretical framework to explain and predict the relationship between ADHD and entrepreneurship is the choice of a growing number of studies (Verheul et al., 2015; Wiklund et al., 2016; Wiklund et al., 2017; Canits et al., 2019; Leung et al., 2020).

Verheul et al. (2015) argued that the idea of (P-E) fit draws on the principles of "interactional psychology," stating that neither personal factors nor environmental factors alone can explain individual behavior. Wiklund et al. (2017) reported that individuals are attracted to work environments that feature cultures, values and demands that match their own personalities, needs and skills according to the person-environment (P-E) fit theory. Thus, Hatak et al. (2020) claimed that the work environment can be analyzed at different levels of specificity, including profession, such as entrepreneurship or organization.

In ADHD research in the field of entrepreneurship,

person-environment (P-E) fit has received increasing attention, focusing on attitudes, such as intentions and preferences (Verheul et al., 2015), behaviors, such as the likelihood of engaging in business start-up activities (Lerner et al., 2019; Wiklund et al., 2017) and outcomes, such as entrepreneurial performance (Hatak et al., 2020).

2.3 The Theory of Planned Behavior (TPB)

According to Rodrigues et al. (2019), the use of the theory of planned behavior (TPB) as a theoretical framework for the study of entrepreneurial intention is the choice of a growing number of studies (Autio et al., 2001; Ferreira et al., 2012; Liñán & Chen, 2009; Paço et al., 2011). This theory is based on the model of reasoned action developed by Ajzen and Fishbein (1980), which conceptualizes the strength of intention as an immediate antecedent of behavior (Salah, 2014; Kautonen et al., 2015).

Indeed, the theory of planned behavior explains entrepreneurial intention on the basis of three cognitive antecedents: personal attitude, subjective norms and perceived behavioral control (see Figure 1). Personal attitude refers to the individual's favorable or unfavorable evaluation of the targeted behavior. Subjective norms include the opinions of social reference groups, such as family and friends, about whether the individual should or should not perform the behavior. The perceived behavioral control is the perceived ease or difficulty of performing the behavior.

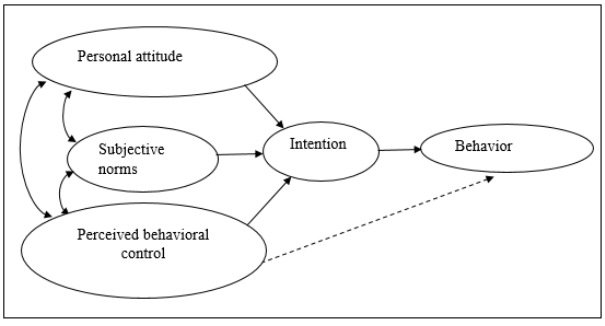

Figure (1)
The theory of planned behavior (Ajzen, 1991: 182)

Previous studies on entrepreneurship revealed that the three antecedents explain 30% to 45% of the variation in intentions (Kautonen et al., 2015). Additionally, a meta-analysis indicated that TPB accounts for 27% and 39% of the variance in behavior and intentions, respectively (Rauch & Hulsink, 2015).

2.4 Conceptual Framework

2.4.1 Attention-Deficit/Hyperactivity Disorder (ADHD)

According to the American Psychiatric Association (2013), ADHD is a developmental disorder characterized by abundant energy in the form of severe and persistent hyperactivity and distractibility, that is primarily driven by behavioral "disinhibition" or lack of restraint (Barkley, 1997; Nigg, 1999, cited by Verheul et al., 2015). Wiklund et al. (2016) and Leung et al. (2020) defined ADHD as a "common neurodevelopmental" psychological disorder characterized by problems with concentration, impulsivity and high activity levels. ADHD is a common clinical condition, defined by impulsive, hyperactive and inattentive behavior (APA, 2013), affecting people of all ages worldwide (Lerner et al., 2018).

According to Verheul et al. (2015), individuals who display ADHD behavior may struggle to meet the demands of a regular work environment. They generally look for activities that do not require close supervision and allow them to work independently. Their distractibility, stemming from weaker inhibitory control, may prevent them from successfully engaging in activities that require sustained attention. Similarly, Wiklund et al. (2016) stated that people who display ADHD behavior have difficulty concentrating on tasks that they do not find interesting, but may exhibit intense concentration and become completely absorbed in tasks and activities that they enjoy.

ADHD can be severely disabling and has been linked to negative life outcomes, such as poor school performance, imprisonment, unemployment, drug abuse and addiction (Wiklund et al., 2017). Tucker et al. (2021) found common social and occupational difficulties facing people with ADHD, such as low employment rates and lower performance ratings from supervisors, as well as higher absenteeism and a greater number of work accidents. It is therefore not surprising that people who display ADHD behavior lack self-confidence and have low self-esteem, implying low self-efficacy, which is particularly problematic when applied to the entrepreneurial context.

Although previous research primarily focused on the negative consequences of ADHD on individual performance in formal education and wage employment, Verheul et al. (2016) cited recent studies that highlighted positive aspects of ADHD behavior, such as its association with resilience and well-being, close friendships and third-party inferences about individuals' generative qualities (creative, visionary, good at generating ideas).

According to Verheul et al. (2016), when people with ADHD behavior develop mechanisms to cope with their "weaknesses," they can harness their extraordinary talents and perform as well as, or even better than, their peers in business. Thus, Verheul et al. (2015) argued that these individuals may develop greater resilience to failure as well as skills to cope with adversity and succeed against significant obstacles, due to their experience with the negative consequences of ADHD in early childhood. In this sense, Verheul et al. (2015) also found that adults who are highly functional and exhibit ADHD behavior may demonstrate greater resilience to disappointment.

The American Psychiatric Association (2013) defines ADHD as an inattentive, hyperactive and impulsive behavior. As such, there are two important dimensions of ADHD behavior: inattention and hyperactivity/impulsivity. Tucker et al. (2021) defined inattention as a lack of attention to detail and a propensity to make reckless mistakes in schoolwork, work or other activities. Inattention can also manifest as avoidance or reluctance to engage in tasks that require sustained mental effort. Yu et al. (2019) considered individuals with high levels of inattention symptoms to be cognitively uninhibited, meaning they are easily troubled by new information and find it difficult to ignore information which is irrelevant to the task at hand. They elaborated that this disinhibition can increase divergent thinking abilities, which can translate into creativity, hence more novel ideas. However, Yu et al. (2019) pointed out that inattention reduces convergent thinking, which is essential to complete the innovation process. Overall, inattention can lead to more ideas being generated, but not necessarily to more innovations being implemented.

According to Yu et al. (2019), hyperactivity/ impulsivity involves excessive energy levels, easy emotional arousal and behavioral disinhibition. Symptoms include constant fidgeting with hands and feet, a "never stopping mind" manifested by excessive talking, unfocused responses, difficulty in waiting and constant interruption of others (Tucker et al., 2021).

2.4.2 Entrepreneurial Intention

Entrepreneurial intention has long been a topic of interest for entrepreneurship researchers. It is generally defined as the extent to which an individual plan to start a business/become an entrepreneur (Lerner et al., 2018). For Vamvaka et al. (2020), entrepreneurial intention is the mindset that directs and guides attention, experience, actions, objective setting, communication, commitment, organization and other types of an individual's work towards the adoption of entrepreneurial behavior. Similarly, Kong et al. (2020) defined entrepreneurial intention as a psychological state that guides individuals' attention towards specific business goals in order to achieve entrepreneurial results and stated that it is also the recognition that individuals are taking steps to develop new businesses or create new values in existing ones.

According to Liñán and Chen (2009), entrepreneurial intention indicates the effort that a person will make to adopt entrepreneurial behavior. Biraglia and Kadile (2017) argued that entrepreneurial intention constitutes the individual's interest in starting a business and added that it reflects the individual's interest in choosing an alternative career path to regular employment. For Shirokova et al. (2016), entrepreneurial intention reflects the individual's commitment to venture into the creation of a new business and serves as a key antecedent of entrepreneurial behavior.

According to Kong et al. (2020), many studies have explored factors affecting entrepreneurial intention, such as personal characteristics, self-efficacy, risk perception, system design, … etc. For Liñán and Chen (2009), entrepreneurial intention can be influenced by several factors, such as needs, values, desires, habits and beliefs (Bird, 1988; Lee & Wong, 2004). In particular, the cognitive factors that Ajzen (1991) called "motivational antecedents" are more favorable to increase the intention to launch a business. Situational antecedents, according to Liñán and Chen (2009), are the external factors, such as time constraints, task difficulty and social pressure that influence an individual's attitude towards entrepreneurship and even his/her entrepreneurial intention. In terms of push and pull factors, negative stimuli (i.e., layoffs, frustration, unemployment and underemployment) may be more likely than positive stimuli (i.e., access to information, advice, guidance and support) to trigger entrepreneurial intention (Solesvik et al., 2014).

While the literature on the determinants of entrepreneurial intention has taken only a psychological perspective (Douglas & Fitzsimmons, 2013), Verheul et al. (2015) extended its scope by including ADHD behavior as a determinant of entrepreneurial intention. The literature on entrepreneurial intention distinguishes two theoretical approaches: Shapero and Sokol's (1982) entrepreneurial event model and Ajzen's (1991) theory of planned behavior. These two models provide a coherent, highly generalizable and robust theoretical framework for understanding and predicting entrepreneurial intention (Rodrigues et al., 2019).

Shapero and Sokol (1982) explained the act of business creation through three groups of important factors that can change an individual's life (see Figure 2):

1) Negative displacements include divorce, emigration and dismissal.
2) Intermediate situations refer to events like leaving the army, dropping out of school or leaving prison.
3) Positive displacements include the influence of the family, the existence of a market or the existence of potential investors.

Researchers have identified two groups of intermediate variables between the three aforementioned factors and the act of creating a business that represent perceptions of desirability and feasibility. Desirability represents the social and cultural factors that act on the value system of the individual. Feasibility refers to perceptions of the factors supporting business creation. Among these factors, we distinguish the availability of advice and the financial means necessary for the creation of the business, the help of the social network (spouse and friends) and entrepreneurial training, which act on perceptions of feasibility.

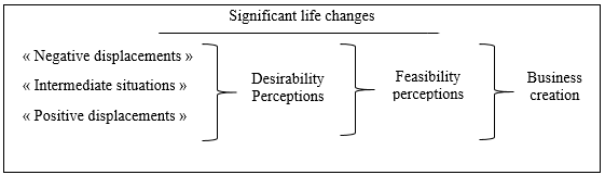

Figure (2)
The formation of the entrepreneurial event
(Shapero & Sokal, 1982: 83)

Tounés (2006) considered that Shapero and Sokol (1982)'s model is implicitly based on intention. Thus, to promote the intention to create a business, it is necessary to act simultaneously on desirability perceptions and feasibility perceptions.

2.4.3 Entrepreneurial Action

Entrepreneurial action is often defined as a nascent entrepreneurial behavior, i.e., actions associated with starting a business, such as developing opportunities, making a prototype and attempting to acquire start-up resources (Sandri, 2016; Lerner et al., 2018). Thus, the decision to create a new business is seen as a reflective activity and a planned behavior in entrepreneurs (Kong et al., 2020). According to Sproul et al. (2019), entrepreneurial actions are efforts and investments made in response to a judgmental decision under a person's uncertainty about a possible opportunity for profit.

Entrepreneurial action can be conceptualized as multiple activities rather than a single act (Wiklund, Yu & Patzelt, 2018). Through this lens, Botha et al. (2019) defined entrepreneurial action as the process of assembling continuous, interdependent actions into sequences that produce sensible results. Botha et al. (2019) emphasized that most entrepreneurship research admits that entrepreneurial action refers to a process and does not correspond to a single step. Therefore, Botha et al. (2019) considered that the process of starting a new business involves multiple complex and interrelated activities that could be performed in any order.

The literature on entrepreneurial action identifies different factors affecting entrepreneurial action in many aspects, such as entrepreneurship education, entrepreneurial orientation, entrepreneurial intention, ... etc. Rauch and Hulsink (2015) focused on entrepreneurship education, which aims to train people in entrepreneurship and prepare them for entrepreneurial careers. These two researchers claimed that entrepreneurship education has an impact on entrepreneurial behavior. They stated that entrepreneurship education is an antecedent of entrepreneurial behavior. Moruku (2013) argued that entrepreneurial orientation is an antecedent of entrepreneurial behavior and explained that entrepreneurs who promote entrepreneurial orientation take action to realize their entrepreneurial thoughts, plans and dreams (Tamzini, 2023). According to Kong et al. (2020), all entrepreneurship begins with the generation of entrepreneurial intention, which has a predictive effect on entrepreneurial behavior. The entrepreneurial process can be divided into two stages: the formation of entrepreneurial intention and the implementation of entrepreneurial behavior.

3. Development of Research Hypotheses and Construction of a Conceptual Model

In this part of our paper, we will expose the relationships between the different research concepts that have been developed by reviewing the previous literature to finally build our conceptual model and develop our research hypotheses.

3.1 ADHD Behavior and Entrepreneurial Intention

A central theme in the mental-health and entrepreneurship literature is that certain aspects of ADHD can be leveraged in positive ways and can lead people with ADHD (or who display ADHD behavior) to find a career suitable for entrepreneurship (Tucker et al., 2021).

Several studies drawing on the ADHD literature have emerged suggesting a positive association between ADHD behavior and entrepreneurship, including an increased likelihood of entrepreneurial intention in people with ADHD behavior (Verheul et al., 2015). For example, in the first large-scale, topic-focused scientific survey sampling over 13,000 university students, Verheul et al. (2015) associated a continuous indicator of ADHD behavior with entrepreneurial career intentions. According to Lerner and Verheul (2016), people with ADHD espose entrepreneurial preferences and intentions. Verheul et al. (2015) found that ADHD behavior is predictive of entrepreneurial career intentions. Similarly, Leung et al. (2020) stated that ADHD behavior is positively associated with entrepreneurial intention (Verheul et

al., 2015). The positive link between ADHD and entrepreneurial intention is also found in people with clinical diagnoses of ADHD (Lerner et al., 2018).

Most definitions of entrepreneurship include self-employment (Antshel, 2018), which is not just any career choice; it is a manifestation of entrepreneurship that is essential for job creation, innovation and economic growth in modern societies (Verheul et al., 2016). Studies have shown that adults with ADHD are more likely to own their businesses and be self-employed (Antshel, 2018).

3.1.1 Dimensions of ADHD Behavior and Entrepreneurial Intention

Several entrepreneurship researchers have analyzed the components of ADHD behavior separately (Verheul et al., 2016; Wiklund et al., 2017; Antshel, 2018). For instance, Antshel (2018) suggested a relationship between ADHD behavior dimensions and entrepreneurial intention and proposed that the hyperactivity/impulsivity dimension is the driver of this relationship. In addition, Wiklund et al. (2017) found that hyperactivity/impulsivity is positively associated with entrepreneurial intentions, while inattention is negatively associated with entrepreneurial intentions. Leung et al. (2020)'s results support the positive association of hyperactivity/impulsivity with entrepreneurial intention, but found no significant association between inattention and entrepreneurial intention. Based on our review of the existing literature, we make the following assumptions:

H1.a: Inattention has a negative and insignificant impact on entrepreneurial intention.

H1.b: Hyperactivity/impulsivity has a positive and significant impact on entrepreneurial intention.

3.2 Entrepreneurial Intention and Action

According to Ajzen (1991), the starting point of entrepreneurial action is the development of an intention. This suggests a link between entrepreneurial actions and entrepreneurial intentions.

Neneh (2019) considered that the direct association between entrepreneurial intention and entrepreneurial behavior stems from the theory of planned behavior (TPB), which posits that intention is a good predictor of real entrepreneurial behavior. Several entrepreneurship researchers have chosen these theoretical foundations as a basis in their studies to examine the relationship between entrepreneurial intentions and actions, to determine the likelihood of individuals starting their own businesses (Neneh, 2019). For example, Shirokova et al. (2016) showed that entrepreneurial intention was positively related to entrepreneurial activity among students from 759 universities in 34 countries. Similarly, Shinnar et al. (2017) confirmed the positive association between entrepreneurial intention and real behavior using four-year longitudinal data from management students in the United States. Neneh (2019) confirmed the existence of a link between entrepreneurial intention and entrepreneurial behavior among university students in South Africa. By studying the relationship between the intention and behavior of students enrolled in 74 universities in 34 countries, Gieure et al. (2020) showed that intentions have a positive effect on entrepreneurial behavior and that intentions can lead students to create their own businesses. In addition, Kong et al. (2020) found that the relationship between entrepreneurial intention and entrepreneurial behavior was highly significant among graduate students from 35 universities in China between 2012 and 2018, indicating that entrepreneurial intention has a significant positive relationship with entrepreneurial behavior. Based on our review of the existing literature, we make the following assumption:

H2: Entrepreneurial intention has a positive and significant impact on entrepreneurial action.

3.3 The Mediating Role of Entrepreneurial Intention

Results suggest that ADHD behavior has positive relationships with entrepreneurial intentions (Verheul

et al., 2015), entrepreneurial activity (Wiklund et al., 2017) and the pursuit of self-employment (Verheul et al., 2016). More specifically, Verheul et al. (2016) investigated the relationships between ADHD-behavior dimensions and people already engaged in self-employment (behavior). This study showed that the dimension of ADHD behavior most related to self-employment is hyperactivity/impulsivity, not inattention. Moreover, since many researchers, such as Shirokova et al. (2016), Shinnar et al. (2017), Neneh (2019), Gieure et al. (2020) and Kong et al. (2020), have shown that intentions significantly predict entrepreneurial behavior, it seems logical to assume that:

H3.a: Entrepreneurial intention plays a mediating role between inattention and entrepreneurial action.

H3.b: Entrepreneurial intention plays a mediating role between hyperactivity/ impulsivity and entrepreneurial action.

Based on these analyses, we present our conceptual model (Figure 3).

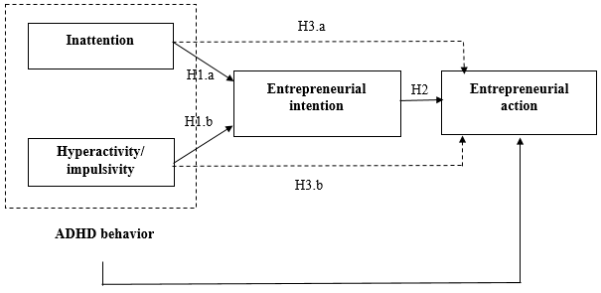

Figure (3)
Conceptual model

4. Methodology and Data Analysis

In this section, we will present the epistemological posture as well as the research methodology adopted in this work.

4.1 Epistemological Positioning and Research Methodology

To solve our problem and achieve our fundamental objective, our research was placed in a positivist perspective. Indeed, this research is based on a deductive approach, since it is from acquired knowledge, theories and concepts that we have formulated hypotheses, which will then be tested against the facts. Therefore, our conceptual model will be tested by adopting a quantitative approach, based on the administration of a questionnaire as a mode of data collection.

4.2 Data Collection and Processing

Our questionnaire was conducted online. We explained to respondents the purpose of our survey and guaranteed the confidentiality of the data. The questionnaire was administered between March 2021 and April 2021 and we collected 267 responses.

Data processing was carried out with two software programs: SPSS (version 21) and Smart PLS 3. The SPSS software was used to process demographic variables. The SmartPLS 3 (Partial Least Square) software was used to analyze the measurement model and the structural model and to test the hypotheses. The PLS was chosen for our study analysis for several reasons. First, as emphasized by Ringle et al. (2015), PLS is widely used in business management and related disciplines. Second, it is considered the most comprehensive and fully developed system of variance (McDonald, 1996). Third, Matthews and Matthews (2018) stated that PLS could be used for mediation and moderation analysis. Finally, as suggested by Becker et al. (2012), the present research employed a two-step approach (an evaluation of measurements and a structural model).

4.3 Sample

Our sample consists of 267 students enrolled in a large Tunisian university. 81.6% of our respondents are women, while men represent 18.4%. 75.3% are between 20 and 25 years old and 7.1% are between 25 and 35 years old. Regarding the level of education, 63.7% of the students are in the first cycle of study; of

these students, 46.8% are enrolled in the fundamental-degree program and 16.9% are registered in the applied-degree program. 30.3% of the students are in the second cycle of study; of these, 18.7% are enrolled in a professional master-degree program and 11.6% are enrolled in a research master-degree program. 3.4% of the students have doctoral degrees, while 2.6% have engineering degrees. Regarding entrepreneurship education, 69.3% of the students took an entrepreneurship course during their time at the university, while 30.7% of the students did not. As for entrepreneurial experience, the results show that only 20.2% of the students have entrepreneurial experience, while 79.8% of the respondents do not. Regarding work experience, 65.9% of the students do not have work experience and only 26.6% have work experience of less than 3 years. Finally, the results show that 22.5% of the students had an entrepreneur parent and 77.5% did not.

As stated by Hsu et al. (2017), a sample composed homogeneously of university students is suitable to explain the effects of ADHD symptoms on entrepreneurial intention and entrepreneurial action. They argued that their choice was based on two reasons. First, university students will have to face career choices soon after graduation. Second, they tend to have minimal work and entrepreneurial experiences.

On a related note, Lerner et al. (2019) presented another reason to select university students as a suitable sample for studying the relationship between ADHD and the determinants of entrepreneurship. They stated that "*given the age of the respondents, the inquiry offers the advantage of capturing individuals prior to the possibility of being forced into entrepreneurship and prior to selection and sampling biases that would be present in older workers*" (Lerner et al., 2019: 385). Moreover, this kind of convenience sample, which is suitable for our research question, "*is not intended to proxy some other population such as entrepreneurs, (…) and offers a conservative test of the fundamental relationship in question*" (Lerner et al., 2019: 385). Based on the nature of our research question (whether ADHD behavior is linked to entrepreneurial action *via* entrepreneurial intention), we do not seek to provide evidence for a well-established effect generalizable to the whole population or to provide insight into the mechanisms underlying a link. This reduces the sampling bias.

In order to limit the selection bias and increase the sample size, we first pre-tested our questionnaire before administering it to the entire sample. The pre-test is a necessary and important step, which consists of testing the measuring instrument with a small sample of individuals in order to improve its quality, detect errors and ensure that the questions are understandable and fluid. Second, due to COVID-19, our questionnaire was sent only online, as university students are very active on social networks, especially on nationwide Facebook groups that cover much of this population. Third, we informed the university students about our survey's objective and guaranteed their responses' confidentiality.

4.4 Operationalization of Variables

Table 1 summarizes the type and nature of the measurement scales used to operationalize our research variables, as well as the number of items for each of these scales.

Table 1

Measurement of variable

Variables	**Type**	**Nature**	Items
ADHD behavior	Verheul et al. (2016)	5-point Likert scale ranging from 1 = never to 5 = very often	18
Entrepreneurial intention	Liñán and Chen (2009)	5-point Likert scale ranging from 1 = completely disagree to 5 = completely agree	6
Entrepreneurial action	Rauch and Hulsink (2015)	Binary questions (yes/no) covering a representative set of activities associated with the creation of new businesses	18

5. Data Analysis and Results

This section concerns the assessment of our research model as well as the validation of our hypotheses.

Based on Becker et al.'s (2012) proposition, our research used a two-step approach for PLS; namely, the assessment of the measurement model and the assessment of the structural model. Evaluation of the measurement model includes reliability and validity, while evaluating the structural model focuses on the coefficient of determination, path coefficient, mediation test, model fit, hypotheses testing, … etc.

5.1 Measurement Model Evaluation and Results

Two types of construct validity are to be considered: convergent validity and discriminant validity.

5.1.1 Convergent Validity

Convergent-validity testing consists of verifying that the various indicators of one construct are linked and correlated with each other. If this is the case, the items measure the construct well. The convergent validity of a construct can be ensured through three criteria:

- The first criterion involves the reliability of the items measured by the "Cronbach's alpha" coefficient. This coefficient, which makes it possible to check whether each item is consistent with all the other items of the scale, must be > 0.70.
- The second criterion relates to the variance of the means extracted, "AVE," which must be greater than 0.5. When the AVE is above this threshold, the variance explained by the items is greater than the variance due to measurement errors.
- The third criterion corresponds to the reliability of the "CR" components, which measures the overall reliability of the construct. This coefficient must be > 0.70.

Table 2

Construct reliability and validity

Variable	**AVE**	**CR**	**Cronbach's Alpha**
ADHD INA	0.731	0.972	0.969
ADHD_HYP/IMP	0.674	0.978	0.976
Entrepreneurial intention	0.756	0.949	0.935
Entrepreneurial action	0.508	0.939	0.937

From Table 2, we note that the reliability of the different measurement scales of our conceptual model based on

the CR and on Cronbach's alpha is good. Thus, the convergent validity is verified.

5.1.2 Discriminant Validity

Discriminant validity refers to the extent to which items on the scale measuring one concept differ from items intended to measure other related concepts. To assess convergent validity, it is acceptable to use the cross-loading and Fornell and Larcker criteria. In the present case, the threshold value of the minimum cross-loading is 0.510. For the Fornell-Larcker criterion, which compares the square root of the mean variance extracted (AVE) with the correlation of the latent variables, we present Table 3.

Table 3
Fornell-Larcker criterion

	EA	**EI**	**ADHD _HYP/IMP**	**ADHD _INA**
EA	**0.723**			
EI	0.241	**0.750**		
ADHD _HYP/IMP	0.013	0.156	**0.781**	
ADHD _INA	-0.130	-0.005	0.043	**0.771**

We can observe that each variable of our conceptual model is strongly correlated with itself. However, the correlation of each variable with the other variables is weak. Analysis of the table also shows that entrepreneurial action better explains the variance of its own indicator by 72% compared to the variance of other latent variables.

5.2 Structural Model Evaluation and Results

5.2.1 Coefficient of Determination "R^2"

The coefficient of determination R^2 expresses the part of the variance of the dependent variable that comes from those of the independent variables.

As shown in Table 4 below, entrepreneurial intention explains 7.5% of the variation in entrepreneurial action, which implies that there are other variables to assist this link.

Table 4
Coefficient of determination "R^2"

	R^2	**Result**
Entrepreneurial action	0.075	Unacceptable
Entrepreneurial intention	0.025	Unacceptable

5.2.2 Effect Size F^2

This indicator measures the effect size of each independent variable on the dependent variable.

Thus, the effect size is interpreted as follows:

- If $F^2 > 0.35$, the effect size is considered large.
- If F^2 varies between 0.15 and 0.35, the effect size is assumed to be medium.
- If F^2 varies between 0.02 and 0.15, the effect size is restricted.
- If $F^2 < 0.02$, there is no size effect.

Table 5
Effect size "F^2"

	EA	EI	ADHD _HYP/IMP	ADHD _INA	Result
EA					
EI	0.063				**Restricted**
ADHD _HYP/IMP	0.000	0.025			**No size effect/ Restricted**
ADHD _INA	0.018	0.000			**No size effect**

Based on Table 5, we note that entrepreneurial intention has a small effect size of 6.3% on entrepreneurial action. Inattention has no effect on entrepreneurial intention and entrepreneurial action. Thus, hyperactivity/impulsivity has a small effect size of 2.5% on entrepreneurial intention and has no effect on entrepreneurial action.

5.2.3 Model Global Assessment

Model fit (see Table 6) provides calculated fit statistics on all models. It provides a concise summary of the fit of the models with the estimated parameters to the data.

Table 6
Model fit

	Saturated Model	Estimated Model
SRMR	0.082	0.082
NFI	0.674	0.674

The saturated model evaluates the correlation between all the constructs. The estimated model is based on a total effect pattern and considers the structure of the model. It is therefore a more restricted version of the adjustment measure.

The SRMR (Standardized Root Mean Square Residual) is defined as the difference between the observed correlation and the implicit correlation matrix of the model. Thus, it makes it possible to assess the average magnitude of the deviations between the observed and expected correlations as an absolute measure of the fit criterion (of the model). A value less than 0.10 or 0.08 is considered a good fit.

The NFI (Normed Fit Index) is the proportion of the total covariance explained by the model tested compared to the base model. It is defined as 1 minus the chi^2 value of the proposed model divided by the chi^2 values of the null model. Therefore, the NFI gives values between 0 and 1. The closer the NFI to 1, the better the fit. NFI values greater than 0.9 generally represent an acceptable fit.

As shown above, the comparison between our model and the saturated model made it possible to highlight the values of the SRMR and NFI indices. For the SRMR indicator, the values are less than 0.10. This shows the adequacy of the model with the parameters estimated from the data. Therefore, we can conclude that the overall model has a better fit. However, the value of the NFI is far from 0.9, which confirms a poor quality of adjustment of our model.

5.2.4 Mediation Effect

The mediator variable is an intermediate variable that explains the relationship between an independent variable and a dependent variable. Indeed, we want to, on one hand, assess whether entrepreneurial intention is the mediator of the direct effect between hyperactivity/impulsivity and entrepreneurial action and, on the other hand, assess whether entrepreneurial intention is the mediator of the direct effect between inattention and entrepreneurial action.

Table 7 shows that the relationship between the

independent variable (hyperactivity/impulsivity) and the dependent variable (action) *via* the mediating variable (intention) is significant ($p < 0.05$). In fact, these results show that entrepreneurial intention plays a mediating role in the relationship between hyperactivity/impulsivity and entrepreneurial action ($B = 0.038$, $t = 1.975$, $p < 0.05$). In our case, it is a total mediation, because the direct effect between hyperactivity/impulsivity and entrepreneurial action is not significant ($p>0.05$) and the indirect effect between hyperactivity/impulsivity and entrepreneurial action is significant ($p < 0.05$).

Table 7
Mediation effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-statistics (|O/STDEV|)	P-values
EI -> EA	0.244	0.253	0.053	4.567	**0.000**
ADHD_HYP/IMP -> EA	-0.020	-0.023	0.093	0.210	**0.834**
ADHD _HYP/IMP -> EI	0.157	0.166	0.073	2.151	**0.032**
ADHD _INA -> EA	-0.128	-0.131	0.082	1.556	**0.120**
ADHD _INA -> EI	-0.012	-0.021	0.105	0.117	**0.907**
ADHD _HYP/IMP -> EI -> EA	0.038	0.041	0.019	1.975	**0.048**
ADHD _INA -> IE -> EA	-0.003	-0.005	0.027	0.111	**0.912**

5.2.5 Testing of Hypotheses

Table 8 shows the results of testing our research hypotheses:

- The relationship between inattention and entrepreneurial intention is negative and not significant (P-value = 0.907).
- There is a positive and highly significant relationship (P-value = 0.032) between hyperactivity/impulsivity and entrepreneurial intention.
- The relationship between intention and entrepreneurial action is positive and highly significant (P-value = 0.000).
- The relationship between inattention and entrepreneurial action is negative and not significant (P-value = 0.120).
- The relationship between hyperactivity/impulsivity and entrepreneurial action is negative and not significant (P-value = 0.834).

Table 8
Testing of Hypotheses

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Decision
ADHD _INA -> EI	-0,012	0.105	0.117	**0.907**	**No sig.***
ADHD _HYP/IMP -> EI	0.157	0.073	2.151	**0.032**	**Sig.***
EI -> EA	0.244	0.053	4.567	**0.000**	**Sig.***

ADHD _INA -> EA	-0.128	0.082	1.556	**0.120**	**No sig.***
ADHD _HYP/IMP -> EA	-0.020	0.093	0.210	**0.834**	**No sig.***
ADHD _HYP/IMP -> EI -> EA	0.038	0.019	1.975	**0.048**	**Sig.***
ADHD _INA -> EI -> EA	-0.003	0.027	0.111	**0.912**	**No sig.***

Significative p* <0.05

Based on the above data, Table 9 presents a summary of the validation of our research hypotheses.

Table 9

Summary of validation of research hypotheses

Hypotheses	Validation criterion
H1.a: Inattention has a negative and insignificant impact on entrepreneurial intention.	Confirmed
H1.b: Hyperactivity/impulsivity has a positive and significant impact on entrepreneurial intention.	Confirmed
H2: Entrepreneurial intention has a positive and significant impact on entrepreneurial action.	Confirmed
H3.a: Entrepreneurial intention plays a mediating role between inattention and entrepreneurial action.	Rejected
H3.b: Entrepreneurial intention plays a mediating role between hyperactivity/impulsivity and entrepreneurial action.	Confirmed

6. Discussion

We studied the links between the two types of ADHD behavior; namely, inattention and hyperactivity/impulsivity and entrepreneurial action in Tunisian students. Our results show that their direct effects are not significant on entrepreneurial action.

Although ADHD behavior is positively related to business start-up activity among former MBA graduates in the United States (Wiklund et al., 2017) and the pursuit of self-employment (Verheul et al., 2016), the results of the current study show that Tunisian students who display ADHD behavior are less likely to venture into business creation. In addition, our results invalidate those of Verheul et al. (2016), who demonstrated that the ADHD behavior that explains self-employment is that of hyperactivity/impulsivity and not inattention in a population-based sample from the Swedish twin registry.

In fact, our findings show that Tunisian students who display ADHD behavior are less excited and motivated for entrepreneurial activities, despite the fact that entrepreneurship involves risky, complex and innovative activities that are generally perceived as attractive to people who display ADHD behavior (Lerner & Verheul, 2016). It is known that an individual's characteristics are important in explaining entrepreneurial intention as well as behavior (Stappers & Andries, 2020). This finding is also true for individuals with ADHD behavior (Wiklund, 2017). In this sense, these characteristics may prevent them from successfully engaging in activities that require sustained attention (Verheul et al., 2015).

Entrepreneurial behavior involves several types of activities associated with the launch of a business, such as the development of market opportunities, the preparation of a business plan, the organization of a launch team, the search for equipment, … etc., which often require special attention and careful thought (Kong et al., 2020). From this perspective, ADHD behavior, which manifests as inattention and/or hyperactivity/impulsivity, may prevent Tunisian students from engaging in entrepreneurial activities, because inattention leads to avoidance or reluctance to engage in activities that require sustained mental effort (Tucker et al., 2021). Additionally, hyperactivity/

impulsivity manifests as boredom, which results in their lack of perseverance in activities that do not interest them (Yu et al., 2019).

Leung et al. (2020) postulated that a better understanding of outcomes could be obtained by introducing a mediating construct. Thus, we investigated whether entrepreneurial intention, a recurring theme in entrepreneurship research, would explain the relationship between the two types of ADHD behavior and entrepreneurial action in Tunisian students.

Referring to P-E and TPB, the results of this study show that entrepreneurial intention plays a mediating role in the development of entrepreneurial action among Tunisian students who present, in particular, hyperactivity/ impulsivity. Students who display hyperactive/impulsive behavior are less likely to venture into business creation. Any entrepreneurial action begins with the formation of entrepreneurial intention, which has a good predictive effect on entrepreneurial behavior, according to the theory of planned behavior (TPB) (Ajzen, 1991). In this sense, Tunisian students who display hyperactive/impulsive behavior will be inclined to act on their intentions and will engage in entrepreneurial activities as soon as their intentions have been formed.

By studying the links between the two types of ADHD behavior (inattention and hyperactivity/impulsivity) and the entrepreneurial intention of Tunisian students, we found that the "hyperactivity/impulsivity" behavior seems to drive this relationship more than the "inattention" behavior. The results of the current study confirm the existence of a positive and significant relationship between hyperactivity/impulsivity and entrepreneurial intention. However, a non-significant negative relationship was found between inattention and entrepreneurial intention.

Our results are largely consistent with those of previous studies. For example, Wiklund et al. (2017) found that hyperactivity/impulsivity is positively associated with entrepreneurial intention, while inattention is negatively associated with entrepreneurial intention among former MBA graduates from an AACSB[1]-accredited US business school consistently ranked among the top-50 public business schools in the United States. Leung et al. (2020) also showed a positive association between hyperactivity/impulsivity and entrepreneurial intention and a non-significant association between inattention and entrepreneurial intention in Dutch students enrolled at a top university.

Tunisian students who display hyperactive/ impulsive behavior seem to prefer entrepreneurial careers to salaried careers when there is a better match between their individual characteristics and the demands of entrepreneurship compared to employment in a regular business environment. These results provide further support for the person-environment "P-E" theory, which posits that the functionality of a component of ADHD behavior depends on its fit with the environment (Antshel, 2018; Leung et al., 2020). In other words, the uncertain and autonomous entrepreneurial environment seems to be an attractive career choice for Tunisian students who display hyperactive/impulsive behavior.

To verify the relationship between entrepreneurial intention and entrepreneurial action, our current study relies on the theory of planned behavior (TPB). In line with this positioning, most studies have supported the idea that entrepreneurial intention has a predictive effect on entrepreneurial behavior (Shirokova et al., 2016; Shinnar et al., 2017; Neneh, 2019; Gieure et al., 2020; Kong et al., 2020).

The results of the current study confirm the existence of a positive and highly significant relationship between entrepreneurial intention and entrepreneurial action. Tunisian students who are guided by entrepreneurial intentions have a higher

[1] **AACSB**: The American label AACSB (Association to Advance Collegiate Schools of Business), created in 1916, is an accreditation that rewards business schools for the quality of their management training.

probability of acting according to these intentions and engaging in entrepreneurial activities. Generally, people who have strong intentions for a particular behavior are generally more likely to put a lot of effort into engaging in that behavior (Neneh, 2019). In other words, Tunisian students with entrepreneurial intentions would invest a lot of effort and energy to turn their intentions into entrepreneurial action.

Our results are largely consistent with the results of previous studies, such as that of Shirokova et al. (2016), who showed that entrepreneurial intention is positively related to entrepreneurial activity among students from 759 universities in 34 countries. Similarly, Shinnar et al. (2017) supported the positive association between entrepreneurial intention and actual behavior using four-year longitudinal data from management students in the United States. Neneh (2019) confirmed the existence of a link between entrepreneurial intention and entrepreneurial behavior among university students in South Africa. By studying the relationship between the intentions and behavior of students enrolled in 74 universities in 34 countries, Gieure et al. (2020) also showed that intentions have a positive effect on entrepreneurial behavior and that intentions can lead students to create their own businesses. In addition, Kong et al. (2020) found that the relationship between entrepreneurial intention and entrepreneurial behavior was highly significant among graduate students from 35 universities in China between 2012 and 2018, indicating that entrepreneurial intention has a significant positive relationship with entrepreneurial behavior.

7. Research Contributions

The present study offers significant contributions in understanding the importance of ADHD behavior for entrepreneurship.

7.1 Theoretical Implications

The theoretical implications of this study are twofold. First, it illuminates the powerful role of entrepreneurial intention in the development of entrepreneurial action in people with hyperactive/impulsive behavior, in particular. To the best of our knowledge, this is the first study that highlights the mediating role of entrepreneurial intention in the development of entrepreneurial action in these individuals.

Second, the results of the current study further support the person-environment (P-E) theory, which posits that the functionality of a component of ADHD behavior depends on its fit with the environment. In particular, the uncertain and autonomous entrepreneurial environment could be an attractive career choice for people who display hyperactive/impulsive behavior. As for the theory of planned behavior (TPB), the results of this study also show that intention is a fundamental antecedent of entrepreneurial behavior.

7.2 Empirical Implications

The current paper contributes empirically to the cumulative knowledge within the growing field of ADHD-entrepreneurship literature by examining the role of entrepreneurial intention in the development of entrepreneurial action in individuals with hyperactive/impulsive behavior based on hypotheses derived from the theory. To our knowledge, no prior studies have examined the mediating role of entrepreneurial intention in the relationship of ADHD behavior with entrepreneurial action and none has investigated the direct effect of ADHD behavior on entrepreneurial action.

7.3 Practical Implications

The results of this study provide practical implications that can be exploited by stakeholders in the entrepreneurial ecosystem. Entrepreneurship teachers could emphasize the behavior of hyperactivity/impulsivity, which manifests itself both physically and verbally, to encourage students who

display this behavior to explore the option of entrepreneurship. This could improve their career choices and inspire them to develop the skills and the perseverance necessary to found their own businesses, which could ultimately reduce the unemployment rate among young Tunisian university graduates.

Incubators should not only be aware of the challenges posed by ADHD behavior, but also understand these individuals' particular needs, develop mechanisms to promote their intention and facilitate the road ahead by offering them services adapted to their needs. They must help these "energetic" young people develop their entrepreneurial intention in order to found their own companies.

Finally, career coaches should include assessment tests for mental disorders like ADHD in consultations and encourage people facing such disorders to explore the option of entrepreneurship and think carefully about their motivations when choosing a future profession, in order to improve their career choices and reduce the unemployment rate among these individuals. In addition, career coaches should help individuals with ADHD behavior overcome interpersonal and business-related challenges in their entrepreneurial activities by recommending well-designed strategies.

In conclusion, this study may help destigmatize ADHD as a disorder, given its positive association with entrepreneurship and its contribution to socio-economic life. In other words, psychiatric disorders not only present risks, but can also benefit individuals and society. This study could thus be of interest to all those involved in the process of creating a new business, since it clarifies the interaction of the person with his/her work environment and the characteristics of ADHD behavior with the development of entrepreneurial intention, which will be transformed into entrepreneurial action.

8. Limitations and Future-research Avenues

This study has some limitations that may provide opportunities for further research.

A sample of university students can be considered appropriate to examine the relationship between ADHD and entrepreneurial behavior, as explained above. However, our sample is relatively small and consists only of Tunisian university students, which may limit the generalizability of our results. Therefore, future studies could use an *ex ante* and longitudinal approach to establish predictability (Antoncic et al., 2015) and minimize the limitations of the cross-sectional dataset (Omri & Becuwe, 2014).

Although college students are an appropriate population to study career decisions, further research is needed to assess the relationship between ADHD behavior and entrepreneurship in samples of non-students, including both employed and unemployed individuals. This is because students are a distinct group that may exhibit more effective adaptation mechanisms; this group may also include cases that are more successful and exclude extreme cases.

The theory of planned behavior (TPB), which posits that intention is a fundamental antecedent of actual entrepreneurial behavior, has been widely used to predict entrepreneurial action. However, this theory does not consider the limits of the link between intention and entrepreneurial action. Indeed, the quality of prediction was found to be very low in our study, since only 7.5% of changes in entrepreneurial behavior were explained by intention. This could be explained by the presence of other variables, which could help this link have a good predictive quality. Therefore, adding moderating variables in the relationship between intention and entrepreneurial action may further strengthen this association, thereby increasing an individual's chances of engaging in entrepreneurial activities.

9. Conclusions

Our study follows the growing research interest in

the field of entrepreneurship regarding the link between attention deficit/hyperactivity disorder (ADHD) and entrepreneurial action.

Our research has the fundamental objective of studying the relationship between ADHD behavior and entrepreneurial behavior (entrepreneurial action) in Tunisian students. To achieve this objective, our research is placed in a positivist epistemological posture. Moreover, in order to test our conceptual model, this research uses a quantitative approach. Referring to Kristof-Brown et al.'s (2005) person-environment adjustment theory (P-E) and Ajzen's (1988) theory of planned behavior (TPB), the results of the current study show that entrepreneurial intention plays a mediating role in the development of entrepreneurial action among Tunisian students, especially in those with hyperactive/impulsive behavior. Students who display hyperactive/impulsive behavior are less likely to venture into business creation. Therefore, the formation of entrepreneurial intention is an essential step for the development of entrepreneurial behavior. Following the formation of intentions, Tunisian students who display hyperactive/impulsive behavior will be inclined to act according to these intentions and invest significant effort to engage in business creation.

Finally, to the best of our knowledge, this is the first study that highlights the mediating role of entrepreneurial intention in the development of entrepreneurial action in people with hyperactive/impulsive behavior, in particular.

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