African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Talent development within an open learning ecosystem: The case of "École 1337".

Auteur 1 : CHBANI YASMINE.
Auteur 2 : TSOULI MOUSTAIKED JAMAL.

CHBANI YASMINE, PhD candidate in Educational Sciences
Research Structure: Educational Policies and Social Dynamics
Mohammed V University / Faculty of Educational Sciences, Rabat, Morocco

TSOULI MOUSTAIKED JAMAL, Professor-researcher
Mohammed V University / Faculty of Educational Sciences, Rabat, Morocco

Déclaration de divulgation : L'auteur n'a pas connaissance de quelconque financement qui pourrait affecter l'objectivité de cette étude.

Conflit d'intérêts : L'auteur ne signale aucun conflit d'intérêts.

Pour citer cet article : CHBANI .Y & TSOULI MOUSTAIKED .J (2026) « Talent development within an open learning ecosystem: The case of "École 1337" », African Scientific Journal « Volume 03, Num 34 » pp: 1860 – 1886.

DOI : 10.5281/zenodo.18921617

AFRICAN SCIENTIFIC JOURNAL
MANAGEMENT AND ECONOMIC DEVELOPMENT

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Abstract

The diversification of pedagogical approaches in the 21st century has led to the development of various learning environments designed to foster technical and professional expertise. Within this context, École 1337 in Morocco, established as a flagship of the 42 Network, operates without traditional academic structures, following a teacher-less, project-based, and peer-to-peer methodology, relying on learner autonomy and complex problem-solving to drive knowledge acquisition and talent development. Admission is deliberately blind to academic background, professional history, and social origin, the sole criterion for entry being the candidate's performance during an immersive trial known as the "Piscine." This research investigates the internal mechanisms through which learners navigate such autonomous structures alongside the influence of social ascription, and explores how the ongoing negotiation of these identity-related dynamics, supported by psychological capital, may lay the groundwork for authentic talent development. A structured questionnaire was administered to 51 active students at École 1337. Results indicate that psychological capital and learned resourcefulness are both significantly associated with students positive perception of the open learning model, lending exploratory empirical support to the proposition that internal psychological resources shape how learners experience and navigate background-blind educational environments. However, the limited sample size (n=51) and strong male predominance (92%) invite caution; these findings should be regarded as exploratory, calling for further research on larger, more demographically representative and multicultural samples.

Keywords: Talent development; Psychological capital; Open learning ecosystem; École 1337; Authentic Leadership.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Introduction

In Morocco, the traditional boundaries of higher education are being redrawn by the demands of a fast-evolving global digital economy. For decades, the conventional academic path has relied on structured hierarchies and formal instruction, yet a distinct pedagogical shift has emerged with the introduction of École 1337, a specialized school dedicated to learning to code. Located in the cities of Khouribga, Benguérir, Tétouan, and Rabat, and developed via a partnership between the OCP Group and the 42 Network, this initiative functions as an "open learning ecosystem" that deliberately departs from traditional classroom configurations.

The 1337 model is characterized by the absence of a formal faculty and the removal of the standard lecture-based curriculum. Instead, it relies on a peer-to-peer methodology where knowledge is co-created through a project-based, gamified system accessible to students 24/7. It operates on a radical open-access model, disregarding prior academic credentials and socioeconomic backgrounds. Admission is mediated exclusively through the "Piscine", a month-long immersive trial that tests grit and logic in a high-pressure, self-directed environment. By removing the traditional markers of academic authority and the structure of predetermined schedules, the school establishes an environment predicated on freedom and autonomy. In this setting, the student is no longer a passive recipient of a standardized education, but must instead assume full responsibility for their own learning trajectory.

This article explores the intersection of this innovative learning model and the development of authentic talent. By examining how students navigate this high-autonomy ecosystem, we can better understand how individuals move past the roles society expects them to play. This lead us to the central research question of this study:

"In the absence of traditional academic authority and formal credentials, what internal mechanisms allow learners at École 1337 to overcome their social backgrounds and develop their coding talent authentically?"

This study pursues a dual objective: first, to empirically examine the role of psychological capital (PsyCap) as an antidote to social ascription mechanisms within a non-traditional educational context; second, to verify the extent to which learned resourcefulness constitutes a behavioral catalyst facilitating the transition toward self-directed learning. To address these objectives, the present article is structured as follows: the first section presents the theoretical framework and literature review, articulating the concepts of talent development, open learning

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

ecosystem, authentic leadership, psychological capital, and social ascription. The second section sets out the methodology adopted and the main findings obtained. Finally, a critical discussion and conclusion close the article by specifying the limitations and avenues for future research.

1. Theoretical framework and literature review

1.1 Talent development

1.1.1 Talent

According to Roger and Bouillet (2009), the concept of talent refers to exceptional key skills needed to undertake new activities, master technologies, or improve performance. In other words, talent is not just a promise or latent ability, but a skill that is expressed in practice when individuals are faced with complex situations and manage to produce superior results.This approach invites us to no longer view talent as a fixed entity, but as a living process.It depends as much on what the person knows how to do as on what their environment allows them to achieve. Therefore we cannot define talent without looking at the ecosystem in which it is expressed.

For Françoys Gagné (2011), talent should not be confused with an innate gift. He defines it as superior mastery of skills that have been systematically developed in a specific field (whether mathematics, music, sports, or technology), he offers an approach that is firmly rooted in a performance-based ideology.

1.1.2 Talent development according to Françoys Gagné's model

Françoys Gagné, honorary Professor of psychology at the University of Quebec in Montreal, Canada. He presents his position on the development of academic talent through his model, which offers an in-depth perspective on how individuals acquire and develop exceptional skills in different fields.

The conceptual framework for talent development in this study is based on Gagné's Differentiated Model of Giftedness and Talent (DMGT). Rather than treating talent and giftedness as interchangeable, this model establishes them as separate stages of a developmental process. It puts forward that, while individuals may be born with certain "gifts", it is only through systematic training and environmental influence that these become the "talents" visible in high-level achievement.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

In the framework of the Differentiated Model of Giftedness and Talent (DMGT), the transition from potential to excellence is implemented through a specific developmental component. According to Gagné (2020), talent development is characterized as a long-term, organized

commitment where an individual, identified as a "talentee", participates in a structured regimen designed to achieve a high-level performance objective. This term is used to specifically indicate any person, regardless of their stage in life, who is actively engaged in a systematic path toward mastery.

Gagné (2020) puts into practice this transition through three interconnected dimensions that dictate how a "talentee", reaches peak performance. (Figure 1)

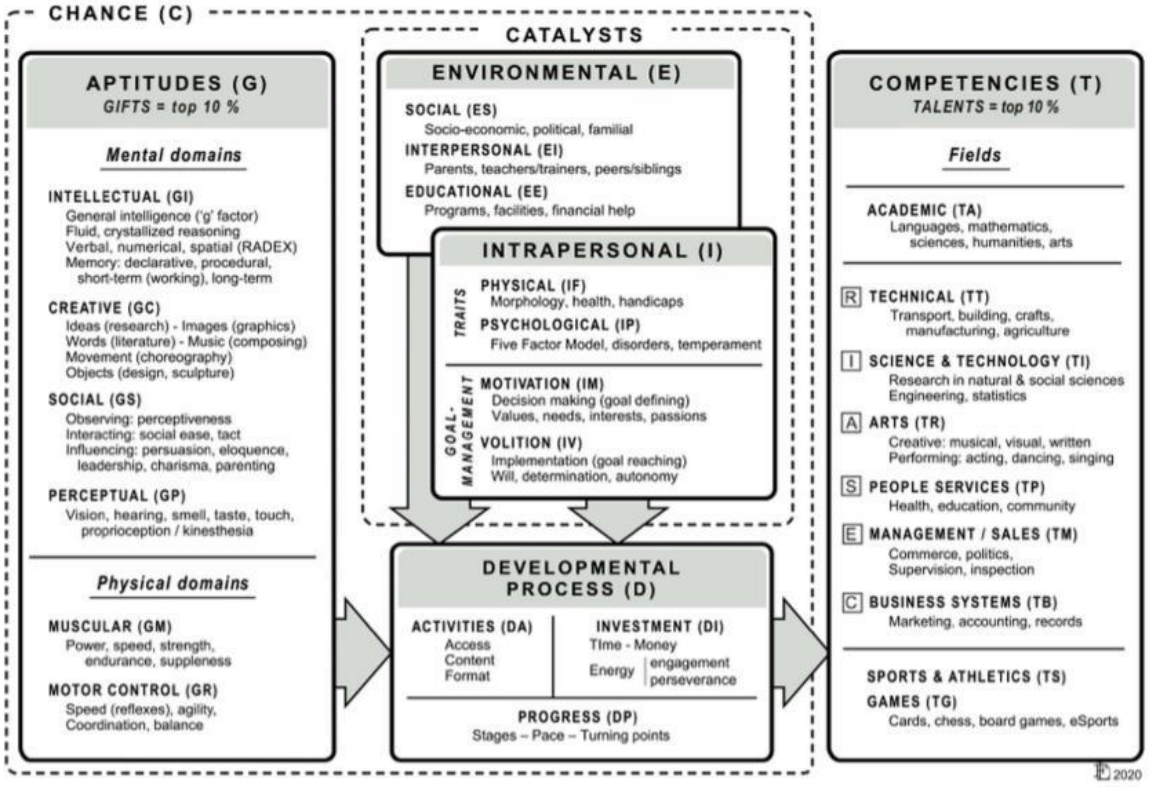
Activities (DA): This initial phase involves the selection process and the subsequent immersion in a specialized curriculum (DAC). Gagné (2020) notes that this can occur within various instructional formats (DAF), ranging from highly regulated institutional environments, such as sports academies or conservatories, to independent, self-guided learning paths.

Investment (DI): Beyond mere participation, excellence requires significant personal "investment." This includes the intensive expenditure of chronological time, physical stamina, and mental fortitude dedicated to the developmental path (Gagné, 2020).

Progress (DP): The final pillar involves the longitudinal tracking of an individual's growth. This subcomponent monitors the "talentee's" transition from a foundational level of skill toward the ultimate realization of world-class expertise (Gagné, 2020).

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Figure 1. Differentiated Model of Giftedness and Talent (DMGT)



Source: (Gagné DMGT, 2020)

1.1.3 The Determinants of excellence: catalysts of DMGT

The transition from natural abilities to confirmed talents is governed by a complex dynamic involving a combination of internal and external factors. Françoys Gagné (2011, 2021) divides these influences into two broad categories: intrapersonal and environmental catalysts.

Intrapersonal catalysts (I)

Individuals are not passive recipients; their own characteristics act as a filter and a driver for their development. Gagné (2021) identifies two major dimensions within this component:

Traits and dispositions (IF,IP): This dimension encompasses biological and physical characteristics (gender, origin, health) as well as the individual's psychological structure. The model notably incorporates temperament, which is hereditary, and personality, often analyzed using the Big Five model. These stable traits define how the "talented" individual interacts with their world (Gagné, 2011, 2021). (Figure 1)

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Action dynamics (IM, IV): Development requires rigorous management of objectives. Gagné distinguishes between motivation (IM), which enables individuals to choose and value a goal of excellence, and volition (IV). The latter represents the daily willpower needed to maintain effort despite monotony, fatigue, or failure (Gagné, 2011).

Environmental catalysts (E): the support ecosystem

In recent versions of the model (Figure 1), the environment is seen as a force that often needs to be "filtered" by the learner's personality. Although the environment can directly influence the learning path, the impact of external stimuli largely depends on the individual's receptivity (Gagné, 2021). This ecosystem can be broken down into three layers:

The social environment (SE): This includes macro-environmental variables such as geographical location, cultural context, and the family's socioeconomic status, which facilitate or hinder access to resources (Gagné, 2021).

The interpersonal network (IN): This layer focuses on the influence of close relationships (parents, teachers, mentors, peers). The DMGT only takes into account relationships that have a direct impact on talent development (Gagné, 2021).

Educational offer (EE): This corresponds to formal development structures. Gagné (2021) distinguishes between content (enrichment strategies, in-depth curricula) and format (administrative measures such as grouping by level or academic acceleration/grade skipping).

1.1.4 Françoys Gagné's meritocratic ideology for talent development

In keeping with this approach, Françoys Gagné (2011) suggests a method that is strongly based on a performance-oriented philosophy. He draws from examples of success seen in the arts and sports, and his Differentiated Model of Giftedness and Talent (DMGT) states that entry into development programs should be based solely on merit and actual accomplishments. According to Gagné (2011), talent is described as "demonstrated abilities" in a particular area.

This perspective moves the emphasis away from just having natural talent to the outcomes of consistent development.

For Gagné (2011), talent (T) results from a development (D) process where innate abilities (G) are influenced by both internal factors (I), like persistence and drive, and external factors (E). As a result, past performance becomes the best indicator of future success, because it shows

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

both the individual's potential and their capacity to meet high-level challenges (Gagné & St. Pierre, 2002; Gagné, 2011).

At the core of Gagné's thinking (2011) is his clear difference between giftedness, which refers to untapped potential, and talent, which refers to actual skills.

From a scientific standpoint, this represents a change from focusing on traits (what a person naturally has) to focusing on achievements (what a person actually produces).

1.2 Open learning ecosystem:

The "open learning ecosystem," as exemplified by unconventional models like École 1337, represents a radical departure from traditional educational structures.

While "open learning ecosystem" may not be a formal theory in existing literature, this theoretical void is not a gap, but rather the reflection of a paradigm shift: where traditional models are "closed", the open ecosystem is "emergent." It is a structure that does not dictate knowledge, but rather creates the conditions for knowledge to spread contagiously among peers.

École 1337 does not just teach coding, it places individuals in an ecosystem where autonomy is taken to the extreme. In this model, the absence of academic hierarchy forces students to become their own leaders.

In her work entitled "Authentic Leadership and Talent Development: Fulfilling Individual Potential in Sociocultural Context" (2017), Gelaye Debebe provides a theoretical framework that is perhaps the most precise and powerful lens through which to analyze the unconventional model of 1337.

The defining characteristic of 1337 is the absence of a top-down hierarchy. In traditional talent development models, the learner is often "other-directed", meaning their progress is managed by an external authority who defines the goals and validates the success.

Debebe (2017) argues that authentic talent development must move toward self-authorship, a psychological transition where individuals "decide for themselves how to be" and what values to express through their work. 1337's open environment is the practical manifestation of this theory. By removing the instructor, the ecosystem forces the student to step into a leadership role over their own life. As Debebe suggests, this absence of external direction is not a vacuum

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

but a catalyst, it necessitates that the learner discovers their own inner compass, transforming them from a passive student into an authentic leader of their own talent trajectory.

A second reason why Debebe's framework is the best fit for the 1337 model is her distinction between learning to do (technical mastery) and learning to be (identity construction).

Students at 1337 do not just "learn to code"; they immerse themselves in a peer-to-peer culture where they must negotiate their place, collaborate on projects, and survive high-pressure trials like the "Piscine."

Debebe (2017) posits that talent development is only authentic when these two processes are integrated. The school's model facilitates this by making learning a social, identity-forming experience. In this ecosystem, a student's "talent" is not just their ability to write a script, but their ability to align that skill with their personal interests and values.

1.2.1 Authentic leadership and talent development

Authenticity

Authenticity, as described in psychological research, refers to the extent to which people act in line with their true inner feelings, thoughts, and values, rather than shaping their behavior to fit what others expect or what society demands (Kernis & Goldman, 2006).

Many researchers agree that authenticity is not something fixed or unchanging, but rather a process that can shift depending on the situation and continues to develop throughout a person's life (Erickson, 1995). Harter (2002) describes this in terms of psychological ownership, the sense of recognizing one's own thoughts, feelings, and values as genuinely their own, rather than just accepting them from social influences. Luthans and Avolio (2003) also differentiate authentic behavior from behavior driven by compliance, stating that the former comes from internal values, while the latter is largely controlled by external rewards or social approval.

Kernis (2003) and Kernis and Goldman (2006) introduced a four-component model that has since become central to understanding authenticity.

Awareness is the ability to accurately and trustingly understand one's own motivations, values, and emotional reactions. Unbiased processing involves the ability to deal with self-related information, whether positive or negative, without letting personal bias or motivated thinking cloud judgment. Behavioral authenticity refers to when one's actions match their internal state,

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

meaning that behavior truly reflects their values instead of just reacting to the situation. Relational orientation is the tendency to be honest and transparent in significant relationships. Combined, these four aspects show that authenticity is a complex psychological concept that has effects both within and between people.

Authentic leadership

Authentic leadership builds on the idea of authenticity to offer a way of looking at leadership effectiveness through the lens of self-awareness and ethical behavior (Avolio & Gardner, 2005).

Luthans and Avolio (2003) define authentic leaders as people who consistently act in line with their internal values and maintain this consistency even when there is pressure to change their behavior due to organizational or social influences. This concept is broken down into four related dimensions: self-awareness, balanced processing, relational transparency, and internalized moral perspective (Gardner et al., 2005; Kernis, 2003). Self-awareness means having a clear understanding of one's own strengths, weaknesses, and values and how they influence leadership. Balanced processing involves using objective, logical thinking, especially being open to conflicting views before making decisions. Relational transparency means being honest and genuine in relationships, rather than projecting a particular image. Internalized moral perspective is when a person follows ethical behavior based on personal beliefs rather than from rules, peer pressure, or concerns about reputation.

What sets authentic leadership apart from other leadership styles is its focus on personal growth. Instead of viewing leadership as a collection of traits to be selected or developed, Debebe (2017) sees it as a continuous process of "learning to be", a gradual, often challenging process of forming a professional identity that stays connected to one's inner self. This idea of self-authorship Bennis (1989), suggests that authentic leaders do not just follow the roles their organizations assign them. Rather, they evaluate external expectations against their own values and make intentional decisions about who they want to become. Debebe (2017) contrasts this with other-directed development, where people change their behavior to fit institutional models at the cost of their own inner consistency.

Shamir and Eilam (2005) place this process within the context of a personal story, arguing that authentic leaders create consistent narratives that weave together their experiences, values, and future goals into a stable yet evolving professional identity.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Authentic leadership, therefore, is the result of both developing technical skills, like knowledge and abilities in a specific field, and growing as a person, where a leader's actions come from an inner sense of direction rather than being influenced by what others expect (Debebe, 2017). In this way, authentic leadership isn't about reaching a final goal, but about making an ongoing effort to stay true to oneself in the face of pressures from an organization that might push against that.

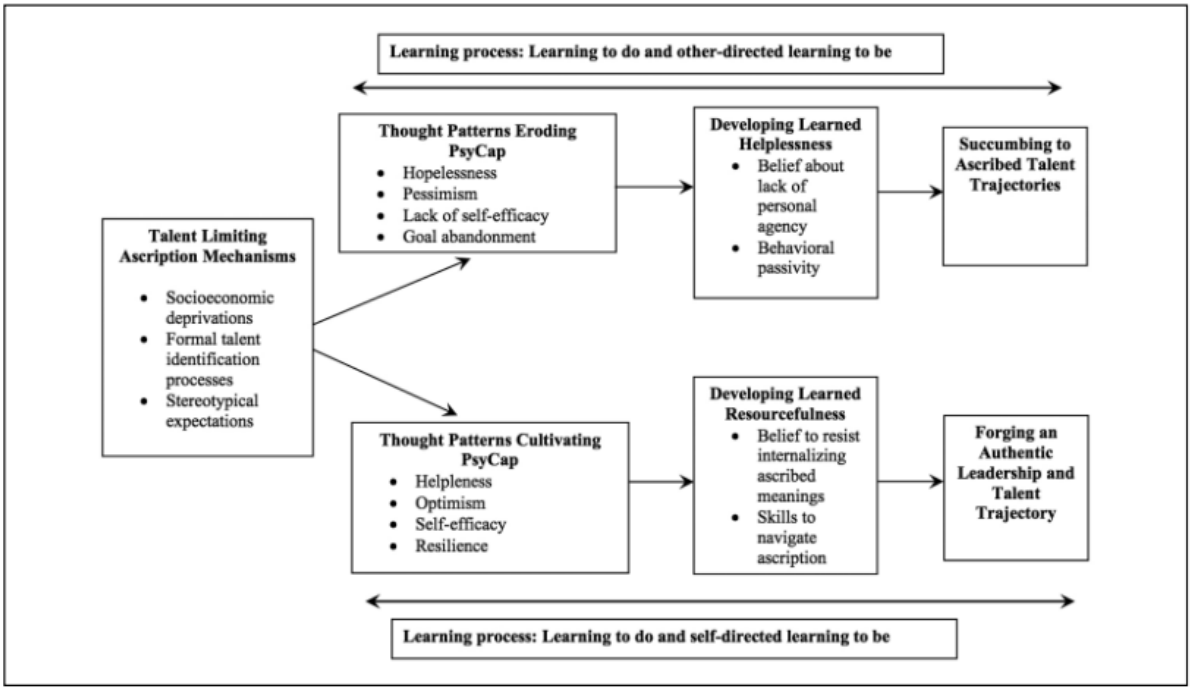
The dual path of development: "learning to do" and "learning to be"

As illustrated in Debebe's (2017) comprehensive framework (Figure 2), talent development consists of two simultaneous learning trajectories. The first (learning to do) involves the systematic acquisition of technical skills and domain-specific knowledge required for high-level performance (Debebe, 2017). The second, and perhaps more critical, is (learning to be), and it's an informal process of identity construction where the individual answers the fundamental question of "who am I?" (Debebe, 2017).

Two modes of identity formation emerge from Debebe's (2017) framework. Other-directed learning, which means yielding to organizational or social pressures, adopting values and behaviors that often block authentic selfhood. Self-directed learning, by contrast, requires self-authorship, which is a psychological turning point where people decide for themselves how to live and act, free from external prescription.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Figure 2. Framework for authentic leadership and talent development.



Source: Gelaye Debebe(2017)

1.2.2 Psychological capital and social ascription

Social ascription

The concept of ascription finds its theoretical origins in the work of Ralph Linton (1936), who distinguished between status that is earned and status that is assigned. Linton (1936) defined ascribed status as the social positions or roles allocated to individuals based on attributes beyond their personal control, such as family lineage, age, or biological sex, rather than their unique capabilities or achievements.

Building upon this classical foundation, Gelaye Debebe (2017) introduces the specialized framework of social identity ascription within the context of leadership and talent development. While traditional sociology viewed ascription as a static label, Debebe (2017) conceptualizes it as an active, dynamic process of categorization that goes significantly beyond mere stereotyping.

The inhibitory influence of social ascription on the trajectory of talent development

According to Debebe (2017), social identity ascription acts as a systemic mechanism that inhibits or derails an individual's growth in several critical ways.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

It combines both informal prejudices and official organizational norms to rank and classify people and building social hierarchies based on factors like race, gender, and class. This mechanism operates along two distinct axes. Externally, it blocks access to resources and pathways. Internally, it contaminates the individual's own sense of what they might realistically achieve. Therefore, ascription weakens the process of "learning to be" by channeling individuals toward what can be termed "ascribed talent trajectories",career paths that mirror and carry on existing social divisions, such as steering women toward teaching and men toward engineering, rather than allowing pursuits rooted in genuine inclination. These ascriptive practices, far from serving organizational efficiency, function primarily to sustain and reinforce established power structures within a given sociocultural landscape.

The role of psychological capital (PsyCap)

Moving beyond the sociocultural obstacles that restrict personal growth cannot be achieved through structural access alone. What is also required is a collection of inner psychological resources capable of maintaining effort and direction in the face of resistance. Debebe (2017) identifies Psychological Capital (PsyCap) as precisely this kind of mechanism, describing it as the foundation of what she terms learned resourcefulness: an internalized capacity that allows individuals to resist socially ascribed identities and pursue developmental trajectories that reflect their genuine capabilities rather than the ceilings imposed by their background. When these internal resources are sufficiently developed, learners become capable of moving beyond externally prescribed roles toward what Debebe (2017) calls a personally resonant talent trajectory, a path of growth anchored in authentic self-knowledge rather than social expectation.

Psychological Capital is understood in the organizational psychology literature as a higher-order construct that captures an individual's positive psychological orientation toward goal pursuit and personal development (Luthans, Youssef, & Avolio, 2007). It is grounded in the broader tradition of positive organizational scholarship and is composed of four interrelated psychological dimensions.

Self-efficacy refers to an individual's confidence in their own capacity to mobilize the cognitive and motivational resources necessary to accomplish specific tasks (Bandura, 1997; Luthans et al., 2007). It is not a generalized sense of self-worth but a task-specific evaluative judgment about one's agentic capabilities. Optimism, as operationalized within the PsyCap framework, is an attributional style rather than a temperamental disposition (Seligman, 1998). Individuals high in optimism tend to attribute positive outcomes to stable, internal causes while interpreting

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

setbacks as situational, temporary, and bounded a cognitive pattern that sustains motivation across adverse conditions. Hope, drawing on Snyder's (2000) cognitive model, is defined as a dual psychological state comprising agency, the determination to pursue goals, and pathways thinking, the capacity to generate alternative routes when initial strategies prove insufficient. Finally, resilience captures the adaptive response to adversity, referring not merely to recovery from disruption but to the ability to use difficulty as a basis for growth, emerging from setbacks with renewed capability (Masten, 2001; Luthans et al., 2007).

A defining feature of PsyCap that distinguishes it from stable personality traits is its state-like character. Unlike fixed dispositional attributes, the four components of PsyCap are malleable and developmentally responsive, meaning they can be cultivated through targeted interventions and enriched learning environments (Luthans et al., 2007). This malleability renders PsyCap particularly relevant to non-traditional educational contexts, where deliberate pedagogical design can serve as a vehicle for psychological development alongside technical skill acquisition.

Psychological capital against identity ascription

Within the developmental framework advanced by Debebe (2017), psychological capital functions as solution against the restrictive effects of social ascription, the process by which individuals are assigned roles, expectations, and developmental ceilings based on sociodemographic characteristics such as class, ethnicity, or gender. Instead of simply accepting the identity that their social environment hands them, people who have built genuine psychological capital carry something that allows them to question it, and more importantly, to keep moving toward their own version of who they are becoming, regardless of what that environment suggests they should settle for.

Hope and optimism play particularly significant roles in this dynamic. Snyder's (2000) conceptualization of hope as the integration of willpower and strategic thinking means that socially marginalized learners are not represented passive by institutional barriers. Instead, they actively construct alternative pathways toward their objectives when conventional routes are obstructed. This agentic orientation is reinforced by an optimistic attributional style, which prevents individuals from internalizing structural disadvantage as evidence of personal inadequacy. A learner who locates the source of the problem outside themselves, in a system or a structure rather than in their own worth, stays free to respond rather than retreat. That freedom, as modest as it sounds, is what keeps effort alive when circumstances are working

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

against it. (Luthans et al., 2007). This cognitive reframing effectively counters the learned helplessness that Seligman (1975) associated with repeated exposure to uncontrollable adverse conditions, a pattern particularly relevant for learners from marginalized backgrounds navigating environments shaped by structural inequity.

These psychological resources support what Debebe (2017) frames as the main journey toward authentic leadership, which is an identity-construction process in which the individual progressively becomes the primary author of their own professional development, rather than a product of the social forces proposed to define them.

For self-efficacy, as Bandura (1997) conceptualizes it, does not refer to a sense of self-esteem or general confidence. Instead, it concerns a precise evaluation of one's ability to perform adequately in a specific situation. Luthans et al. (2015) argue that this form of confidence is not innate but builds gradually through lived experience. It takes shape through early achievements in structured settings, observation of relatable role models from similar social backgrounds, and meaningful input from colleagues, and rather than being a fixed trait, self-efficacy functions as a cultivated assurance that diminishes the emotional weight of taking risks and keeps individuals engaged even when results are not immediately clear or promising.

Resilience is the psychological capacity to recover and even grow stronger following a period of intense hardship or systemic exclusion (Luthans et al., 2015). What fuels this flexibility are the inner resources people carry with them, things like ethics or people they can count on when things get difficult.

Resilience acts as a stabilizing force, so when the environment limits a talent trajectory, resilience helps people to absorb the shock, regain their balance, and keep moving toward who they truly want to become.

Behavioral consequences of ascription: The divergent paths of helplessness and resourcefulness

There's a popular assumption to treat underachievement as a personal failure, a deficit of motivation, discipline, or raw ability. Debebe's work pushes back against that assumption hard, so what looks like passivity from the outside is often the endpoint of a much longer process, one that begins with how society labels people and ends with how those people come to see themselves.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

There is nothing neutral about social identity ascription. When the same message comes from every direction (institutions, peers, cultural narratives…), telling someone they belong to a lesser category, that message eventually sticks. Eventually, the target stops hearing it from outside and starts hearing it from within. That is the moment the real damage begins,not just blocked paths, but a broken sense that trying is even worth the trouble.

Seligman's concept of learned helplessness, developed decades before Debebe applied it to questions of talent and identity, describes a recognizable human pattern. When people repeatedly experience failure that has nothing to do with what they actually did, when the wall keeps appearing regardless of the door they try, they eventually stop looking for doors. That's not irrationality. That's pattern recognition.

Debebe maps this dynamic onto the experience of individuals facing persistent structural exclusion. The psychological capital required to keep striving, confidence, hope, the capacity to bounce back, doesn't deplete overnight. It erodes. And once it's gone, what remains looks, from a distance, like apathy or low ambition. Academic underperformance gets misread this way constantly. The student isn't failing because they can't do the work. They're failing because somewhere along the way, the environment taught them that doing the work wouldn't matter anyway.

Not everyone arrives at helplessness. That's the part of Debebe's framework worth sitting with. Many people, and the research draws specifically on women, racial and ethnic minorities, people from working-class or low-income backgrounds, encounter the same barriers and respond differently. Barriers are not surpassed by determination alone, tthey get around them through skill. Specifically, through what Rosenbaum and Akgun called learned resourcefulness.

Resourcefulness in this sense isn't a personality type. It's closer to a practice or even a set of cognitive and behavioral habits that individuals develop, sometimes with consciousness and sometimes not, for handling tough situations without losing their balance. Debebe breaks this down into two directions, one is the ability to regulate your own thinking and emotional state when external circumstances are working against you, to reframe what's happening, keep your goals in view, and not let the friction of discrimination or exclusion redefine what you believe you're capable of. The other direction is building relationships, seeking mentors, finding communities where collective knowledge and solidarity can compensate for what institutions withhold.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Debebe's argument is that talent doesn't just exist in people waiting to be found. It gets shaped, suppressed, or developed through the interaction between a person and their environment, and this has real consequences for how we think about education, mentorship, and institutional design.

For learners in non-traditional settings especially where the usual supports are not as readily available, more self-direction required, and often less institutional legitimacy to lean on, the psychological move from helplessness to resourcefulness isn't incidental to the learning process, it is basically the learning process, so the student who begins to treat their circumstances as something to be navigated rather than something that defines them has made a shift that no curriculum can crate directly. It has to be built from the inside, but understanding what blocks it and what enables it is the first step toward creating conditions where more people can actually make it.

The foregoing literature review allows the theoretical foundations of two hypotheses to be clearly identified.

Hypothesis 1: PsyCap as an antidote to social ascription, is grounded in the work of Debebe (2017), Luthans et al. (2007), and Bandura (1997), who establish that internal psychological resources, that are measured through indicators of hope, optimism, self-efficacy, and resilience, enable learners to resist ascribed talent trajectories.

Hypothesis 2: Learned resourcefulness as a catalyst for self-directed learning, is anchored in Rosenbaum and Akgun, as cited in Debebe (2017) framework, and in the model of Avolio and Gardner (2005), according to which a learner's capacity to generate autonomous solutions constitutes a predictor of perceived effectiveness in non-traditional environments.

2. Methodology and main results of the study

2.1. Epistemological positioning and reasoning method adopted

The research paradigm adopted for this study is rooted in a post-positivist stance, utilizing a hypo-deductive approach to examine the dynamics of individual transformation. By employing a quantitative methodology, this research posits that personal and professional growth processes can be captured through measurable indicators and statistical correlations. This position allows for an objective observation of how an individual's internal resources interact with an autonomous learning environment to neutralize external determinants. Rather than merely

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

describing observed phenomena, the analysis seeks to isolate causal mechanisms between psychological structures and adaptive capacity. Consequently, the researcher maintains a critical distance while using data processing tools to validate significant behavioral trends. This methodological rigor ensures the reliability of the findings by converting subjective perceptions into tangible, actionable data. Ultimately, this epistemological positioning provides a structured framework for understanding how individuals reclaim their success trajectories within a decentralized system.

The choice of a quantitative, hypo-deductive approach is justified by the nature of the theoretical constructs under investigation. Psychological capital and learned resourcefulness are both operationalized constructs with established measurement instruments in the literature (Luthans et al., 2007), making them amenable to quantification. Moreover, the hypothetico-deductive method is well suited to testing theoretically grounded propositions derived from Debebe's (2017) framework, allowing for verification of associative relationships that would be difficult to capture through qualitative methods alone.

2.2 Research methodology and hypotheses

The research methodology follows a structured quantitative design, focusing on a primary sample of 51 students from École 1337. This numerical approach is employed to systematically analyze the correlations between the students' internal psychological attributes and their navigation of the school's atypical model. Data collection was operationalized through a specialized questionnaire, developed using the Google Forms platform, which translated the abstract experiences of the 1337 environment into quantifiable metrics. The survey was distributed digitally via Discord, the primary communication hub for the student community, ensuring direct access to the target population within their natural digital workspace.

The conceptual architecture of this study rests upon two core hypotheses:

Hypothesis 1: High levels of Psychological Capital (PsyCap) act as an internal antidote to social ascription, allowing learners to perceive an autonomous environment as a background-neutral opportunity for talent development**.**

Hypothesis 2: Learned Resourcefulness serves as a behavioral catalyst that facilitates the transition from "other-directed" learning to "self-authored" talent, leading to higher perceived productivity within autonomous ecosystems.

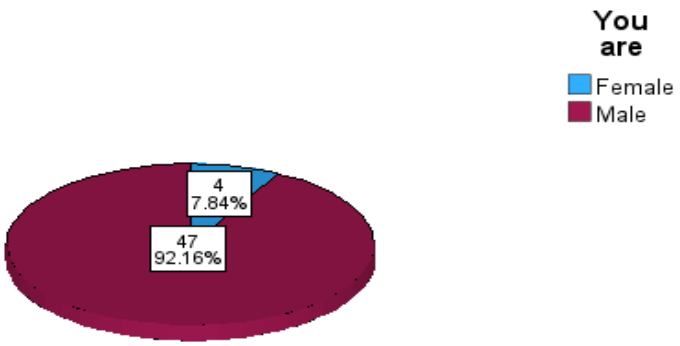
African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

To achieve analytical depth, the study utilizes dynamic cross-tabulations using SPSS (Statistical Package for the Social Sciences). This comparative technique is essential for validating the interplay between the participants backgrounds and the development of resourceful behaviors required by the school's unique pedagogy.

2.3. Main findings of the study

2.3.1 Characteristics of the quantitative study sample

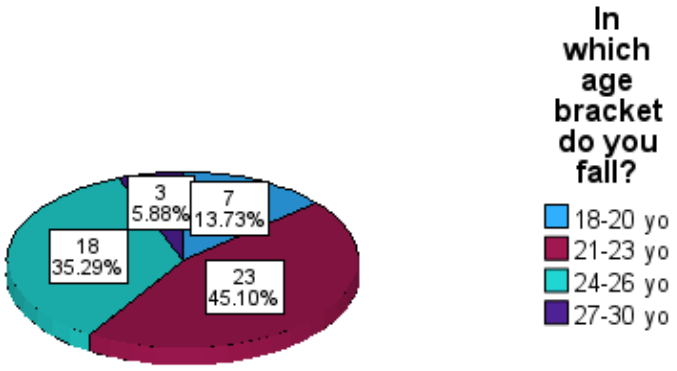
Figure 3: Distribution of the sample by gender



Source: Personal design based on data collected via Google Forms

The sample exhibits a significant male predominance, with 92,16% identifying as male, while female participants represent 7,84% of the total. This distribution reflects broader global trends in software engineering environments while providing a specific lens through which to view the "background-neutral" claims of the ecosystem.

Figure 4: Distribution of the sample by age



Source: Personal design based on data collected via Google Forms

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

The majority of respondents fall within the 21-23 age bracket, accounting for 45.10% of the sample (23 individuals), making it the dominant group. This is closely followed by the 24-26 bracket at 35.29% (18 individuals), suggesting that together these two groups represent over 80% of the total sample, pointing to a predominantly young adult population. The 27-30 bracket contributed 13.73% (7 individuals), while the smallest representation came from the 18-20 group at just 5.88% (3 individuals). Overall, the data reflects a sample concentrated in early-to-mid young adulthood, which is consistent with a typical undergraduate or non-traditional student population.

2.3.2 Cross-tabulation analysis: Examining the relationship between psychological capital and social identity ascription

Table 1. PsyCap indicators and student perception of merit-based learning at École 1337

If you face difficult learning circumstances, you're showing: * Do you think that École 1337 offered you a second chance to develop your practical coding skills without considering your background? Crosstabulation

		Do you think that École 1337 offered you a second chance to develop your practical coding skills without considering your background?					
		No		Yes		Total	
		N	%	N	%	N	%
If you face difficult learning circumstances, you're showing:	despair, pessimism, lack of self-efficacy and abandonment of goals	1	100.0%	6	12.0%	7	13.7%
	hope, optimism, self-efficacy and resilience	0	0.0%	44	88.0%	44	86.3%
Total		1	100.0%	50	100.0%	51	100.0%

Source: Personal design based on data analyzed with SPSS

The crosstabulation reveals a striking and theoretically meaningful distribution. Of the 51 respondents, 44 (86.3%) demonstrated high PsyCap orientations (hope, optimism, self-efficacy, and resilience), while only 7 (13.7%) reported low PsyCap orientations (despair, pessimism, lack of self-efficacy, and abandonment of goals).

The association between PsyCap orientation and the perception of a background-neutral environment is both substantial and directionally consistent with the hypothesis. Among learners exhibiting high PsyCap, an overwhelming 88.0% affirmed that École 1337 offered them a second chance irrespective of their background, with none denying this perception. Conversely, among learners exhibiting low PsyCap, only 12.0% held this same affirming perception, while 100.0% of those who answered “No” belonged to the low PsyCap group.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

This pattern suggests a near-perfect alignment between an individual's psychological orientation and their perception of the institution as a socially ascription-free environment. Learners who internalized hope and resilience appeared to experience the learning ecosystem as a genuine equalizer one that decouples talent recognition from social background, whereas those anchored in despair and low self-efficacy were far less likely to perceive this neutrality, possibly because their internal state filtered the environmental signal negatively.

Table 2. Chi-Square test for H1

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.411[a]	1	.011		
Continuity Correction[b]	1.133	1	.287		
Likelihood Ratio	4.102	1	.043		
Fisher's Exact Test				.137	.137
N of Valid Cases	51				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .14.

b. Computed only for a 2x2 table

Source: Personal design based on data analyzed with SPSS

The inferential statistics provide partial but notable support for the hypothesis. The Pearson Chi-Square value is 6.411 (df=1, p=.011), indicating a statistically significant association between PsyCap orientation and the perception of a background-neutral opportunity at the conventional α=0.05 threshold. This suggests that the observed distributional pattern is unlikely to have arisen by chance alone, lending quantitative credibility to the theoretical proposition that internal psychological capital shapes how learners interpret the fairness of their educational environment.

These results prove that Psychological Capital acts as the “antidote” required to resist this ascription.

Learners who mobilize their internal resilience and optimism are significantly more likely to utilize the open learning ecosystem as a “second chance” for self-authorship. By neutralizing the weight of their social and academic past, they transition from “other-directed” roles to becoming the authentic authors of their own talent trajectory.

Hypothesis 1 is validated.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

2.3.3 Cross-tabulation analysis: Student resourcefulness and autonomous performance

Table 3. Learned resourcefulness and student perception of the 1337 open learning model's impact on productivity and performance

Do you demonstrate resourcefulness and ingenuity to cope with the pressures of learning? * Do you think that the open model of École 1337 enhances your productivity and performance compared to the traditional education system? Crosstabulation

		Do you think that the open model of École 1337 enhances your productivity and performance compared to the traditional education system?					
		No		Yes		Total	
		N	%	N	%	N	%
Do you demonstrate resourcefulness and ingenuity to cope with the pressures of learning?	I'd prefer to seek help from external sources.	1	100.0%	4	8.0%	5	9.8%
	Sometimes	0	0.0%	16	32.0%	16	31.4%
	Yes, always	0	0.0%	30	60.0%	30	58.8%
Total		1	100.0%	50	100.0%	51	100.0%

Source: Personal design based on data analyzed with SPSS

The cross-tabulation examines the relationship between learners' self-reported resourcefulness and ingenuity as a coping mechanism under learning pressure, and their perception of whether École 1337's open pedagogical model enhances their productivity and performance relative to traditional education.

The sample of 51 respondents is distributed across three resourcefulness profiles. The majority 30 respondents (58.8%), reported always demonstrating resourcefulness and ingenuity, followed by 16 (31.4%) who do so sometimes, and only 5 (9.8%) who prefer to seek help from external sources rather than relying on their own adaptive capacity.

The distributional pattern across the dependent variable is consistent with the theoretical expectation. Among learners who always demonstrate resourcefulness, 60.0% affirmed that the open model enhances their productivity, with none denying it. Similarly, among those who are sometimes resourceful, 32.0% confirmed the productivity-enhancing effect, again with no dissenting responses. The only "No" response in the entire sample came from the group that prefers external help, where 100.0% of that single dissenting case originated, while 8.0% of this same group still perceived the model positively.

We can say that as learners internal resourcefulness increases, their support of the open model's productivity benefits strengthens consistently and monotonically. Learners who have internalized autonomous problem-solving appear to be precisely the profile for whom a self-directed, project-based ecosystem like École 1337's is most meaningful and effective. Those

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

who default to external help-seeking, by contrast, may experience the absence of traditional instructional frame as a obstacle rather than an empowerment.

Table 4. Chi-Square test for H2

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.384[a]	2	.009
Likelihood Ratio	4.840	2	.089
N of Valid Cases	51		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .10.

Source: Personal design based on data analyzed with SPSS

The Pearson Chi-Square value is 9.384 (df=2, p=.009), below the conventional threshold of α=0.05. This confirms that the association between demonstrated resourcefulness and positive perception of the open learning model is statistically significant and is unlikely to be the product of chance.

Taken together, these results support the proposition that learned resourcefulness is not merely a coping mechanism but a genuine predictor of how well a student will perceive and perform within non-traditional learning structures. The open model at École 1337 appears to reward precisely the qualities that resourcefulness cultivates (autonomy, adaptability, and a proactive orientation toward challenges) which may explain why students who embody those qualities advocate for the effectiveness of this model.

Hypothesis 2 is validated.

Discussion

To present these findings without acknowledging what the sample size does and does not allow, would be intellectually dishonest. Fifty-one respondents, drawn from a single institution operating within a specific national and cultural context, cannot reasonably bear the weight of broad generalization. The chi-square analyses showed this limitation in technical terms, so expected cell counts falling below five in a significant proportion of cells is a direct consequence of working with a modest sample, and it introduces a degree of statistical fragility that honest interpretation cannot sidestep. The associations identified are statistically significant

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

by conventional thresholds, but significance in a sample this size is a more cautious claim than it might initially appear. It indicates that the pattern observed is unlikely to be random. It does not indicate that the pattern is stable, replicable across contexts, or representative of the broader population of students navigating open learning environments.

This matters because the theoretical stakes of the questions being asked are high. If PsyCap genuinely functions as an antidote against social ascription, and if learned resourcefulness is indeed a structural prerequisite for thriving in self-directed education, then those propositions deserve to be tested on a scale that can actually bear that theoretical weight across multiple institutions and diverse national contexts, and with demographic representation broad enough to examine how gender, class, and ethnicity interact with these psychological variables in ways that a sample of 51 students, 92% of whom are male, simply cannot illuminate.

What this study offers, then, is not a conclusion. It is a direction. The findings are exploratory in the most genuine sense of that word, they map a ground that had not previously been examined empirically within this specific intersection of open learning, talent development, social ascription, and psychological capital, and in doing so they identify questions worth pursuing rather than questions already answered. Future research, built on larger and more demographically representative samples, would be well-positioned to either substantiate what this study suggests or complicate it in ways that would themselves be valuable. The honest measure of this work is not what it proves, but whether it gives the next study somewhere more precise to begin.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Conclusion

What this study set out to examine was never simply a question about one school or one group of students. It was a question about the conditions under which human potential either finds expression or gets quietly suppressed.

École 1337 offered a particularly honest setting in which to explore how students develop their talent in an autonomous setting, with no teachers directing the pace, no lectures structuring the motivation and no institutional prestige smoothing the path. what remains is the learner alone with their own internal resources, and that exposure, as the data consistently showed, is not neutral. It shows who has developed the psychological capacity to self-direct and who has not. It surfaces whose sense of capability has been quietly eroded by years of being told, through social signals and institutional exclusion, that people from their background do not quite belong in rooms like this one.

The findings left little doubt. Psychological capital is not incidental to student success, it is foundational. Students who possessed or developed self-efficacy, hope, resilience, and optimism were far more likely to experience the institution as genuinely inclusive and supportive of their productivity. Those whose PsyCap had been worn down by repeated ascriptive pressure, however, tended either to disengage or to lean on external supports in place of self-regulation. This mirrors exactly what learned helplessness research would anticipate.

Furthermore, resourcefulness, as this study reinforces, is not a fixed personality trait distributed by luck or genetics. It is a learned capacity, which means it can be cultivated. It also means it can be neglected. The institutions and educators who assume that self-direction is something students either have or do not have are, perhaps unknowingly, making a decision about who gets to succeed in open learning environments and who gets quietly filtered out.

This has direct implications for how schools like École 1337 think about their mission. The open model is genuinely powerful, the data supports that. But its power is not evenly distributed. Students who carry the additional weight of social ascription into that environment need more than an absence of bias. This leads us to think also aout the notably low proportion of female students in this study's sample, it reflects a broader pattern of gendered access to technical education that institutions like École 1337, regardless of how open their model is by design, have not yet fully resolved. An environment that is philosophically background-blind but structurally male-dominated still carries its own form of ascriptive pressure.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Finally, Debebe herself expressed the hope that her framework would be taken up through empirical research, specifically into how PsyCap develops in contexts marked by social ascription and learned resourcefulness. This study represents a modest answer to that call, translating her theoretical propositions into measurable variables and testing them within a concrete educational setting.

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

References

Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. The Leadership Quarterly, 16(3), 315–338. https://doi.org/10.1016/j.leaqua.2005.03.001

Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

Bennis, W. (1989). On becoming a leader. Addison-Wesley.

Debebe, G. (2017). Authentic leadership and talent development: Fulfilling individual potential in sociocultural context. Advances in Developing Human Resources, 19(4), 420–438. https://doi.org/10.1177/1523422317728938

Erickson, R. J. (1995). The importance of authenticity for self and society. Symbolic Interaction, 18(2), 121–144. https://doi.org/10.1525/si.1995.18.2.121

Gagné, F. (2011). Academic talent development and the equity issue in gifted education. Talent Development & Excellence, 3(1), 3–22.

Gagné, F. (2020). Building gifts into talents: Brief overview of the DMGT. Université du Québec à Montréal.

Gagné, F. (2021). Differentiating giftedness from talent: The DMGT perspective on talent development. Routledge.

Gardner, W. L., Avolio, B. J., Luthans, F., May, D. R., & Walumbwa, F. (2005). "Can you see the real me?" A self-based model of authentic leader and follower development. The Leadership Quarterly, 16(3), 343–372. https://doi.org/10.1016/j.leaqua.2005.03.003

Harter, S. (2002). Authenticity. In C. R. Snyder & S. J. Lopez (Eds.), Handbook of positive psychology (pp. 382–394). Oxford University Press.

Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. Psychological Inquiry, 14(1), 1–26. https://doi.org/10.1207/S15327965PLI1401_01

Kernis, M. H., & Goldman, B. M. (2006). A multicomponent conceptualization of authenticity: Theory and research. Advances in Experimental Social Psychology, 38, 283–357. https://doi.org/10.1016/S0065-2601(06)38006-9

African Scientific Journal
ISSN : 2658-9311
Vol : 03, Num 34 Février 2026

Linton, R. (1936). The study of man: An introduction. Appleton-Century-Crofts.

Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), Positive organizational scholarship: Foundations of a new discipline (pp. 241–258). Berrett-Koehler.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological capital: Developing the human competitive edge. Oxford University Press.

Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). Psychological capital and beyond. Oxford University Press.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. American Psychologist, 56(3), 227–238. https://doi.org/10.1037/0003-066X.56.3.227

Roger, A., & Bouillet, D. (2009). Talents et potentiel. In J.-M. Peretti (Ed.), Tous talentueux: Développer les talents et les potentiels dans l'entreprise (pp. 33–40). Eyrolles.

Seligman, M. E. P. (1975). Helplessness: On depression, development, and death. W. H. Freeman.

Seligman, M. E. P. (1998). Learned optimism: How to change your mind and your life. Pocket Books.

Shamir, B., & Eilam, G. (2005). “What’s your story?” A life-stories approach to authentic leadership development. The Leadership Quarterly, 16(3), 395–417. https://doi.org/10.1016/j.leaqua.2005.03.005

Snyder, C. R. (2000). Handbook of hope: Theory, measures, and applications. Academic Press.