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The Development of Innovation for the Creatively Gifted: A Phenomenological Study of the Lived Experiences of Successful Outstanding Innovators

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ABSTRACT The purpose of this study is to acquire a rich understanding of the lived experiences of successful outstanding innovators regarding their successful journey of innovation. To explore the factors that influenced their successful innovations, this study employed a qualitative phenomenological research design. Eleven outstanding innovators were consulted individually through in-depth semi-structured interviews. Eight major themes emerged from the data, that is, have good daily habits, self-confidence is a necessity, autonomous learning and self-development is empowering, social networking plays a critical role, market yourself and build your reputation, peer interaction is motivating, make innovation a source of income, and work with a supportive team. This exploratory study offers insights into how to support creatively gifted individuals to develop their creative potential into successful innovations.

INTRODUCTION

Gifted individuals have the potential to become successful innovators and make significant contributions to their communities and the world (Reis and Peters 2021). Many creatively gifted individuals are expected to have a promising creative and productive future (Alsamani 2020). However, several of them do not reach a high level of productive creativity and innovation (Renzulli and Reis 2021). In other words, being creatively gifted does not necessarily mean that they will become a successful innovator. Innovation journeys are full of challenges and circumstances that affect the outcomes and completion. Many creatively gifted individuals have lost interest in producing valuable innovative products that contribute to the local and global communities (Ritchotte and Graefe 2017). In fact, several of them decided to cut their innovation journey by looking for an average job not related to their passion for innovation to secure their future.

Investigating the association between the potential of gifted individuals and the creative and innovative production requires a better understanding of creativity, innovation, and giftedness. The definitions of creativity and innovation are broad, and this explains the complexity of these multifaceted constructs (Alsamani 2019). Runco (2004) explained that definitions of creativity focus on one or more of the four major parts of creativity. These parts are creative products (innovation), creative process, personal creativity, and stimulating environment (Runco 2004). The lack of widely agreed-upon definitions of creativity and innovation limits the development of creativity and innovation (Plucker et al. 2004). For example, some definitions focus on creativity as a skill or ability, other definitions explain the process of developing innovative products or defining the outcomes and products that result from a creative individual (Alsamani 2019).

Scholars and researchers who focus on defining the creative product frequently apply the term "innovation," referring to it as the functional application of creative processes (Treffinger et al. 2013). Isaksen et al. (2011) define innovation as "the commercialisation of new ideas" (p. 13). The literature notes a common link between creativity, innovation, and entrepreneurship. To encapsulate, creativity is the ability to produce new and appropriate ideas and outcomes, and it should be defined within a social context (Plucker et al. 2004; Beghetto and Kaufman 2007). Innovation is a subset of creativity that refers to the successful production of creative ideas (Treffinger et al. 2013). Entrepreneurship is the commercialisation of innova-

tive outcomes. Imagination is also occasionally seen as an interlinked construct with the three constructs, that is, imagination comes at the very beginning of the process and seen as an aspect of creative cognition (Ward 1994; Forgeard and Kaufman 2016). It also refers to mental representations of things or ideas (Markman et al. 2009).

Creativity and innovation have long been seen as a component of giftedness. In the widely applied definition of giftedness by the Federal Government of the United States, creative or productive thinking is viewed as one of the six areas of giftedness, that is, creative or productive thinking, specific academic aptitude, psychomotor ability, general intellectual ability, visual and performing arts, and leadership ability (Marland 1972). Creativity is also seen as a central component of many theories and models of giftedness (Alsamani 2019). Gagneì (2005), in the Differentiated Model of Giftedness and Talent, viewed creativity as one domain of giftedness. Similarly, in the WICS model (Wisdom, Intelligence, Creativity, Synthesised), Sternberg (2006) conceptualised giftedness as a synthesis of creativity, intelligence, wisdom, and intelligence. Renzulli (1986, 2005) also described creativity in the Three-Ring Conception of Giftedness as one central cluster required to produce gifted behaviour (creative productivity). Creativity and innovation are central to the learning process for gifted students (Renzulli and Reis 1997; Renzulli 2005; Pfeiffer 2017).

What should creatively gifted people develop in themselves to increase their opportunities to become successful innovators? Moreover, what are the secrets and factors behind the successful journey of innovation? Researchers and scholars have long been interested in the common traits and characteristics among notable innovators to determine which traits support their success in creativity and innovation. Feist (1998) conducted meta-analysis research of empirical studies over 50 years investigating great creative and innovative individuals and concluded that innovators and creative people share common characteristics and behave consistently over time. Many theories of creativity innovation explore the personalities of individuals that affect the production of creative products. For example, Sternberg (2006) explained in Investment Theory that innovation requires individuals to have personality traits, field knowledge, intellectual ability, supportive environment, and thinking style. In the Three-Ring Conception of Giftedness, Renzulli (1986, 2005) explained that producing gifted outcomes (innovation) requires the interaction of three clusters, that is, task commitment, above-average ability, and high levels of creativity. Renzulli (1986) also asserted that each trait has an important role in developing creative outcomes. Renzulli and Reis (1997) elaborated more on the task-commitment characteristics of creative individuals, including holding the self-confidence to achieve and high levels of interest and enthusiasm. Amabile (2012) also studied the personality characteristics of creative individuals in the Componential Theory of Creativity, and these characteristics include self-discipline, conducive to independence, and possessing new perspectives on problems.

Although innovators have to develop their skills, knowledge, and personalities to foster successful innovative outcomes, external factors affect the production of innovation. Research reveals external factors that stimulate creativity and innovation. For example, Amabile and Gryskiewicz (1989) referred to these factors as stimuli for creativity and innovation, that is, having access to appropriate resources, adequate freedom, positive and challenging work, and a sense of cooperation. In the Componential Theory of Creativity, Amabile (2012) added these factors, namely, supportive supervisors, norms that support the sharing of creative ideas, mechanisms for developing novel ideas, and diverse and communicative collaborators. In addition, MacKinnon (1978) emphasised that to become successful innovators, they require listening and understanding from others so as to increase their self-confidence and their abilities.

Amabile (2012) emphasised the social-environmental factors as central to the development of creativity and innovation because these factors interact with intrinsic task motivation, creativity-relevant processes, and domain-relevant skills. The independence of judgement is a critical social-environmental factor that creative and innovative people tend to be self-evaluative (Runco 1992). Social-environmental factors can serve as motivators or barriers to intrinsic motivation and creativity, and extrinsic motivators are often

seen as weakening intrinsic motivation (Amabile 2012). Researchers also investigated the factors that can block innovation such as over-critiquing new ideas, discouraging positive risk-taking, requiring too much evaluation, and imposing excessive time pressure (Amabile and Gryskiewicz 1989; Amabile 2012).

Consequently, understanding the factors that facilitate the development of successful innovation is critical to help develop gifted education and the life of gifted individuals. Studying the lived experiences of distinguished and successful innovators is deemed central, as those individuals were able to become successful innovative individuals with great innovation outcomes despite the various challenges they faced.

Objectives

The purpose of this study is to acquire a rich understanding of the lived experiences of successful outstanding innovators regarding their successful journey of innovation. This study focuses on the personality traits, skills and factors that influenced their successful innovations. To explore this topic, the main research question guiding the study is, what are the lived experiences of successful outstanding innovators regarding their successful journey of innovation?

METHODOLOGY

Research Design

This study employed a qualitative phenomenological research design. This approach was applied to gain common meaning and a rich understanding of the participants' descriptions of their lived experience of the understudied phenomenon (Van Manen 2014). A phenomenological research approach was employed to gain a rich understanding of the successful innovators' experiences regarding the factors associated with their success in becoming productive innovators and developing distinguished innovative projects.

Participants

Purposeful sampling was used to recruit participants for this study (Merriam and Tisdell 2016). It was applied in this phenomenological qualitative study as Creswell and Poth (2018) indicated that this approach is advisable when all participants have experienced the phenomenon. In phenomenological research, all participants must have experienced the phenomenon (Van Manen 2014). The inclusion criteria for those who experienced the phenomenon include only successful innovators who have the experience of working on innovative activities and products for more than 15 years, have successfully developed prominent innovative products or projects that make great contributions to society, and make lucrative entrepreneurial ventures. Eleven successful innovators who meet the inclusion criteria were included in the study (see Table 1).

Table 1: Participants demographic information

Pseudonym	*Sex*	*Age*	*Years of creativity and innovation experience*
Rayan	Male	43	25
Ahmed	Male	50	23
Nadir	Male	52	21
Turki	Male	43	22
Sultan	Male	40	17
Mohammed	Male	39	16
Omar	Male	51	18
Sami	Male	44	18
Ali	Male	36	16
Salman	Male	38	17
Hasan	Male	35	15

All participants were outstanding and known because of their accomplishments in innovative products. For example, one participant developed several innovative products that are widely used in the Middle East and cofound an innovative service that is currently an estimated share market of around 300 million dollars. Another participant was the founder of the biggest brand in camping and travel in the Middle East in which the brand leads their sector by designing enormous innovative products for more than 20 years. One participant leads a technology company that manages assets worth more than a billion dollars and works with many gifted individuals. Several participants have won the Self-made Youth Award provided by the Prince of the Qassim region in Saudi Arabia. All participants in this study have great accomplishments relat-

ed to successful creativity and innovation. Participants were from Riyadh and Qassim regions. All 11 participants were male. Four of the participants were in the 30 to 39 range (36.5%), four were in the 40 to 49 range (36.5%), and three were in the 50 to 59 range (27.%). Pseudonyms were given to each participant to ensure confidentiality.

Data Gathering

The approval to conduct this study was obtained from the Ministry of Education prior to collecting any data. Next, the selected participants were contacted and provided the participation invitation with a brief description of this study. Participants were offered the choice of selecting a place and time they prefer. Before the interview meeting, all participants received and signed the consent form to make sure they have a clear understanding of the aim and scope of the study and the inclusion criteria and to give them ample time to respond to any queries they could have.

Data were gathered through individual, in-depth, semi-structured interviews. Interviewing participants is an effective technique for collecting data about their lived experiences (Van den Berg 2005). Conducting interviews is the typical data collection method in phenomenological research (Creswell and Poth 2018). Moustakas (1994) also suggested collecting data by conducting in-depth interviews in his approach to conducting phenomenological research. The interviews lasted approximately 50 to 90 minutes. Participants were encouraged after interviews to follow up with some thoughts if they like to. Some participants followed up the interview by sending voice notes through WhatsApp. They elaborated on some points they mentioned during the interview, and a few of them shared new thoughts they wanted to add. Using multiple forms of data collection is a form of triangulation (Creswell and Poth 2018). After completing the interviews, each participant was sent a transcribed copy of the interview transcription to review and edit if needed.

Data Analysis

The goal of the data analysis is to make sense of the gathered data (Merriam and Tisdell 2016). The researcher started the data analysis process by familiarising himself with the data through reading all the transcripts multiple times (Colaizzi 1978). The next step was identifying significant statements by highlighting segments that might be useful and related to the purpose of the study (Merriam and Tisdell 2016). This step of highlighting significant statements is called initial coding in phenomenology research (Creswell and Poth 2018). Notes were taken thereafter to help organise the statements, extract meanings from them, and then create codes (Merriam and Tisdell 2016). Next was the axial coding step, where the assigned codes were grouped to construct themes, and groups of relevant open codes were combined into one theme (Charmaz 2014). This process of coding was applied to all manuscripts several times by the researcher to develop themes and subthemes (Merriam and Tisdell 2016).

To enable peer-checking and investigator triangulation, another researcher with a PhD was involved and followed the same data analysis process individually. Rigorous discussions between the two researchers were conducted, and the analysis results from each researcher were compared to identify any inconsistencies and disagreements. The results were repeatedly checked to ensure that the coded data were accurate and to reach agreements between the researchers. The next step was to create a master list of the themes that were common in all transcripts and reflected patterns in the study and the essence of the phenomenon (Merriam and Tisdell 2016). To explain the final findings from the data analysis, each theme included multiple codes, and the codes were accompanied with sentences, phrases, or statements that reflected the participants' actual words (Marshall and Rossman 2016). The last step was to write up the results and create a thorough description of the phenomenon experienced by the participants (Colaizzi 1978).

RESULTS

Seven major themes emerged from the data analysis of this study. The following seven themes are intended to be read as factors that were influential in the participants' journey toward successful innovation. These themes com-

prise having good daily habits, self-confidence is a necessity, autonomous learning and self-development is empowering, social networking plays a critical role, market yourself and build your reputation, peer interaction is motivating, make innovation a source of income, and work with a supportive team (see Table 2).

All participants mentioned they had good habits that helped them improve their skills, knowledge, and thereafter innovations. Turki stated, "I had a good habit that I enjoy learning new things and I don't like spending much time with my friends playing games." Similarly, Omar stated, "When I wake up, I think about my projects that I love, create new things, fix or learn, this is my happiness and what makes me learn fast." Nadir reflected on his routine when he was young and said, "I don't know how to play card games like my peers…it is a waste of time for me…When I was young, I enjoyed learning or observing other talented people." Rayan mentioned, "Now I'm very busy, but when I was studying in the elementary stage, I used to visit a painting store near our house and learned how to draw and use the tools, and after that I started doing huge artworks for my school, this was before I started learning programming languages." Similarly, Sami mentioned, "Most of my time was spent doing productive hobbies and there were no recreational distractions that steal my time." Ahmed who currently supports gifted people and runs a business incubator stated about successful innovators said, "They always tend to new things, technology, and aesthetic things. The routine for them is a boring thing. They want something new, the creative person by nature enjoys making ideas." Salman explained what has helped him develop his talents and productive routine, "I had enough time to develop my talents because I had no other entertainment habits that steal my time." Rayan talked about his experience of having free time and "boredom" as a child that promotes creative activities, "I think boredom is an incentive for creativity, I think almost the biggest catalyst for creativity. For example, in our home, we did not have a TV…I had enough time to enjoy the simple details." All participants indicated that their childhood and adolescence were different when compared with their peers, in that they had good habits, that they enjoyed learning new things, creating, and developing themselves.

Through their narratives about their journeys, most participants indicated that self-confidence is a necessity. Sultan stated, "I was confident in my ability that I can learn and fix the problem." Another participant explained how he preferred to search for solutions by himself, "I like to find a solution myself, I trust myself" (Ali). Similarly, Hasan suggested, "Believing in yourself is important, otherwise, you cannot go far." Losing self-confidence is what makes many gifted people not complete their projects. "We need to foster self-confidence, I know some smart friends who can do great things, but they don't trust their abilities" (Omar). Likewise, Mohammed stated, "I think promoting self-confidence is very important, the confidence in their abili-

Table 2: Themes and representative quotes

Themes	*Representative quotes*
Have Good Daily Habits (100%)	"I had a good habit that I enjoy learning new things and I don't like spending much time with my friends playing games."
Self-Confidence Is a Necessity (82%)	"I like to find a solution myself, I trust myself, I can do it even if it takes some time."
Autonomous Learning and Self-Development is Empowering (100%)	"We always have tireless work, always continuous development, and this fosters creativity."
Social Networking Plays a Critical Role (73%)	"Networking brings opportunities."
Market Yourself and Build your Reputation (73%)	"Being strong is not enough, you need to market yourself."
Peer Interaction is motivating (100%)	"I learn from and with peers, we share ideas, explore, spend time together, and challenge each other."
Make Innovation a Source of Income (73%)	"It is important to make innovation your source of income as early as you can."
Work with a Supportive Team (82%)	"The best is that I worked with a partner who performed operating tasks, and I focused on the development."

ties." Facing challenges with self-confidence is what innovators need, "If you were facing a challenge and you have the confidence…this is the time of the spark for creativity" (Salman). Ahmed suggested, "It is important to train and develop gifted people and enhance their self-confidence regarding their talents." Through their narratives about their journey, all participants reflected on the importance of self-confidence that has helped them and some explained how some gifted innovators fail in their journey because they lose trust in themselves.

All participants referred to autonomous learning and self-development as critical aspects that led to successful innovations. Many participants indicated that they enjoy exploring new things and solutions. For instance, Nadir stated, "I like and am open to new experiences." In addition, openness to new experiences helps participants develop themselves, Sami said, "We develop ourselves, we learn and develop knowledge and skills and attend courses." Likewise, Hasan explained how he and his successful partners work and learn for long hours every day, "We always have tireless work, always continuous development, and this fosters creativity." Ali also mentioned, "I learned by myself for a long time. When I finish my day, I start thinking with excitement about what I'm going to do or learn tomorrow." Rayan said, "Creative and innovative individuals usually do not care much about the outside environment that they are interested in the workroom or their own work area…when they enter the place, they like to have disappeared from the world. They stay for long and isolated hours."

Participants talked about how the course helped in their journey of self-development. For example, Ali stated, "I attended some intensive courses for three weeks to five weeks and that helped me move from one level to another." From the participants' discourses about autonomous learning and self-development, they appear to lead their journey of learning with intrinsic motivation in the subject they love, and this helped them during their journey of building the characteristics of a successful innovator.

Most participants reflected on their experience of networking. They asserted that it is critical for any creative individual and innovator who seeks success and likes to come up with innovative products to expand their network. For instance, Mohammed mentioned, "Expanding your network is essential because it makes the journey shorter…and helps you see from different lenses…it is very important." Wide networks help gifted people obtain new opportunities. Nadir said, "Networking brings opportunities." Ahmed reflected on this topic and shared how important it is. "The topic of networking, meeting people, knowing people, and building social relations. Many talented people are introverted, and they need to enhance that significantly. Through meetings and attending conferences and events, innovative individuals should expand their network." Participants reflected on the subject of networking as critical and had rich discussions about it.

Another important theme that emerged from the interviews with the successful innovators is to market oneself and build one's reputation. Eight of 11 participants expressed their related views. For instance, Ali mentioned, "Being strong is not enough, you need to market yourself." Omar explained how many potential people have offered them business partnerships, "We build a good reputation for ourselves." Sami stated, "Self-confident creative people are the people who create a good picture of themselves and how good they are." Another participant (Sultan) stated, "When you have something strong about yourself, you need to sell it, you need to show it, people will not know otherwise." Ahmed recommended to new and young gifted people, "I would say don't be shy, visit conferences and present yourself, let others know about you, it is very important." Turki similarly suggested, "The innovator must be organised, can market himself, be committed, and show discipline. This is his reputation."

Surprisingly, all participants reported heavily regarding the importance of peer relationships during self-development and successful innovation development. They reflected the challenging and competitive atmosphere that they had with their peers, which was seen as positive. They thought peer coaching and learning from peers is necessary for growth. Participants also mentioned how peer competition was helpful in the journey of some creative figures like Steve Jobs and Bill Gates. Hasan asserted, "I learn from and with peers, we share ideas, explore, spend

time together, and challenge each other." Rayan reflected on his successful innovation journey with many successful innovative products, "I spent my journey of more than 20 years with my close friend. We share the same interests, we challenged each other and now we work together on our mega project that we found, its current market value is around 300 million dollars."

Mohammed shared some thoughts related to this theme and stated, "The fastest way to learn about a new technology, new science, or new field is that you meet and spend time with your peers in the field." Salman also suggested, "Meet more knowledgeable peers."

Ahmed also participated in this theme and expressed, "The necessity of meeting with peers who share interests, today we are greatly incomplete in the country regarding this matter, we need meetings for talented individuals in many important subjects, for example, robotics, or artificial intelligence."

Spending time with peers creates a positive challenging atmosphere. Omar indicated, "…I mean, the challenge between peers. I think it is an important thing that makes them work day and night, and so they come out with their best outcomes." Ali shared similar thoughts,"See Steve Jobs and Bill Gates all competed and challenged each other. This is very healthy and helpful for innovation companies and creative individuals." Speaking about competition with creative peers and how this affects positively on their creative journey, Turki stated, "If we look at History, we see peers around each other. They always stand by each other, I mean, for example, if we say the players Cristiano Ronaldo and Messi. Always there are peers, and peers help generate creativity between them." Ahmed explained how innovative projects can be fostered to help youth down the road. He said, "Connecting innovators with peers with similar interests who have already succeeded to learn about the techniques of success and confront difficulties." Sami asserted, "Peer activities…very necessary, this is one of the most important things."

Within this theme, some participants talked about peer coaching. Sultan said, "Peer coaching is critical, this is really important for innovators and talented people to develop their skills and learn about the market." Turki also mentioned, "Creative individuals and innovators need to have access to more experienced peers to advise them and share their learning." Ahmed shared this story that was related to this theme, "I visited one of the best entrepreneurship incubators in the United States in Colorado and tried to investigate the secret behind their success and the success of their incubated projects, and I found that they bring peers together. When they have talented individuals who need help and coaching, they search for successful innovators, who have succeeded during the last three years maximum so that they know how to overcome many faced and expected obstacles and share their secrets of success."

During their journey, some participants noticed many of their colleagues and peers fell apart and lost their power and hope to become successful innovators owing to scarcity of money. They did not plan wisely to get money back from their services and creations to help them survive and complete the journey. Sultan asserted, "It is important to make innovation your source of income as early as you can." Sami stated, "You need to get capital from it." Ali said, "What helped me is that I made it a profitable hobby." Mohammed mentioned, "To continue working, you need a source of income, so make it". Omar shared a story about his gifted friend, "My close friend whom I learned from a lot did not think seriously about gaining money and he at the end was forced to search out for a job that paid, and from this point, he had started killing his creativity and his interest in building his innovative service. He lost interest."

Sultan explained how his decision of providing profitable services was fruitful and supportive, "Sometimes you need financial support with your project, but in the beginning, when I was working in a small scale, I needed cash and I didn't have a job, so I started considering my work as a business not only a hobby. And this helped me stay on the road of innovation and become a successful entrepreneur."

Turki gave his advice and mentioned, "Investing in your passion is critical, but it must have a financial return, 'any work with no return will not last.' There must be a financial benefit that you can give it your full time." Similarly, Nadir said, "And it shall have a financial income benefiting all parties who participated in supporting this invention or innovation." Rayan also

said,"The post-university stage is a very critical stage, and financial returns are more necessary because the ideas grow, the projects grow, and the needs also grow. Therefore, the person must plan to work on financially feasible projects."

Working with a supportive team was one of the most important themes that emerged from the participants' discourses about their transformation into creating their big successful innovation. Hasan asserted, "Even if you are so good at doing your job, you need a team to help with the many things you need to do, you need experience in administration and marketing." Salman explained his needs to a supportive team by saying, "I cannot negotiate with potential customers or potential partners; I am busy with the development and creating innovative realistic solutions." Turki talked about his story and said, "The best is that I worked with a partner who performed operating tasks, and I focused on the development." Sami talked about the importance of having a team to help with the implantation parts, "The separation of the idea and the implementation of the idea, as the task of the talented and innovator, is supposed to be the creation of ideas and letting others help in implementing them." Omar reflected on the positive psychological part of having a supportive team, "The team brings enthusiasm when I feel exhausted."

On the organisational level, participants shared some thoughts about the role of the supportive team. Sultan said, "Creative people have a potential effect inside organisations; they do not necessarily lead the organisation." Rayan shared similar thoughts "…innovators, their influence, I think it is more inside the systems than the management of the organisations." Mohammed asserted, "They should stand away from routine tasks. They need a team to help them with other tasks, they cannot work alone." Similarly, Sami said, "The creative person is not an administrative person. His work should be in the second row far from the operational tasks that are better for him." Participants in general believed in the need for a supportive team so the innovator can focus and develop fast and everyone plays different roles.

DISCUSSION

The purpose of this study is to explore the lived experiences of successful outstanding innovators regarding their successful journey of innovation. This study attempted to understand the factors that assisted them in transferring their creative potential to producing innovative outcomes. The analysis of the participants' narratives revealed several factors that helped them during their difficult and lengthy successful journey of self-development and building innovative products. Participants emphasised that the good daily habits of enjoying their time by learning, developing skills, and working on creative and productive activities were significant factors associated with their success. Creatively gifted individuals are curious by nature and open to new experiences (Alsamani 2020; Renzulli and Reis 2021). However, not all creatively gifted individualsmake good daily habits in which they spend their time in useful, happy and productive activities. This also explained partially the transformation journey from only holding the creative potential in creatively gifted students to developing and applying that in positive activities as recently discussed thoroughly by Glaveanu and Kaufman (2022). Furthermore, participants indicated that self-confidence was critical as they faced many challenges and failures, so they needed to trust themselves to continue and overcome these obstacles. This factor was critical for successful innovators who participated in this study and seemed to be grounded in research (Csikszentmihalyi 1996; Fisher and Amabile 2023; Sternberg 2023). Self-confidence was seen as one of the common personality traits in creative individuals in various research of creativity and innovation and is also included in the Investment Theory of Creativity (Sternberg 2023).

Participants highlighted that producing high-quality and successful innovation requires a long journey of autonomous learning and self-development. They reflected on their journey of years of self-learning and development in the domain they love and how this had supported them develop professional and smart applicable ideas. The notion of autonomous learning and self-development was linked with the education of the creatively gifted for decades (Betts 1985; Betts and Neihart1986; Renzulli and Reis 2021; Yüregilli-Göksu and Gelisli 2023). Developing a deep understanding of a specific domain also aligned with multiple theories of creativity and

giftedness (Renzulli and Reis 2021; Sternberg 2023). Fisher and Amabile (2023) studied the development of creativity and innovation in organisations for decades and concluded that supporting innovation requires paying close attention to the individuals'interests and preferences of what to learn and innovate so that can work on an area of interest and develop relevant knowledge. Similarly, Sternberg (2023) asserted that relevant knowledge is necessary for creativity to develop. These findings from recent studies agreed with the successful innovators' perceptions of self-development and autonomous learning found in this study.

Successful innovators who participated in this study reflected on the importance of building social networks. They enjoyed joining activities in their creative domain so that they can make connections with other valuable individuals who share the same interests. Social networking is an important strategy for developing ideas in creativity and innovation (Baruah and Paulus 2019). Being capable and skilled is not enough. Participants referred to the need to self-market and build a reputation. This is associated with Plucker's finding (2022) that notable creative and innovative individuals have built a good reputation and work on marketing their innovative skills and outcomes.

Through discourses with participants, they reflected on their demand for a source of income during their journeys to fulfil their needs. However, having a full-time job on subjects irrelevant to their innovation domain is seen as a critical issue. They believed it negatively affects the journey of innovation. Innovators who are busy with their innovative projects face confusion when they spend almost all their time working on these projects. This prevents them from working in a profitable job where they obtain income. Therefore, successful innovators suggested that innovators should start from an early stage to think about making innovation as a source of outcome to secure themselves. This issue was described as one of the main obstacles that obstruct the journey of innovation. This result agreed with Smith and Beasley (2011) that they found self-employment as a solution to similar cases so that innovatorswill not be stressed out to search for paid employment that discourages them from fulfilling their goals in developing their innovative outcomes. Providing financial consultants for innovators during their journey to develop profitable innovative products is imperative to support their success.

Participants encouraged innovators to avoid operational tasks and focus on the development tasks. They suggested innovators work with a supportive team to avoid working on multiple tasks that confuse them. The interview discourses revealed that many innovators are independent by nature and prefer to do their tasks by themselves. However, they should control that and accept support so that they develop faster and in a better way. A similar result was found by Baruah and Paulus (2019) that they investigated collaborative teamwork in developing innovation in organisations and suggested that teamwork assists in enhancing creativity and innovation in educational settings. They indicated that there should be a major shift from individual to team-based innovation. Participants also highlighted that peer relationship and support is motivating. They made their journeys with peers and found that they were very supportive in learning, competing, and working together on innovative projects. These results agreed with Kim (2019) findings that it is a misconception that innovators always work alone. In addition, the findings of Yang and Han (2021) indicate that peer interaction is positively related to developing creative ideas. Sawyer (2012) viewedcollaboration as an important aspect of innovation. De Jong et al. (2022) found related results that school leader plays a critical role in collaborative innovation by being team player or a facilitator for the innovation team.

CONCLUSION

This study intended to explore the factors that assisted successful outstanding innovators in transferring their creative potential to produce successful innovative outcomes. Their successful journey was lengthy and difficult. Successful innovators had positive daily habits in which they enjoyed their time developing skills, learning new subjects, and working on innovative activities. Self-confidence was a critical supportive factor for successful innovators during their journey to overcome challenges. Autonomous learning and self-development were reported as

vital elements for innovators to eventually produce high-quality and successful innovations. In addition, building social networks was seen as an important aspect of developing innovation.

Many unsuccessful innovators had problems with earning an income while they were busy with their productive hobbies. Therefore, participants concluded that their innovative activities were planned from an early stage to make them work as a source of outcome to secure themselves. In addition, they asserted that developing successful innovations require innovators to work with a supportive team to focus on their developmental tasks and avoid confusion. Finally, it was deeply found from the lived experiences of successful outstanding innovators that their long journey of innovation was profoundly motivated by peers. Such a journey with peers included a supportive atmosphere of learning, competing, collaborating, and developing innovative projects together.

RECOMMENDATIONS

The results of this study have several recommendations that can help innovation enablers and educators in schools and universities better support creativity and innovation for the creatively gifted and all students. Developing innovation requires autonomous learning in an area of interest to the learner. Thus, schools and universities should formally support autonomous learning for their creatively gifted students in addition to teaching the core curricula provided for all students. In addition, to make schools and universities more supportive environments for creativity and innovation, they should pay more attention to the interests of gifted students and attempt to provide activities and elective courses that suit their interests and creative tendencies. The learning environment must engage students and grasp their attention and increase their motivation. Therefore, universities and schools are encouraged to provide more flexible courses that offer room for creative activities and allow the development of innovative products. Moreover, based on the insights gleaned from this study's results, universities and schools ought to challenge creatively gifted students with problems to solve creatively as part of their education program. As creatively gifted students usually prefer creative activities and challenges, universities and schools should build a portfolio for each creative gifted student to help educators understand those students' creative interests, achievements, and skills and incorporate them with their education.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A limitation of this study is that all participants were male. The author could not recruit willing successful female innovators who meet the inclusion criteria to participate in this study. Future research should seek female perspectives regarding the factors associated with the successful journey of innovation. In addition, female innovators may face more challenges that prevent them from succeeding in innovations. Therefore, female perspectives on the challenges of developing innovative outcomes should be investigated. In addition, most of the participants' experiences occurred in Riyadh and Qassim regions in Saudi Arabia. Future research should include participants from different cultural backgrounds and from different countries to explore more fully any possible differences in their experiences of developing valued innovation outcomes.

Moreover, a quantitative, cross-sectional survey research is necessary to investigate a large sample of successful innovators' experiences of working on innovative projects. Such a study should include the perspectives of male and female innovators. Furthermore, future research should explore the experiences of unsuccessful innovators and the challenges and difficulties they may face. Given that creatively gifted students' voices are often missing, future research should explore gifted students' perceptions of innovation production. Finally, future research should investigate innovators' perspectives regarding what societies should provide to support creatively gifted people to become successful and productive innovators.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article, further inquiries can be directed to the author.

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CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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REFERENCES

Alsamani OA 2019. *Fostering Creativity and Innovation in Gifted Students Through the Eyes of Gifted Education Educators.* Doctoral Dissertation. USA: University of Northern Colorado. ProQuest Dissertations Publishing.

Alsamani OA 2020. Fostering creative productivity for creatively gifted students. *Teaching for High Potential Journal*, 6(4): 19-22.

Amabile T 2012. *Componential Theory of Creativity*. USA: Harvard Business School.

Amabile TM, Gryskiewicz ND 1989. The creative environment scales: Work environment inventory. *Creativity Research Journal*, 2: 231–252.

Baruah J, Paulus PB 2019. Collaborative creativity and innovation in education. *Creativity Under Duress in Education? Resistive Theories, Practices, and Actions*, 155-177.

Beghetto RA, Kaufman JC 2007. Toward a broader conception of creativity: A case for "mini-c" creativity. *Psychology of Aesthetics, Creativity, and the Arts*, 1: 73-79.

Betts GT 1985. The Autonomous Learner Model for the gifted and talented. In: JS Renzulli (Ed.): *Systems and Models for Developing Programs for the Gifted and Talented*. Mansfield Center, CT: Creative Learning Press, pp. 27-56.

Betts GT, Neihart M 1986. Implementing self-directed learning models for the gifted and talented. *Gifted Child Quarterly*, 30(4): 174-177.

Charmaz K 2014. *Constructing Grounded Theory.* 2nd Edition. London: Sage.

Colaizzi P 1978. Psychological research as the phenomenologist views it. In: RS Valle, M King (Eds.): *Existential-Phenomenological Alternatives for Psychology.* Oxford, UK: Oxford University Press, pp. 48- 71.

Creswell JW, Poth CN 2018. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches.* 4th Edition. Los Angeles, CA: Sage.

Csikszentmihalyi M 1996. *Creativity: Flow and the Psychology of Discovery and Invention.*1st Edition. New York: HarperCollins Publishers.

De Jong WA, Lockhorst D, de Kleijn RA, Noordegraaf M, van Tartwijk JW 2022. Leadership practices in collaborative innovation: A study among Dutch school principals. *Educational Management Administration & Leadership*, 50(6): 928-944.

Feist GJ 1998. A meta-analysis of personality in scientific and artistic creativity. *Personal Soc Psychol Rev*, 2: 290-309.

Fisher CM, Amabile TM 2023. Stimulate creativity by fueling passion. In: EA Locke , CL Pearce (Eds.): *Handbook of Principles of Organizational Behavior: Indispensable Knowledge for Evidence-Based Management.* New Jersey, USA: John Wiley & Sons, pp. 443-462.

Forgeard MJC, Kaufman JC 2016. Who cares about imagination, creativity, and innovation, and why? A review. *Psychology of Aesthetics, Creativity, and the Arts*, 10(3): 250-269. doi:10.1037/aca0000042

Gagneì F 2005. From gifts to talents: The DMGT as a developmental model. In: RJ Sternberg, J E Davidson (Eds.): *Conceptions of Giftedness.* 2nd Edition. New York, NY: Cambridge University Press, pp. 98- 120.

Glaveanu V, Kaufman JC 2022. Building off creativity to move from gifted to gifting. *Gifted Education International*, 38(3):386-390. https://doi.org/10.1177/02614294211050149

Isaksen SG, Dorval KB, Treffinger DJ 2011. *Creative Approaches to Problem Solving: A Framework for Innovation and Change*. 3rd Edition. Thousand Oaks, CA: SAGE.

Kim KH 2019. Demystifying creativity: What creativity isn't and is? *Roeper Review*, 41(2): 119-128.

MacKinnon DW1978. *In Search of Human Effectiveness: Identifying and Developing Creativity*. Buffalo, NY: Bearly Limited.

Markman KD, Klein WM, Suhr JA 2009. Overview. In: KD Markman, WM Klein, JA Suhr (Eds.): *Handbook of Imagination and Mental Simulation (vii-xvi).* New York, NY: Taylor and Francis, pp. 225-240.

Marland SP 1972. *Education of the Gifted and Talented: Report to the Congress of the United States by the U.S. Commissioner of Education*. Washington, DC: Department of Health, Education and Welfare.

Marshall C, Rossman G 2016. *Designing Qualitative Research*. 6th Edition. SAGE, Thousand Oaks.

Merriam SB, Tisdell EJ 2016. *Qualitative Research: A Guide to Design and Implementation.* 4th Edition. San Francisco, CA: Jossey-Bass.

Moustakas C 1994. *Phenomenological Research Methods.* Thousand Oaks, CA: Sage.

Pfeiffer S 2017. Success in the classroom and in life: Focusing on strengths of the head and strengths of the heart. *Gifted Education International*, 33(2): 95–101.

Plucker JA 2022. *Creativity and Innovation: Theory, Research, and Practice*. Waco, TX: Prufrock Press Inc.

Plucker JA, Beghetto RA, Dow GT 2004. Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39(2): 83-96. http://dx.doi.org/10.1207/s15326985ep39021

Reis SM, Peters PM 2021. Research on the Schoolwide Enrichment Model: Four decades of insights, innovation, and evolution. *Gifted Education International*, 37(2): 109-141. https://doi.org/10.1177/0261429420963987

Renzulli JS 1986. The three ring conception of giftedness: A developmental model for creative productivity. In: RJ Sternberg, JE Davidson (Eds.): *Conceptions of Giftedness.* New York, NY: Cambridge University Press, pp. 53-92.

Renzulli JS 2005. The Three-Ring Conception of Giftedness: A developmental model for creative productivity. In: R Sternberg, J Davidson (Eds.): *Conception of Giftedness.* Cambridge: University of Cambridge, pp. 217-245. https://doi.org/10.1017/CBO9780511610455. 015

Renzulli JS, Reis SM1997. *The Schoolwide Enrichment Model*. 2nd Edition. Mansfield Center, CT: Creative Learning Press.

Renzulli JS, Reis SM 2021. The three ring conception of giftedness: A change in direction from being gifted to the development of gifted behaviors. *Conceptions of Giftedness and Talent*, 335-355.

Ritchotte JA, Graefe AK 2017. An alternate path: The experience of high-potential individuals who left school. *Gifted Child Quarterly,* 61(4): 275-289. doi:10.1177/0016986217722615

Runco MA 1992. The evaluative and divergent thinking of children. *Journal of Creative Behavior,* 25: 311-319.

Runco MA 2004. Creativity. *Annual Review of Psychology*, 55: 657-687. http://dx.doi.org/10.1146/annurev.psych.55.090902.141502

Sawyer RK 2012. *Explaining Creativity: The Science of Human Innovation.* Oxford University Press.

Smith K, Beasley M 2011. Graduate entrepreneurs: Intentions, barriers and solutions. *Education+ Training*, 53(8/9): 722-740.

Sternberg RJ 2006. The nature of creativity. *Creativity Research Journal,* 18(1): 87- 98. 10.1207/s15326934crj1801_10

Sternberg RJ 2023. Unwrapping Gifts: Understanding the Inner workings of giftedness through a panoply of paradigms in the field of psychology. *Roeper Review*, 1(17): 84-100.https://doi.org/10.1080/02783193.2023.2172754

Sternberg RJ, Lubart TI 1995. *Defying the Crowd: Cultivating Creativity in a Culture of Conformity*. New York, N.Y: Free Press.

Treffinger DJ, Schoonover PF, Selby EC 2013. *Educating for Creativity and Innovation*. Waco, TX: Prufrock Press Inc.

Van den Berg H 2005. Reanalyzing qualitative interviews from different angles: The risk of decontextualization and other problems of sharing qualitative data. *Historical Social Research/Historische Sozial forschung*, 179-192.

Van Manen M 2014. *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research and Writing*. Walnut Creek, CA: Left Coust Press Inc.

Ward TB 1994. Structured imagination: The role of category structure in exemplar generation. *Cognitive Psychology*, 27: 1-40.

Yang M, Han C 2021. Stimulating innovation: Managing peer interaction for idea generation on digital innovation platforms. *Journal of Business Research*, 125: 456-465.

Yüregilli-Göksu D,Gelisli Y 2023. Differentiation models for the curriculum of gifted and talented individuals: A literature review. *International Journal of Educational Research Review,* 8(2): 268-279. https://doi.org/10.24331/ijere.1227783

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