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Personality, Social Class and Entrepreneurial Learning Experiences as Predictors of Entrepreneurial Self-efficacy and Outcome expectations

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Abstract: The purpose of this paper is to investigate the developmental antecedents of entrepreneurial self-efficacy (ESE) and outcome expectations (EOE) through the integration of social cognitive career theory (SCCT) with Obschonka's (2016) biopsychosocial model of entrepreneurship. Specifically, guided by the integrated models, I examined the antecedent influence of openness personality, social class and entrepreneurial learning experiences (ELE) on ESE and EOE. The design of the study is cross-sectional, the sample size is 376, and the data were analysed with regression path analysis. The findings of this study showed the following. Firstly, the openness personality trait directly led to entrepreneurial learning experiences, ESE and EOE. Openness personality also led to ESE and EOE through positive entrepreneurial emotions (EPE), ESE through entrepreneurial personal mastery (EPM), and EOE through entrepreneurial vicarious learning (EVL). Furthermore, openness personality led to ESE and EOE through the serial mediation of EVL, EPM, and EPE; the serial mediation of EVL and EPE; and the serial mediation of EVL and EPM. Moreover, high social class individuals were directly high in EVL and EPM and indirectly high in ESE and EOE through EVL. In addition, high social class individuals were high in ESE and EOE through the serial mediation of EVL, EPM and EPE; and high in ESE and EOE through the serial mediation of EVL and EPM and through the serial mediation of EVL and EPE. This study extends the theoretical literature on the antecedents of ESE and EOE and practically shows the developmental antecedents of ESE and EOE from another perspective.

Keywords: learning experiences, outcome expectations, self-efficacy, social cognitive career theory, social class

1. INTRODUCTION

According to Chen, Greene, and Crick (1998), entrepreneurial self-efficacy (ESE) is an individual's perceived ability to perform entrepreneurial action. It is a variable that has been found to play crucial roles in many areas of entrepreneurial outcomes, such as intentions (e.g., Schlaegel & Koenig, 2014; Lanero, Vazquez, & Aza, 2016), growth (e.g., Miao, Qian, & Ma 2017; Brandstätter, 2011), success (Şahin, Karadağ, & Tuncer 2019) etc. Another variable that has been found to influence several entrepreneurial outcomes (e.g., entrepreneurial interest, choice, intentions, etc.) is entrepreneurial outcome expectations (EOE). It is defined as the expected consequences of performing entrepreneurial outcomes. These variables are so central to many entrepreneurial outcomes that they move together in many entrepreneurial models. For example, within the Shapero (1982) entrepreneurial event model, they are referred to as feasibility and desirability, while Ajzen's (1991) theory of planned behaviour refers to them as perceived behavioural control and personal attitude. In Lent, Brown and Hackett's (1994) social cognitive career theory (SCCT), they are called self-efficacy and outcome expectations. Furthermore, Fitzsimmons and Douglas (2011) posited that individuals simultaneously high in both variables are natural entrepreneurs, whereas those low in both are non-entrepreneurs.

Due to the importance of these variables, much attention has been paid to their predictors, especially ESE (Adebusuyi & Adebusuyi, 2020; Javadian, Opie, & Parise, 2018). For instance, Newman et al. (2019) extensive literature review on the antecedents of ESE reported that most studies on the antecedents of ESE are anchored on Bandura's (1997) social learning theory. This theory comprises personal mastery,

verbal persuasion, vicarious learning and emotional arousal. Lent et al.'s (1994) labelled these variables as learning experiences and further posit that they directly and simultaneously relate to ESE and EOE. Adebusuyi and Adebusuyi (2022) found partial support for the direct and simultaneous relation of the learning experience to ESE and EOE.

However, investigation of the developmental antecedents of learning experiences on ESE and EOE is yet to be addressed in the literature. Newman et al. (2019) equally spotted this knowledge gap and called for research on the developmental antecedents of ESE. This paper fills this gap in knowledge by investigating the developmental precursors of ESE and EOE by integrating the SCCT and Obschonka's (2016) biopsychosocial model of the development of entrepreneurship. Investigating the developmental antecedents of ESE and EOE is vital because it provides valuable empirical insights into early childhood and adolescent precursors of an entrepreneurial mindset and career choice.

An overview of SCCT and rationale for the study

SCCT is a theory that explains how people interact with their environment. It posited that individuals have a degree of control over the outcomes of their career pursuits, depending on the environmental supports and barriers they encounter. The ability to exercise control depends on three cognitive variables (self-efficacy, outcome expectations, and goals/intention) interacting with environmental supports and barriers. These cognitive-environmental variables are regarded as the proximal parts of the theory. The other parts of the theory comprise person inputs (e.g., gender, personality, race/ethnicity etc.), contextual affordances (e.g., socioeconomic resources) and learning experiences (personal mastery, vicarious learning, verbal persuasion and emotional arousal). The distal variables are posited to influence the proximal variables through learning experiences.

Study outline

In the following sections, I discussed the following: first, I discussed the theoretical frameworks of the paper. The first theoretical framework is SCCT, and the second is the biopsychosocial model of entrepreneurship. After that, I discussed the integration of theories. Next, arising from the integrated models, I discussed three headings: Openness personality, entrepreneurial learning experiences, ESE and EOE; Social class, entrepreneurial learning experiences, ESE and EOE and Entrepreneurial learning experiences, self-efficacy and outcome expectations. Under each heading is an indirect subheading in italics. The next section is the methodology, comprising Study participants and procedure, Research instruments, and Data screening. The next section is the results, organized to correspond to the three heading in the introduction. The final section comprises the discussion, implications of the study, limitations of the study and future research, and conclusion.

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The Biopsychosocial model of the development of entrepreneurship

The biopsychosocial model of the development of entrepreneurship was developed by Obschonka (2016). The theory discusses how an individual develops an entrepreneurial mindset from childhood. Specifically, the theory argues that the early precursors of an entrepreneurial mindset of an individual are an interaction between the unique biological characteristic of an individual that engenders entrepreneurial interest (e.g. personality traits) and the supportive environment that values entrepreneurship. He calls such a supportive environment ecological support/constraints. Examples of such ecological support/constraints include self-employed parents, peer groups or authoritarian parenting style that combines warmth, autonomy and strict rules. Furthermore, he argued that the ecological support/constraints are influenced by the socioeconomic environment the child is raised. This is because socioeconomic status (SES) determines the different career options the child will be exposed to. Moreover, this model argues that the dynamic interaction between the biological characteristics and the ecological support/constraints influences the formation of entrepreneurial identity, self-concept, status, competence, and self-efficacy. Finally, the model posits that there are distal predictors of an entrepreneurial mindset. The model argues that macro-cultural or regional contexts indirectly influence early entrepreneurial development through the interaction of biological and ecological support/constraints.

The integrated model.

Although SCCT describes the process by which ESE and EOE develop, the integration of SCCT with the biopsychosocial model extends the literature on how individuals arrive at ESE and EOE from a different perspective. For example, SCCT posits that learning experiences directly lead to ESE and EOE. The question is, which of the four subscales of learning experiences does an individual first acquire and which comes after? Vocational/career researchers (e.g., Klassen & Durksen 2014; Pfitzner-Eden 2016; Tschannen-Moran, Hoy, & Hoy 1998; Hoy et al. 2005) have begun to think in this direction. The inability of the SCCT to answer such developmental questions makes the biopsychosocial model of the development of entrepreneurship relevant. In this study, I integrate the two models, as shown in Figure 1, to investigate the antecedent of ESE and EOE from a new perspective and thereby deepen the literature on the antecedent of ESE and EOE.

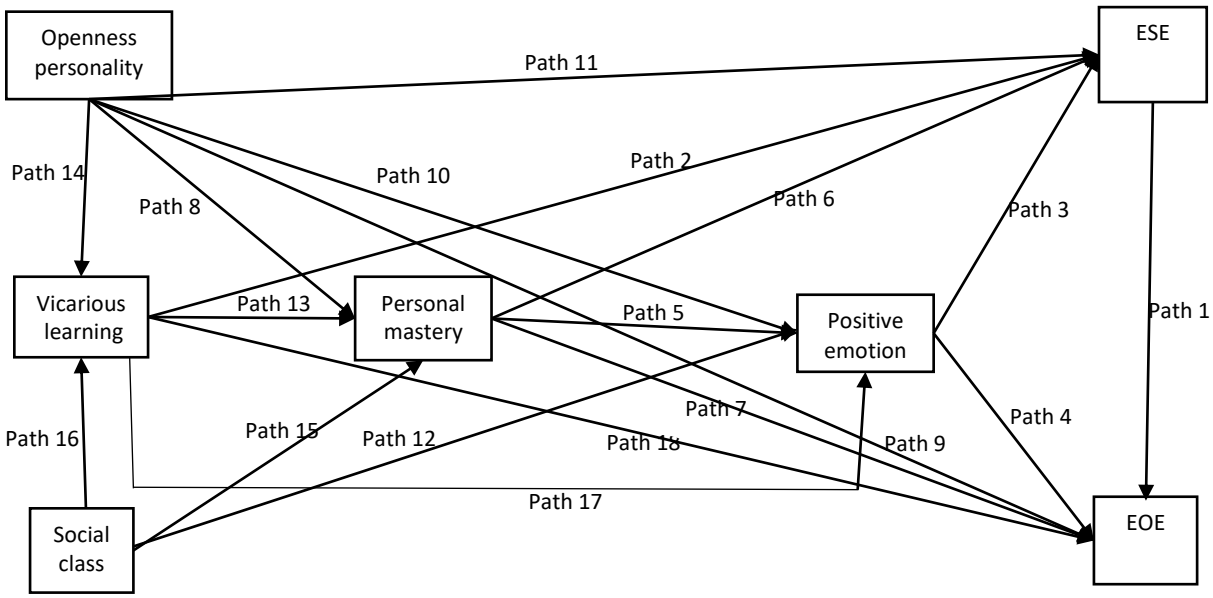

Figure 1. Hypothesized framework of the research showing the integration of SCCT and the biopsychosocial model of the development of entrepreneurship

Openness personality, entrepreneurial learning experiences, ESE and EOE

Research has investigated the influence of the big-5 personality traits (extraversion, agreeableness, conscientiousness, openness, and neuroticism) on entrepreneurial outcomes, such as intention, growth, and success (Brandstätter, 2011; Şahin et al., 2019). However, the trait found most consistently relevant in the entrepreneurial context is openness personality (Antoncic et al., 2015; Raine & Pandya, 2019; Slavec, Drnovsek, & Hisrich 2017). Nonetheless, to my knowledge, no research has related the openness personality traits to ELE subscales, as posited by the SCCT. In this study, I relate the openness personality trait to three (i.e., vicarious learning, personal mastery, and positive emotions) of the five subscales of the ELE of Adebusuyi, Adebusuyi and Kolade (2021). Taken one at a time, individuals high in openness personality are receptive to different career options (Lent et al., 2013). Also, they are intellectually curious, imaginative, and creative. Entrepreneurial vicarious learning (EVL) is about observing entrepreneurial models. Since open individuals are receptive to different career options and creative, I argue that exposure of open individuals to entrepreneurs should produce a liking for such careers, which should, in turn, make them have high EVL (path 14).

Also, SCCT posits that individuals high in openness personality should be high in entrepreneurial personal mastery (EPM, path 8). EPM is defined as past entrepreneurial achievement influencing future entrepreneurial performance (Adebusuyi et al., 2021). Brown and Hirschi (2013) argued that individuals with high openness personality deliberately seek out new experiences. Therefore, individuals with an open personality who have succeeded in business before should be high in EPM because of their confidence in past achievements and the motivation to experience new entrepreneurial activities. Furthermore, according to SCCT, individuals high in open personality should also be high entrepreneurial positive emotions (EPE, path 10). Brown and Hirschi (2013) argued that individuals with an openness personality trait are receptive to their emotions. Because of the creative qualities of entrepreneurship, open individuals are attracted to it, and since they are receptive to their emotions, I expect open individuals to have high EPE.

Within the vocational literature, openness has been found to play a minimal contribution to career exploration and decision-making self-efficacy (Brown & Hirschi, 2013; Ireland & Lent, 2018; Martincin & Stead, 2015). Similarly, within the entrepreneurship literature, although openness personality has been found to relate to many entrepreneurial outcomes, limited attention has been paid to the direct relationship between openness personality and ESE (path 11) and EOE (path 9). Most prior studies (e.g., Fuller et al., 2018; Prabhu et al., 2012; Zhao, Seibert, & Hills, 2005) have concentrated on proactive personality as a direct antecedent of ESE, leaving out EOE. However, I argue that there is a link between openness personality and ESE and EOE. Firstly, Tran and Korflesch (2016) posit a direct relation between openness

personality and ESE and social outcome expectations. Furthermore, entrepreneurship is a non-traditional career that requires creativity and competence in many areas. Open individuals are creative and broadminded enough to accommodate many things. Clearly, their characteristics align with the requirements for ESE. Hence, I expect individuals high in openness personality to be high in ESE (path 11). Furthermore, open-minded individuals are broadminded, flexible, and accepting of various tasks, etc. EOE entails flexibility, a variety of tasks, opportunities for learning, etc. Since these entrepreneurial outcomes interact with openness personality traits, I contend that individuals high in openness personality will also be high in EOE (path 9).

Hypothesis 1: Individuals high in openness personality will be directly high in EVL, EPM, EPE, ESE and EOE.

Indirect effects of the openness personality trait on ESE and EOE through learning experiences.

SCCT posits an indirect relationship between personality and self-efficacy and outcome expectations through learning experiences. Several studies (e.g., Ireland & Lent, 2018; Schaub & Tokar, 2005) within the vocational literature have investigated this indirect relationship. However, no study within the entrepreneurship literature has investigated this relationship. Slavec et al. (2017) also spotted this gap in the literature and called for the mediating influence of learning experiences on the relationship between openness personality and ESE. In this section, I argue that the openness personality trait will indirectly lead to ESE through EVL (path 14 → path 2), EPM (path 8 → path 6) and EPE (path 10 → path 3). Similarly, as posited by SCCT, I argue that an open personality will indirectly lead to EOE through EVL (path 14 → path 18), EPM (path 8 → path 7) and EPE (path 10 → path 4). In addition, guided by the SCCT, I argue that openness personality individuals will be high in EOE through the serial mediation of EVL and ESE (path 14 → path 2 → path 1), EPM and ESE (path 8 → path 6 → path 1), and EPE and ESE (path 10 → path 3 → path 1).

Hypothesis 2: Individuals high in openness personality will be indirectly high in ESE and EOE through EVL, EPM and EPE.

Hypothesis 2b: Individuals high in openness personality will be high in EOE through the serial mediation of EVL and ESE, EPM and ESE, and EPE and ESE.

Furthermore, from the biopsychosocial model perspective, I argue that openness personality leads to ESE through the serial mediation of EVL, EPM and EPE (path 14 → path 13 → path 5 → path 3). Similarly, openness personality lead to EOE through the serial mediation of EVL, EPM and EPE (path 14 → path 13 → path 5 → path 4) and through EVL, EPM, EPE, and ESE (path 14 → path 13 → path 5 → path 3 → path 1). Additionally, openness personality leads to ESE through the serial mediation of EVL and EPE (path 14 → path 17 → path 3). Also, openness personality leads to EOE through the serial mediation of EVL and EPE (path 14 → path 17 → path 4) and through the serial mediation of EVL, EPE and ESE (path 14 → path 17 → path 3 → path 1). Finally, as shown in Figure 1, there is a serial indirect relationship between openness personality and ESE through EVL and EPM (path 14 → path 13 → path 6). Also, there is a serial indirect relationship between openness personality and EOE through the serial mediation of EVL and EPM (path 14 → path 13 → path 7) and through the serial mediation of EVL, EPM and ESE (path 14 → path 13 → path 6 → path 1).

Hypothesis 3: Openness personality will predict ESE and EOE through the serial mediation of EVL, EPM and EPE.

Hypothesis 4: Openness personality will influence ESE and EOE through the serial mediation of EVL and EPE

Hypothesis 5: Openness personality will influence ESE and EOE through the serial mediation of EVL and EPM

Social class, entrepreneurial learning experiences, ESE and EOE

The level of an individual's SES has been associated with providing important career exposure. For instance, Duffy et al. (2016) posited that access to financial and material resources provides a crucial social network that leads to securing decent work. In an entrepreneurial context, Obschonka (2016) also posited that the socioeconomic environment in which a child is raised determines the learning opportunities for early entrepreneurial development. As posited by Obschonka (2016), I argue that individuals raised in a high SES environment will have access to a successful entrepreneur from whom they can vicariously learn (path 16). It is possible to be from a low social class background and have access to an entrepreneur. However, access to successful entrepreneurs who can stimulate interest in an entrepreneurial career requires being from a high SES background. Furthermore, I argue that high social class individuals are more likely to have EPM (path 15). This is because only high-SES individuals can access the social and material resources required for entrepreneurial start-up, growth, and success (Audretsch, Bönte, & Tamvada 2013). Conversely, according to Kuada (2015), individuals from low-income economies (a proxy for low social class) are in survivalist entrepreneurship that is crowded and, as a result, has low profitability, growth potential and success. Hence, individuals from high social class are more likely to have high EPM (path 15). Finally, high-social-class individuals are more likely to have high EPE (path 12). Growing up in an environment of affluence provides access to successful entrepreneurs and resources that make entrepreneurial careers attractive to high-social-class individuals. Furthermore, Cote (2011) argued that when high social class individuals enter entrepreneurship, they are optimistic (i.e., high EPE) that it will succeed and yield high profitability. Conversely, when low social class enters entrepreneurship, they feel less secure about their entrepreneurial endeavours and consequently low on EPE. On this premise, I argue that high social class individuals should be high on EPE.

Hypothesis 6: Individuals high in social class will also be high in EVL, EPM, and EPE.

Indirect effects of social class on ESE and EOE through learning experiences.

Based on the SCCT, learning experiences should mediate the relationship between social class and ESE and EOE. Therefore, I argue that social class will relate to ESE through

EVL (path 16 → path 2), EPM (path 15 → path 6) and EPE (path 12 → path 3). Similarly, SCCT posits an indirect relationship between social class and EOE through EVL (path 16 → path 18), EPM (path 15 → path 7), and EPE (path 12 → path 4). Further, there is a serial indirect relationship between social class and EOE through EVL and ESE (path 16 → path 2 → path 1), EPM and ESE (path 15 → path 6 → path 1), and EPE and ESE (path 12 → path 3 → path 1).

Hypothesis 7: Individuals high in social class will also be high in ESE and EOE through EVL, EPM and EPE.

From the biopsychosocial model perspective, I argue that social class leads to ESE through the serial mediation of EVL, EPM and EPE (path 16 → path 13 → path 5 → path 3). Also, social class leads to ESE through the serial mediation of EVL and EPM (path 16 → path 13 → path 6) and through EVL and EPE (path 16 → path 17 → path 3). Similarly, social class leads to EOE through the serial mediation of EVL, EPM, and EPE (path 16 → path 13 → path 5 → path 4) and through the serial mediation of EVL, EPM, EPE, and ESE (path 16 → path 13 → path 5 → path 3 → path 1). Furthermore, social class leads to EOE through the serial mediation of EVL and EPM (path 16 → path 13 → path 7) and EVL, EPM and ESE (path 16 → path 13 → path 6 → path 1). Finally, social class leads to EOE through the serial mediation of EVL and EPE (path 16 → path 17 → path 4) and EVL, EPE and ESE (path 16 → path 17 → path 3 → path 1).

Hypothesis 8: Individuals high in social class will also be high ESE and EOE through the serial mediation of EVL, EPM and EPE

Hypothesis 9a: Individuals high in social class will also be high in ESE and EOE through the serial mediation of EVL and EPM

Hypothesis 9b: Individuals high in social class will also be high in ESE and EOE through the serial mediation of EVL and EPE.

Entrepreneurial learning experiences, self-efficacy and outcome expectations

Bandura's (1997) social cognitive theory posits that ELE directly influences ESE. Lent et al. (1994) further posit that ELE subscales should directly predict both ESE and EOE. What is unclear is, in what order do these ELE subscales lead to ESE and EOE? Do individuals acquire these subscales at the same time, or do they acquire them one at a time? Using the biopsychosocial model of the development of entrepreneurship by Obschonka (2016), as presented in Figure 1, I argue that the first contact an individual has with entrepreneurship is through exposure to an entrepreneurial role model (i.e., EVL).

Using the idea of Gibson (2004), when an individual vicariously learns entrepreneurship from a model of choice, they are exposed to specific tasks, skills, performance norms, etc., necessary to perform entrepreneurial behaviour and be successful. The success of such entrepreneurial behaviour strengthens their perception of future entrepreneurial endeavours. Consequently, individuals high in EVL will also be high in EPM (path 13). Furthermore, Fellnhofer (2017) argued that entrepreneurs are passionate (i.e., positive emotions) about their work. Exposure to passionate, entrepreneurial models can transmit the models' passion to the observing individuals. For example, Soleimanof, Morris, and Jang (2021) found that exposure to parents who are passionate about their entrepreneurial careers positively influences their children's attitude toward entrepreneurship. Based on these prior studies, I argue that individuals high in EVL will also be high in EPE (path 17). Finally, as posited by SCCT, observation of entrepreneurial models creates the motivation and confidence (i.e., ESE) to become an entrepreneur. Research (e.g., Abbasianchavari & Moritz, 2021; BarNir, Watson, & Hutchins, 2012; Nowi'nski & Haddoud, 2019) has shown that coming from a family of entrepreneurs predicts ESE, intention, and behaviour. Similarly, observations of entrepreneurial models imply the desirability of entrepreneurial outcomes (i.e., EOE). Although less investigated within the entrepreneurship literature, individuals high in vicarious learning (e.g., Ireland & Lent, 2018; Lent et al., 2017) have been found to also be high in outcome expectations. In summary, I argue that individuals high in EVL will also be directly high in ESE (path 2) and EOE (path 18).

Moreover, an individual who has had prior entrepreneurial success (i.e., EPM) should feel positive emotions about entrepreneurship. Empirically, Cardon and Kirk (2013) found that confidence in performing entrepreneurial activities leads to passion (a positive emotion). On the other hand, Gielnik et al. (2015) and Baumeister et al. (2007) showed that although emotion leads to behaviour, more often, behaviour leads to emotion. On this premise, entrepreneurial personal mastery should, in turn, lead to entrepreneurial positive emotion (path 5). Furthermore, according to Bandura (1997) and Lent et al. (1994), personal mastery should have the strongest effect on self-efficacy and outcome expectations. Lent et al. posit that previous entrepreneurial success produces confidence for future entrepreneurial activities. Similarly, the value attached to the outcomes of previous entrepreneurial activities increases the motivation to expect such outcomes in future entrepreneurial endeavours. Consequently, I argue that individuals high in EPM will also be high in ESE (path 6) and EOE (path 7).

Finally, according to Lent et al. (1994), emotional arousal influences an individual's self-efficacy and outcome expectations. In the context of this study, an individual who feels positive about entrepreneurship (e.g., love, passion) should have a high ESE. Similarly, an individual who feels positive emotions about entrepreneurship most likely values the outcomes that emanate from it. Hence, I argue that individuals high in EPE will be directly high in ESE (path 3) and EOE (path 4).

Hypothesis 10a: Individuals high in entrepreneurial vicarious learning, personal mastery, and positive emotions will be directly high in ESE and EOE.

Hypothesis 10b: Individuals high in entrepreneurial vicarious learning will be directly high in personal mastery and positive emotions. Furthermore, individuals high in entrepreneurial personal mastery will be high in positive emotions.

Indirect effects of learning experiences on ESE and EOE

From the SCCT perspective, learning experiences indirectly lead to EOE through ESE. Specifically, vicarious learning leads to confidence to perform entrepreneurial tasks, which increases expectations of entrepreneurial outcomes (path 2 → path 1). Also, past entrepreneurial success increases confidence for future performance, which in turn increases EOE (path 6 → 1), and positive emotional arousal about entrepreneurship increases confidence to perform entrepreneurial activities and, in turn, leads to EOE (path 3 → path 1).

Furthermore, within the biopsychosocial model, I argue that the first learning experience acquired is entrepreneurial vicarious learning, which leads to personal mastery, and prior successful performance of entrepreneurial activities influences positive emotional arousal about entrepreneurship. This feeling leads to high ESE (path 13 → path 5 → path 3) and EOE (path 13 → path 5 → path 4). Furthermore, as shown in Figure 1, vicarious learning leads to EOE through the serial mediation of personal mastery, positive emotions, and ESE (path 13 → path 5 → path 3 → path 1). As was discussed earlier, the enthusiasm of entrepreneurs about their ventures is contagious. Hence, an individual who vicariously learn from such entrepreneurs contracts their positive emotions and consequently becomes high in ESE (path 17 → path 3) and EOE (path 17 → path 4). Finally, being high in vicarious learning leads to EOE through the serial mediation of positive emotions and ESE (path 17 → path 3 → path 1).

Hypothesis 11a: Individuals high in entrepreneurial vicarious learning, personal mastery and positive emotions will be indirectly high in EOE through ESE.

Hypothesis 11b: Individuals high in entrepreneurial vicarious learning will be high in ESE and EOE through the serial mediation of EPM and EPE. Furthermore, individuals high in entrepreneurial vicarious learning will be high in EOE through the serial mediation of personal mastery, positive emotions and ESE.

Hypothesis 11c: Individuals high in entrepreneurial vicarious learning will be high in ESE and EOE through EPE. Furthermore, individuals high in EVLwill be high in EOE through the serial mediation of positive emotions and ESE.

Method

Study Participants

The study participants were 376 undergraduate students, of which 137 (36.4%) were males, 238 (63.3%) were females, and one person (.3%) did not indicate sex. Their ages ranged from 16 to 30 (*M*age = 21.75; *SD* = 2.84). In terms of ethnicity: Yoruba were 276 (73.4%), Igbos 41 (10.9%), Hausa 11 (2.9%), all other ethnic groups 44 (11.7%), and 4 (1.1%) did not indicate any ethnic groups. For religion: 324 (86.2%) were Christians, 45 were Muslims (12%), 5 (1.3%) traditional religion and 2 (.5%) did not indicate religion.

Research instruments

Social class. I used two 1-item scales Autin et al. (2017) developed to measure social class. These items include: "How would you describe your childhood social class" and "How would you describe your current social class?". Furthermore, I used MacArthur's Subjective Social Status by Adler et al. (2000). The scale presented a 10-step ladder to participants and asked the participants to think of the ladder as representing where people are in society. The top of the ladder is 1abelled 10, while the bottom is labelled 1. They were asked to indicate where they fell on the ladder. In all, I used three-item scales to measure social class. These combinations have been used in previous studies (e.g. Adebusuyi & Adebusuyi, 2020; Allan, Autin, & Duffy, 2014; Douglass et al., 2017).

EOE Scale. It is a 14-item scale developed by Lanero et al. (2016), comprising two subscales – intrinsic and extrinsic EOE. Sample items include: "As an entrepreneur, I would obtain work autonomy and independence", and "As an entrepreneur, I would receive good economic compensation". The authors reported a reliability coefficient of .92 for each subscale and convergent validity of .64 and .70, respectively, for each subscale using average variance extracted (AVE). However, for this study, the two subscales were collapsed into one and measured on a 7 – point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The reliability of the collapsed scale was .95.

ESE Scale. This scale by Moberg (2013) was developed to measure the ESE of individuals with little or no entrepreneurial experience. Moberg compared three popular ESE scales by Chen et al. (1998), DeNoble, Jung, and Ehrlich (1999) and McGee et al. (2009) to develop a 20-item scale. It comprises five subscales. The reliability coefficients ranged from .65 to .85. For this study, however, the scale was collapsed into one ESE scale and had a reliability coefficient of .95, and the response format was from 1 (*less capable)* to 6 (*most capable*).

ELE Scale. This is a scale developed by Adebusuyi et al. (2021). It is a 24-item scale comprising entrepreneurial personal mastery, vicarious learning, verbal persuasion, and positive and negative emotions. Sample item includes: "I have role models who have explained to me how to be a successful entrepreneur". The instruction reads: "How would you rank yourself in the following: on a 6-point scale, from 1 *strongly disagree* to 6 *strongly agree*". The reliability of the subscales ranged from .76 to .85.

Personality Scale. This is a scale by John and Srivastava (1999) to measure the big-5 personality traits. It is a 44-item scale where participants rate their level of agreement on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample item includes: "I see myself as someone who is ingenious, a deep thinker". John and Srivastava reported that the scale correlated with other big-5 scales. For this study, I used the openness personality subscale. According to John and Srivastava, this subscale has a convergent validity of .85. However, given that Adebusuyi et al. (2021) had shown this subscale to be problematic, I rechecked the validity and reliability of the subscale. The subscale revealed a low Cronbach's alpha of .53. I also subjected the scale to exploratory factor (EFA) and confirmatory factor analysis (CFA). In EFA, using the maximum likelihood (ML) extraction method and promax rotations, the scale resulted in

two factors instead of the theory-consistent one factor. The reversed scored items formed a separate factor. Similarly, in CFA, the reverse-scored items showed negative regression weight (-.42 and -.49). Consequently, I deleted the two reverse-scored items. The results showed a much improved Cronbach's alpha of .77 and a theory-consistent one-factor in EFA. Finally, the CFA showed acceptable fitness statistics: comparative fit index (CFI) =1.0, root mean square error of approximation (RMSEA) =0.00, and standardized root mean square residual (SRMR) =0.03.

Data Screening

Since the data collected were in a paper and pencil format, I manually entered the data into SPSS version 21. I checked the data for abnormalities such as non-normality, unengaged responses, extreme values, missing data, skewness, and kurtosis. I checked for non-normality using histograms and boxplots. Extreme values occurred due to the manual approach to data entry. I anticipated this; therefore, each questionnaire was uniquely labelled so I could return to it when I encountered an extreme value. Unengaged responses were deleted. Skewness and kurtosis were also within an acceptable range of -2 to +2 (Weston & Gore, 2006). Finally, as Tabachnick and Fidell (2013) recommended, full information maximum likelihood (FIML) was used to generate data for the missing values in the dataset. Statistical scholars (e.g., Singer & Willett, 2003; Tabachnick & Fidell, 2013) argue that it is the best approach to handling missing data.

Results

In this section, I present the results of the hypotheses raised in the introduction. Before that, I present in Table 1 the descriptive statistics (mean and standard deviation) and zero-order correlations of the variables in this study. In Table 1, all the variables are positively correlated with each other. The pair of ESE and EOE has the highest correlation of r = .67, while the pair of EVL and SC has the least correlation of r =.21.

Table 1. Mean, standard deviation and zero-order correlation of the variables in this study

	M	SD	EPM	EVL	EPE	ESE	EOE	SES
EPM	7.52	2.93	-					
EVL	26.21	7.32	.574**	-				
EPE	23.16	5.43	.394**	.422**	-			
ESE	85.10	18.96	.454**	.491**	.664**	-		
EOE	65.69	15.09	.341**	.502**	.519**	.667**	-	
SC	13.27	2.57	.314**	.205**	.235**	.246**	.210**	-
Openness	29.46	5.70	.377**	.475**	.410**	.631**	.604**	.201**

Note. EPM =entrepreneurial personal mastery; EVL= entrepreneurial vicarious learning; EPE= entrepreneurial positive emotion; ESE= entrepreneurial self-efficacy; SC = Social class; EOE= entrepreneurial outcome expectations; *$p \leq .05$, **$p \leq .01$.

Hypotheses testing

I used regression path analysis to analyze the data, with 5000 bias-corrected bootstrap samples from Analysis of Moment Structure (AMOS) version 23. Next, I checked the statistical fitness of the hypothesized model depicted in Figure 1, as several scholars (e.g. Iacobucci, 2010; Hu & Bentler, 1999) recommended it. According to Hair, Black, Babin, and Anderson (2013) and Bentler and Bonett (1980), the threshold for a good model fitness includes RMSEA ⩽0.08, SRMR ⩽0.10, and CFI ⩾0.9. Consequently, the fitness statistics showed the following acceptable indices: $\chi^2_{(3)}$ = 1.524, p =.206, CFI = .998, RMSEA = .037 and SRMR = .011.

Openness personality, entrepreneurial learning experiences, ESE and EOE: Hypotheses 1-5

From Figure 2 and Table 2, individuals high in openness personality are found to be significantly high in EVL (β = .452), EPM (β = .109), EPE (β = .236), ESE (β = .382) and EOE (β = .261) in hypothesis 1. In hypothesis 2a, openness personality leads to ESE (β = .345, 95% CI [.191, .545]) and EOE (β = .071, 95% CI [.011, .162]) through EPE. Similarly, openness personality leads to ESE through EPM (β = .035, 95% CI [.002, .102]). Also, openness leads to EOE through EVL (β = .190, 95% CI [.072, .341]). For hypothesis 2b, I only found a serial mediation between openness personality and EOE through EPM and ESE (β = .096, 95% CI [.048, .178]), and through EPE and ESE (β = .010, 95% CI [.001, .030]). Hypothesis 3 showed that EVL, EPM and EPE serially led to ESE (β = .052, 95% CI [.021, .106]) and EOE (β = .021, 95% CI [.005, .057]). Additionally, openness personality led to EOE through the serial mediation of EVL, EPM, EPE, and ESE (β = .041, 95% CI [.006, .032]). For hypothesis 4, openness personality led to ESE (β = .131, 95% CI [.051, .243]) and EOE (β = .054, 95% CI [.008, .146]) through the serial mediation of EVL and EPE. Additionally, openness personality led to EOE through the serial mediation of EVL, EPE and ESE (β = .036, 95% CI [.014, .074]). Finally, for hypothesis 5, openness personality led to ESE through the serial mediation of EVL and EPM (β = .071, 95% CI [.012, .145]). Also, openness personality led to EOE through the serial mediation of EVL, EPM and ESE (β = .020, 95% CI [.004, .045]).

Socioeconomic status, entrepreneurial learning experiences, ESE and EOE: Hypotheses 6- 9

From Table 2 and Figure 2, the result of hypothesis 6 showed that individuals high in social class were also high in EVL (β = .115,), EPM (β = .193), and EPE (β = .10, p = .041) although marginally significant. As shown in Table 2, hypothesis 7 showed that high social class individuals were only high in EOE through EVL (β = .107, 95% CI [.018, .259]) and EPE (β = .064, 95% CI [.000, .199]). However, individuals high in social class were indirectly high in ESE (β = .138, 95% CI [.025, .310]) through EPM and high in EOE through the serial mediation of EPM and ESE (β = .038, 95% CI [.009, .090]). The result of hypothesis 8 showed that individuals high in social class were also high in ESE (β = .029, 95% CI [.006, .079]) and EOE (β = .020, 95% CI [.003, .055]) through the serial mediation of EVL, EPM and EPE. Furthermore, individuals high in social class were high in EOE through the serial mediation of EVL, EPM, EPE and ESE (β = .008, 95% CI [.002, .023]). As shown in Table 2, the result of hypothesis 9a showed that individuals high in social class were also high in ESE (β = .040, 95% CI [.005, .112]) through the serial mediation of EVL and EPM. Furthermore, individuals high in social class were high in EOE through the serial mediation of EVL, EPM and ESE (β = .011, 95% CI [.002, .031]). Similarly, for hypothesis 9b, as shown in Table 2, individuals high in social class were also high in ESE (β = .073, 95% CI [.013, .186]) and EOE (β = .015, 95% CI [.002, .052]) through the serial mediation of EVL and EPE. Additionally, individuals high in social class were high in EOE through the serial mediation of EVL, EPE and ESE (β = .020, 95% CI [.003, .055]).

Table 2. Path analysis results showing the direct and indirect relationship among social class, entrepreneurial learning experiences, self-efficacy, and outcome expectations.

		β	LL	UP	P
H_1	Openness → EVL	.452	.351	.536	.001
H_1	Openness → EPM	.109	.004	.209	.040
H_1	Openness → EPE	.236	.128	.338	.000
H_1	Openness → EOE	.261	.146	.386	.000
H_1	Openness → ESE	.382	.278	.478	.001
H_{2a}	Openness → EPE → ESE	.345	.191	.545	.000
H_{2a}	Openness → EPE → EOE	.071	.011	.162	.012
H_2	Openness → EVL → ESE	.103	-.051	.271	.188
H_{2a}	Openness → EVL → EOE	.190	.072	.341	.001
H_{2a}	Openness → EPM → ESE	.035	.002	.102	.032
H_{2b}	Openness → EPE → ESE → EOE	.096	.048	.178	.000
H_{2b}	Openness → EPM → ESE → EOE	.010	.001	.030	.025
H_3	Openness → EVL → EPM → EPE → ESE → EOE	.014	.006	.032	.002
H_3	Openness → EVL → EPM → EPE → ESE	.052	.021	.106	.002
H_3	Openness → EVL → EPM → EPE → EOE	.021	.005	.057	.010
H_4	Openness → EVL → EPE → ESE → EOE	.036	.014	.074	.001
H_4	Openness → EVL → EPE → ESE	.131	.051	.243	.001
H_4	Openness → EVL → EPE → EOE	.054	.008	.146	.014
H_5	Openness → EVL → EPM → ESE → EOE	.020	.004	.045	.012
H_5	Openness →EVL → EPM → ESE	.071	.012	.145	.018
H_6	SC →EVL	.115	.014	.207	.024
H_6	SC → EPE	.096	-.014	.217	.041
H_6	SC →EPM	.193	.102	.279	.000
H_7	SC → EVL → ESE → EOE	.016	-.004	.070	.133
H_7	SC → EVL → ESE	.058	-.018	.213	.141
H_7	SC → EVL → EOE	.107	.018	.259	.013
H_7	SC →EPM → ESE →	.038	.009	.090	.010

	EOE				
H_7	SC → EPM → ESE	.138	.025	.310	.015
H_7	SC → EPE → ESE → EOE	.086	-.006	.219	.063
H_7	SC → EPE → ESE	.311	-.037	.746	.073
H_7	SC → EPE → EOE	.064	.000	.199	.049
H_8	SC → EVL → EPM → EPE → ESE → EOE	.008	.002	.023	.009
H_8	SC → EVL → EPM → EPE → ESE	.029	.006	.079	.012
H_8	SC → EVL → EPM → EPE → EOE	.020	.003	.055	.012
H_{9a}	SC → EVL → EPM → ESE → EOE	.011	.002	.031	.018
H_{9a}	SC → EVL → EPM →ESE	.040	.005	.112	.021
H_{9b}	SC → EVL → EPE → ESE	.073	.013	.186	.012
H_{9b}	SC → EVL → EPE → EOE	.015	.002	.052	.016
H_{9b}	SC → EVL → EPE → ESE →EOE	.020	.003	.055	.012
H_{10a}	EPE → ESE	.440	.346	.542	.000
H_{10a}	EPE → EOE	.113	.018	.207	.016
H_{10a}	EPM → ESE	.097	.011	.180	.024
H_{10a}	EVL → ESE	.068	-.036	.173	.201
H_{10a}	EVL → EOE	.159	.058	.263	.001
H_{10b}	EVL → EPM	.482	.378	.581	.000
H_{10b}	EPM → EPE	.162	.061	.267	.005
H_{10b}	EVL → EPE	.197	.073	.318	.002
H_{11a}	EPM → ESE → EOE	.175	.037	.357	.015
H_{11a}	EPE → ESE → EOE	.428	.270	.621	.000
H_{11a}	EVL → ESE → EOE	.049	-.021	.151	.173
`					
H_{11b}	EVL → EPM → EPE → ESE → EOE	.025	.010	.053	.002
H_{11b}	EVL → EPM →EPE → ESE	.089	.036	.171	.003
H_{11b}	EVL → EPM → EPE → EOE	.018	.004	.047	.009
H_{11c}	EVL → EPE → ESE → EOE	.063	.023	.121	.001
H_{11c}	EVL → EPE → ESE	.225	.087	.388	.001
H_{11c}	EVL → EPE → EOE	.046	.008	.110	.010

Note LL = lower limit, UP = Upper limit

Entrepreneurial learning experiences, self-efficacy and outcome expectations: Hypotheses 10-11

From Figure 2 and Table 2, the result of hypothesis 10a showed that only individuals high in entrepreneurial personal mastery (β = .440) and positive emotions (β = .097) were directly high in ESE. Conversely, only individuals high in EPE (β = .113) and EVL (β = .159) were directly high in EOE. For hypothesis 10b, as shown in Figure 2 and Table 2, individuals high in EVL were also high in personal mastery (β = .482) and positive emotions (β = .197). Additionally, individuals high in EPM were found to also be high in EPE (β = .162). For hypothesis 11a, only individuals high in EPM (β = .175, 95% CI [.037, .357]) and EPE (β = .428, 95% CI [.270, .621]) were indirectly high in EOE through ESE. For hypothesis 11b, as shown in Table 2, individuals high in EVL were high in ESE (β = .089, 95% CI [.036, .171]) and EOE (β = .018, 95% CI [.004, .047]) through the serial mediation of entrepreneurial personal mastery and positive emotions. Additionally, individuals high in EVL were high in EOE through the serial mediation of EPM, EPE, and ESE (β = .025, 95% CI [.010, .053]). Finally, for hypothesis 11c, individuals high in EVL were high in ESE (β = .225, 95% CI [.087, .338]) and EOE (β = .046, 95% CI [.008, .110]) through EPE. Also, individuals high in EVL were high in EOE through the serial mediation of EPE and ESE (β = .063, 95% CI [.023, .121]).

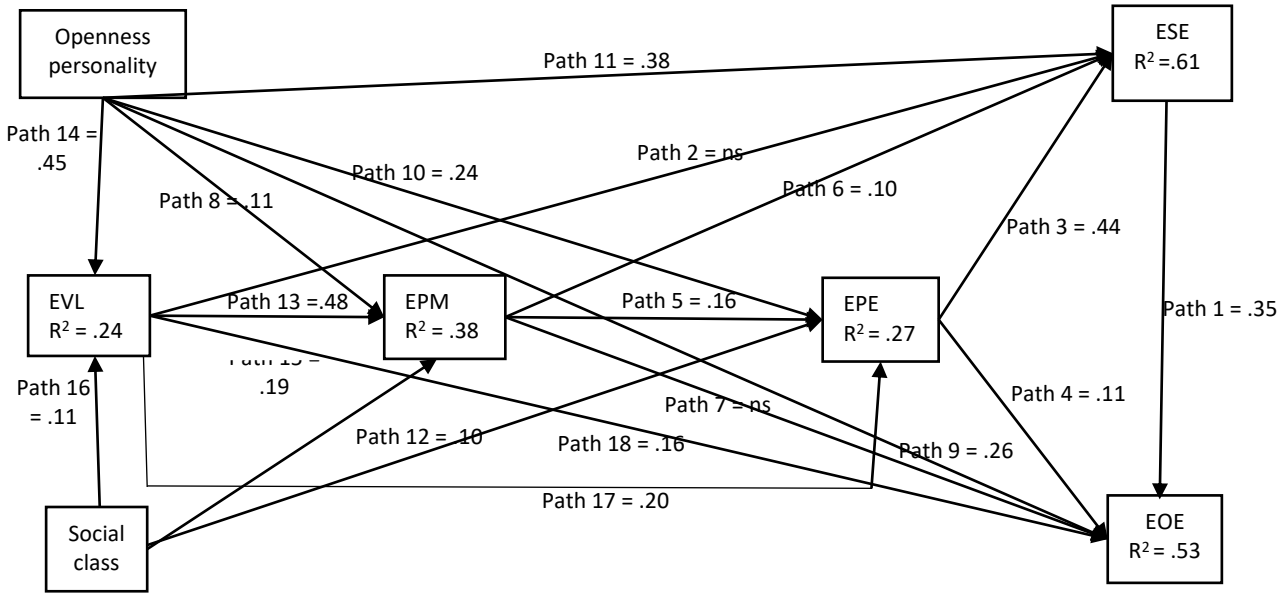

Figure 2. Path analysis results showing the integration of SCCT and the biopsychosocial model of the development of entrepreneurship. Note ns = not significant

Discussion

Openness personality, entrepreneurial learning experiences, ESE and EOE: Hypotheses 1-5

The result of hypothesis 1 supports the theoretical proposition of SCCT that personality directly relates to learning experiences, self-efficacy, and outcome expectations. More specifically, the result of hypothesis 1 supports previous empirical works (e.g. Adebusuyi et al., 2021; Ness et al., 2020; Raine & Pandya, 2019; Rosado-Cubero, Freire-Rubio, & Hern´andez, 2022) about the importance of openness personality trait in several entrepreneurial outcomes. However, in hypothesis 2a, only EPE fully mediates the relationship between openness personality and ESE and EOE simultaneously. EPM only mediates the relationship between openness personality and ESE, while EVL only mediates the relationship between openness personality and EOE. This result underscores the importance of positive emotions to entrepreneurial endeavours. Prior theorizing and empirical findings (Fodor & Pintea, 2017; Cardon et al., 2012; Cardon et al., 2013) have also underscored the importance of positive emotions for entrepreneurial activities. Furthermore, hypothesis 2b showed that openness personality leads to EOE through the serial mediation of EPE and ESE and through the serial mediation of EPM and ESE. This result partly supports the SCCT theoretical proposition that personality leads to EOE through the serial mediation of learning experiences and ESE. Also, Ireland and Lent's (2018) empirical work on the serial mediation of learning experiences and self-efficacy on the relationship between personality and outcome expectations corroborates the result of hypothesis 2b. As hypothesized by the integration of the SCCT with the biopsychosocial model, the result of hypothesis 3 showed that openness personality led to ESE and EOE through the serial mediation of EVL, EPM, and EPE. This result extends the theoretical proposition of Hoy et al. (2005) and the empirical work of Pfitzner-Eden (2016) about how the learning experiences subscales are connected to predicting self-efficacy and outcome expectations. Similarly, hypothesis 4 showed that openness personality led to ESE and EOE through the serial mediation of EVL and EPE. Finally, hypothesis 5 equally showed that openness personality led to ESE and EOE through EVL and EPM. In sum, the results of hypotheses 3-5 investigated the antecedent influence of personality on ESE and EOE from a new perspective. These results, according to the biopsychosocial model, showed that the interaction of biologically related characteristics with supportive environmental conditions led to ESE and EOE.

Socioeconomic status, entrepreneurial learning experiences, ESE and EOE: Hypotheses 6- 9.

The result of hypothesis 6 supports the theoretical proposition of SCCT that social class directly relates to learning experiences. Also, the prior empirical work of Thompson and Dahling (2012) corroborates the result of hypothesis 6. For hypothesis 7, SCCT argues that high-social-class individuals

would be high in ESE and EOE through high learning experiences. The result of hypothesis 7 partly supports this theoretical proposition, as some parts of the hypothesis were significant. The other aspects of hypothesis 7, although not significant, were in the hypothesized direction. Thompson and Dahling (2012) also found partial support for the indirect relation of social class to self-efficacy and outcome expectations through learning experiences.

The results of hypotheses 8 and 9 corroborated the biopsychosocial model. High social class individuals were found to be high in ESE and EOE through the serial mediation of EVL, EPM, and EPE in hypothesis 8. Guided by the theoretical rationale of the biopsychosocial model, the socioeconomic background of an individual influence the vicarious learning opportunities the individual will be exposed to. Individuals that are high in social class have access to successful entrepreneurial models, whereas low-social class individuals are exposed to survival entrepreneurs whose businesses have low growth potential and profitability (Kuada, 2015).

Nowi'nski and Haddoud (2019) found that individuals are only inspired by successful entrepreneurs. Since it is only high social class individuals that have access to successful entrepreneurs, it is therefore clear why high social class individuals are high in EVL. From high EVL, the high social class individuals had high EPM, corroborating Hoy et al.'s (2005) argument that vicarious learning leads to personal mastery. Furthermore, following Gielnik et al.'s (2015) theoretical and empirical work that suggests entrepreneurial behaviour leads to entrepreneurial passion (i.e., positive emotion), the result of this hypothesis found that high-social-class individuals high in EPM were also found to be high in EPE. Finally, as posted by SCCT, positive emotional arousal leads to increased ESE and EOE.

For hypothesis 9a, I have already discussed how high social class individuals have EPM through EVL. Guided by SCCT and biopsychosocial reasoning, high social class individuals should have high ESE and EOE through the serial mediation of EVL and EPM. However, EPM only led to ESE and not EOE. Ireland and Lent (2018) also found that personal mastery led to only self-efficacy and not outcome expectations. For hypothesis 9b, individuals high in social class were found to be high in ESE and EOE through the serial mediation of EVL and EPE. Soleimanof et al. (2021) found that observing passionate (i.e. positive emotion) entrepreneurial models positively influenced the observer's entrepreneurial attitude – a variable akin to ESE and EOE. The result of hypothesis 9b complements Soleimanof et al.'s empirical work by showing the process.

Entrepreneurial learning experiences, self-efficacy and outcome expectations: Hypotheses 10-11.

As posited by the SCCT, individuals high in the learning experiences subscales should be directly high in self-efficacy and outcome expectations. However, several empirical (e.g. Ireland & Lent 2018; Lent et al. 2017) investigations have found partial support for the SCCT postulation. Similarly, the result of hypothesis 10a found partial support for the learning experiences subscale investigated in this study. EVL did not directly lead to ESE, and neither did EPM directly lead to EOE. In the case of EVL, it seems that more investigation is required on the role of vicarious learning in entrepreneurial outcomes. For instance, Adebusuyi et al. (2021) and Soleimanof et al. (2021) argued that exposure to entrepreneurial models does not automatically lead to positive entrepreneurial outcomes. Both scholars have tried to advance the literature on the role of models in entrepreneurship. However, given the non-significant direct influence of EVL on ESE, there is still a need to dig deeper into the impact of vicarious learning on various entrepreneurial outcomes. Gibson (2004) provides a comprehensive elaboration on this important variable that entrepreneurship researchers can glean from. Guided by the biopsychosocial model of entrepreneurship, the result of hypothesis 10b showed that EVL directly led to EPM and EPE, and as discussed earlier, EPM directly led to EPE. The result of hypothesis 11a, as posited by the SCCT, found that EPM and EPE indirectly led EOE through ESE. Furthermore, prior studies (e.g., Ireland & Lent 2018) found personal mastery and positive emotion to indirectly lead to outcome expectations. The result of hypothesis 11b showed that individuals high in vicarious learning were high in ESE and EOE through the serial mediation of EPM and EPE. Notice that although EVL did not directly lead to ESE in hypothesis 10a, it served as a distal antecedent of ESE in hypothesis 11b. This result suggests that the relationship between EVL and ESE might be more complex than was previously known. Finally, for hypothesis 11c, individuals high in EVL were found to be high in ESE and EOE through EPE. As was discussed in hypothesis 9b, the result of hypothesis 11c corroborates Soleimanof et al.'s (2021) discovery that exposure to a passionate, entrepreneurial model predicts a positive entrepreneurial attitude.

Implications of the study

This research has several theoretical and practical implications. Theoretically, this research investigates the antecedents of ESE and EOE from a different theoretical perspective, thereby deepening the literature on the developmental antecedents of ESE and EOE. Furthermore, since Obschonka (2016) introduced the biopsychosocial model of entrepreneurship, to my knowledge, this is the first empirical test of the model. Finally, the integration of the biopsychosocial model with SCCT, I believe, enriches the learning experiences aspect of SCCT.

On the practical implication of the study, this study echoes the conclusion of previous studies on the importance of openness personality trait to several entrepreneurial outcomes. Therefore, counsellors and entrepreneurship educators could design an intervention programme that will break the openness personality trait characteristics into behavioural components that can be taught. Second, only individuals high in social class were high in entrepreneurial learning experiences, ESE and EOE. Nonetheless, more than 2.47 billion people live in poverty, and entrepreneurship has been recommended as the panacea to poverty (Bruton, Ketchen, & Ireland, 2013; Sutter, Bruton, & Chen, 2019). This implies counsellors, policymakers and scholars interested in bringing people out of

poverty through entrepreneurship need to design intervention programmes that target individuals low in social class. For example, Frese, Gielnik, and Mensmann (2016) recommended increasing the personal initiative of entrepreneurs in the low-income economy. Furthermore, this study found that vicarious learning is the earliest exposure that individuals have to entrepreneurship. Therefore, policymakers need to increase individuals' exposure to successful entrepreneurs. It would also be great if successful entrepreneurs were instructors in entrepreneurship classes. Such arrangements will benefit both the high and low social class individuals in such classes. Finally, mentorship/internship programmes should be arranged for all young adults and graduates to vicariously learn from successful entrepreneurs.

Limitations of the study and future research

This study has several limitations. First, the study is cross-sectional. Therefore, causal claims cannot be made. Consequently, future research should develop longitudinal research where the causal paths in this study can be tested. Furthermore, notice that the verbal persuasion subscale is not included in this study. The reason for its exclusion is that I did not find a theoretical basis for its inclusion. However, since it is one of the learning experiences sources of self-efficacy (although posited to be weak), I think future research needs to investigate how verbal persuasion integrates with other sources developmentally to produce self-efficacy and outcome expectations.

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