

RESEARCH ARTICLE OPEN ACCESS

The Nexus Between Self-Efficacy and Professional Skills Development Among Accounting Students: Do Social and Cultural Factors Matter?

Garima Sharma¹  | Jayce M. Naidoo¹ | Ranjith Ithalanayake¹ | Mahesh Joshi² | Meredith Tharapos³ 

¹Business School, Victoria University, Melbourne, Victoria, Australia | ²Department of Accounting and Finance, Abu Dhabi University, Abu Dhabi, UAE | ³Department of Accounting, RMIT University, Melbourne, Victoria, Australia

Correspondence: Garima Sharma (garima.sharma@live.vu.edu.au)

Received: 2 October 2023 | **Revised:** 8 April 2025 | **Accepted:** 28 April 2025

Keywords: accounting | culture | personality traits | professional skills | self-efficacy

ABSTRACT

Research conducted in various disciplines in developed countries demonstrates that self-efficacy beliefs significantly influence students' professional skills development. This study examines the influence of self-efficacy beliefs on the development of accounting students' professional skills based on their personality traits in a developing country. A survey using the five-factor personality model and self-efficacy scales was conducted with Indian accounting students. Results reveal that while accounting students exhibit high self-efficacy, their professional skills development is not solely driven by these beliefs. Other factors, including socioeconomic status, heredity and culture, also play a role in shaping their professional skills.

1 | Introduction

This study explores the link between self-efficacy beliefs and professional skills development among accounting students based on their personality traits (Costa Jr. and McCrae 1992; Hurtz and Donovan 2000). An individual's self-efficacy beliefs influence the way they think, act, behave and motivate themselves (Bandura 1995; Beatson et al. 2020). Students with higher self-efficacy beliefs are goal-driven, enjoy challenges and persist longer than those with lower self-efficacy beliefs (Beatson et al. 2020; Cheng and Chiou 2010; Di Giunta et al. 2013). Students' self-efficacy beliefs have been found to be positively related to professional skills such as leadership (Basol and Karatuna 2017; Chaudhary and Panda 2019), decision-making, communication, self-management and ethical awareness (Coetzee et al. 2014; Hassall et al. 2013; Marzuki et al. 2017). Studies examining accounting students have found that self-efficacy beliefs are also positively related to decision-making, communication and academic performance (Beatson et al. 2023, 2020; Marzuki et al. 2017).

An individual's social and cultural environment plays a crucial role in developing their self-efficacy beliefs (Hoppe 2004), which can then lead to the advancement of certain personality traits (Leonidou et al. 2019). The five-factor model (FFM) of personality encompasses five major personality traits: openness (an individual's willingness to experience new things and engage with novel ideas), conscientiousness (an individual's level of organisation, reliability and goal orientation), extraversion (an individual's level of sociability, energy, and assertiveness), agreeableness (an individual's tendency to be compassionate, cooperative, and empathetic towards others) and neuroticism (characterised by emotional instability and a tendency to experience negative emotions such as anxiety, sadness and irritability) (OCEAN) (McCrae and Costa 1992). Traits such as conscientiousness and emotional stability (related to neuroticism) have been found to influence job performance and leadership behaviours (Judge and Bono 2001; Salgado 1997).

This suggests that students with higher self-efficacy beliefs stemming from specific personality traits may be more

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motivated (Bandura 1997) to develop professional skills that are highly sought by employers (De Lange et al. 2023). For example, individuals high in openness tend to be creative, curious and open to new experiences (McCrae and Costa 1992), qualities that could enhance problem-solving abilities and innovation in decision-making. Highly conscientious individuals are self-disciplined (McCrae and Costa 1992), which tends to make them reliable team members, contributing positively to teamwork and project completion. The outgoing nature of extraverted individuals could foster strong interpersonal relationships, facilitating collaboration and communication. Agreeable individuals tend to be effective in collaborative environments and conflict resolution (McCrae and Costa 1992), which may help to maintain good relationships and facilitate effective teamwork. Individuals with lower levels of neuroticism may bring emotional stability to leadership and decision-making.

Possession of professional skills, such as teamwork, leadership, creative thinking, ethical judgement and decision-making, by accounting graduates globally has been found to lead to better employment outcomes (De Lange et al. 2023; De Villiers 2021; Kavanagh and Drennan 2008; Tan and Laswad 2018). Based on the results of Wang et al. (2016), which found partial support for the mediating effect of self-efficacy on the relationship between personality traits and entrepreneurial intention among agricultural students, this study argues that personality traits such as openness, conscientiousness, extraversion and agreeableness contribute to predicting professional skills.

India is chosen as the context for this study for several reasons. India is one of the fastest growing economies in the world with the second largest cohort of students (Dubey 2019). It has an extremely diverse culture both geographically and institutionally, with each region having their own religion, social values and languages (Dheer et al. 2015; Sen 2021). Individuals from different regions therefore differ vastly in their thinking, behaviour, communication and learning styles as these are shaped by their traditional and cultural norms (Dheer et al. 2015). India was therefore considered a rich context in which to explore the link between self-efficacy beliefs and professional skills development among accounting students based on their personality traits, along with the potential influence of social and cultural factors.

While the context of this study was India, the results of this study are of relevance to accounting educators globally. Understanding how self-efficacy affects students' professional skills development can help shape more effective teaching strategies, especially for enhancing students' confidence in their abilities to tackle complex real-world accounting challenges aimed at developing professional skills. Given the significant levels of cultural diversity present in accounting classrooms (Tharapos et al. 2019), the results of this study encourage educators to consider cultural influences when designing curricula to better support the development of students' professional skills. Furthermore, this study highlights the influence of socioeconomic status and other external factors on the professional skills development of accounting students. Students from different socioeconomic backgrounds often have differing levels of access to resources, networks and opportunities for skill development

(Keevy et al. 2023). A greater understanding of these challenges can encourage accounting educators to adopt more inclusive teaching practices and offer support tailored to individual student needs.

There are several important contributions arising from this study. First, this study contributes to the understanding of the relationship between self-efficacy beliefs and students' professional skill development. Previous studies have reported conflicting results on the relationship between self-efficacy beliefs and students' professional skills. For example, Basol and Karatuna (2017) found that self-efficacy beliefs had no influence on students' leadership skills, whereas Hassall et al. (2013) found a positive correlation between students' self-efficacy beliefs and communication (Basol and Karatuna 2017).

Second, we expand scholarship on the influence of social and cultural factors on students' self-efficacy beliefs conducted in developed countries by considering a developing nations context where vast cultural differences are commonplace. The majority of studies examining accounting students' self-efficacy have been conducted in developed countries (see, e.g., Beatson et al. 2020; Byrne et al. 2014; Dull et al. 2015) with scant attention paid to developing countries contexts. The results of this study conducted in India—a country with a unique level of diversity not found elsewhere (Dheer et al. 2015; Malik and Pereira 2016; Sen 2021)—suggest that, in addition to self-efficacy beliefs, social and cultural factors also play a significant role in shaping the development of students' professional skills. Our results further indicate that developing countries can place a high emphasis on traditional social and cultural values, which can significantly influence student behaviour.

The remainder of this paper is organised as follows. The next section provides an overview of extant literature and the conceptual model underpinning the research questions. The research method is then discussed, followed by the results and discussion section. The final section contains the conclusions arising from the study and suggestions for future research.

2 | Literature Review

2.1 | Professional Skills for Accounting Graduates

International Education Standard 3 defines professional skills as the '(a) intellectual, (b) interpersonal and communication, (c) personal, and (d) organizational skills that a professional accountant integrates with technical competence and professional values, ethics, and attitudes to demonstrate professional competence' (IFAC 2022). Professional skills demanded by employers of accounting graduates include communication, problem-solving and creative thinking, leadership and teamwork, self-management and ethical and moral values (De Lange et al. 2023; De Villiers 2021; Tharapos 2022). Despite accounting education scholars continually calling for greater inculcation of professional skills in accounting curricula and assessment (Tan and Laswad 2018), little evidence exists to suggest that current offerings are meeting the needs of employers and accounting bodies globally (Bayerlein and Timpson 2017; De Lange et al. 2023; O'Connell et al. 2015; Tharapos 2022).

Graduate employability is an issue high on university agendas globally due to the evolving nature of the labour market, the expanding expectations of employers and students, growing pressure from governments and the increasingly competitive higher education environment (O'Connell et al. 2023; Tsiligiris and Bowyer 2021). Given the significant importance of professional skills to graduate employability, a study such as this is urgently required. Despite the growing emphasis on professional skills, little understanding exists about how specific personality traits influence their development, particularly in the context of higher education. By examining this relationship, this study provides valuable insights that can inform curriculum design and employability initiatives, ensuring graduates are better equipped for the demands of the modern workforce.

2.2 | Accounting Education in India

Accounting education in India is a subset of the commerce higher education curriculum stream at schools, universities, colleges and professional institutes (Das and Singh 2018), with the medium of instruction being either English, Hindi or a regional language. Public schools typically follow a teacher-centred approach where educators primarily use a didactic delivery, and students passively accept and absorb content without question (Mitra and Sinha 2023). Assessment is predominately exam-based until postgraduate level (Das and Singh 2018; Needles 2010), resulting in students memorising content to pass exams (Kingdon 1996).

In contrast, private schools in India tend to employ an enquiry-based approach with a practical component whereby educators encourage students to discuss and share their views within the classroom (Kumar and Choudhury 2021). In addition, various extracurricular activities, such as public speaking and debates, are available to enhance the confidence and performance of students (Chudgar and Quin 2012; Mitra and Sinha 2023). The quality of teaching also differs between Indian public and private schools such that private school students consistently outperform their public school counterparts (Chudgar and Quin 2012; Kingdon 1996). There is also considerable disparity in the fees of public and private schools, with those for the latter being unaffordable to students from low socioeconomic backgrounds (Kingdon 1996).

The accounting higher education curriculum in India is overseen by two major bodies, The Institute of Chartered Accountants of India (ICAI) and the University Grants Commission (UGC) and focuses primarily on technical proficiency and theoretical understanding (Das and Singh 2018). While the development of professional skills in accounting curricula and assessment in developed nations falls well short of employer demands (Tharapos 2022), developing countries like India place even less emphasis on professional skill development, maintaining a stronger focus on the attainment of technical knowledge instead (Sharma et al. 2024). As unemployment rates among accounting graduates in India are comparatively higher than in disciplines where professional skills development is prioritised (Ministry of Labour and Employment 2020), it is crucial that professional

skill development among accounting students be urgently examined.

2.3 | Five-Factor Model (FFM) of Personality

The FFM is one of the most widely used and globally accepted models for measuring personality traits and includes openness, conscientiousness, extraversion, agreeableness and neuroticism (OCEAN) (Goldberg 1990; John and Srivastava 1999; McCrae and Allik 2002; Schmitt et al. 2007). It allows researchers to organise personality traits into meaningful constructs for evaluating the development of various skills, including behavioural qualities (Heckman and Kautz 2012; Kautz et al. 2014; McCrae et al. 2005; Pilarska 2018; Saadullah and Bailey 2014; Srivastava 2010; Wang et al. 2016).

Openness to experience is defined as being open to new ideas, cultures and intellectual experiences (Kautz et al. 2014; Pilarska 2018; Saadullah and Bailey 2014). Students who score higher on this trait tend to be highly flexible and open to new concepts as they can mould their behaviour according to their social environment and are highly adaptable when undertaking unfamiliar tasks. Students who score higher on openness have been found to be energetic, risk takers, innovative and tend to have higher self-efficacy beliefs (Ramamoorthy et al. 2005; Sinha 2014; Walia 2017).

Conscientiousness manifests as dutifulness, being organised, and self-discipline (Digman 1990; John and Srivastava 1999; Johnson, n.d.; Pilarska 2018; Wang et al. 2016). Dutifulness reflects the moral values of an individual, enhances ethical awareness skills (Barrick et al. 2001), tends to be associated with higher confidence levels and, in turn, better decision-making skills—all traits of a good leader. Individuals with high conscientiousness scores are more organised and disciplined, obey rules and regulations, are highly ethical in their approach and can be reliably trusted. They also tend to be equipped with ethical decision-making skills due to their higher self-efficacy beliefs (Saadullah and Bailey 2014).

Extraversion refers to the sociable quality of an individual, that is, how in touch they are with others. Extraverts enjoy being with people and communicate orally to make connections (Digman 1990; Goldberg 1992; Johnson, n.d.; Oehler et al. 2018). People exhibiting higher levels of extraversion are typically cheerful, confident, friendly and assertive (John and Srivastava 1999; Oehler et al. 2018). Based on these behavioural qualities, extraverts tend to have higher communication and ethical decision-making skills and self-efficacy beliefs (John and Srivastava 1999; Johnson, n.d.; Saadullah and Bailey 2014).

Individuals with higher agreeableness tend to have superior team skills, driven by their intrinsic desire to maintain harmony within group and broader societal contexts (Johnson, n.d.; Oehler et al. 2018). This personality trait fosters greater flexibility and adaptability, as evidenced by its positive association with an individual's capacity to adjust to environmental demands (Di Fabio and Saklofske 2018; McCrae and Allik 2002; Rey and Extremera 2016). Notably, these traits are strongly linked to

leadership qualities, as effective leaders often demonstrate elevated agreeableness, enabling them to exhibit empathy, sacrifice, compromise and maintain social harmony (Johnson, *n.d.*; Pilarska 2018).

Additionally, agreeableness reflects a cooperative, sympathetic and friendly approach to enhancing social harmony and the well-being of others; aligning closely with the values of collectivist societies (Banerjee 2008; Dheer et al. 2015; Malik and Pereira 2016; Singh 2009). Agreeableness reflects an individual's active commitment to the welfare of others, a trait that transcends cultural paradigms and is equally present within individualistic societies (Yohsuke et al. 2019). Furthermore, higher self-efficacy beliefs arising from higher openness can lead to greater self-confidence, which can inform an individual's agreeableness trait when success is achieved. This trait supports their flexible behaviour and ability to engage in creative thinking skills.

Neuroticism describes a high level of negative feelings (Johnson, *n.d.*), with anxiety, fear, insecurity, depression and anger being examples (John and Srivastava 1999; Oehler et al. 2018). Individuals higher in neuroticism are more likely to interpret normal conditions as threatening and minor frustrations as hopelessly difficult to overcome (Oehler et al. 2018). They primarily behave negatively, and their negative emotions tend to persist for longer. Studies have failed to find support for a negative relationship between neuroticism and self-efficacy, suggesting that neuroticism is an inbuilt trait that is not, or only partially, influenced by external factors such as culture and self-efficacy (Strobel et al. 2011; Wang et al. 2016). Other research argues that neuroticism is predominantly influenced by hereditary factors (McCrae and Allik 2002; McCrae et al. 2008; Triandis and Suh 2002).

Empirical studies have produced mixed results regarding the influence of gender on neuroticism in different cultural contexts. In some nations, including India, women have been found to score higher on neuroticism than men (Wang et al. 2018; Williams and Wiebe 2000) due to sociocultural factors. Traditional gender roles position women primarily as homemakers, responsible for domestic duties and childcare, which can engender heightened anxiety and stress, especially in unpredictable or challenging situations (Malik and Pereira 2016; Sen 2021). In contrast, research from developed countries, where gender equality is more pronounced, has found little to no significant gender differences in neuroticism (Fallan and Opstad 2014).

The five personality traits are summarised in Table 1, together with the associated personality facets and professional skills. The FFM has been empirically validated and tested in numerous disciplines, such as psychology, business and accounting, and is considered a robust assessment tool that can be applied universally for measuring personality traits related to professional skills (Donnellan et al. 2006; Migliore 2011; Pilarska 2018; Srivastava 2010). Furthermore, this model has been validated in numerous countries, including India (McCrae and Allik 2002).

In the field of accounting, the FFM of personality has been used to assess a limited number of professional skills, including

decision-making, professional scepticism, and ethical judgement skills (Saadullah and Bailey 2014; Weber et al. 2017), it has rarely been applied to a broader range of professional skills. The present study adopts this model to assess critical professional skills, such as communication, teamwork, ethical judgement, problem-solving and leadership, demanded by employers of accounting students.

2.4 | Self-Efficacy

Self-efficacy is an individual's belief in their ability to perform a particular task efficiently, based on past experiences and observations (Bandura 1997). It is concerned with the perception of an individual to complete a particular task, rather than an overall belief in oneself. Various factors are associated with self-efficacy, such as past experience, social and cultural environment, availability of resources, prior observations and cognitive achievement (Basol and Karatuna 2017; Beatson et al. 2020; Gibbons and Weingart 2001; Scholz et al. 2002; Sikkema and Sauerwein 2015). According to Bong and Clark (1999), self-efficacy is closely related to cognitive appraisal, including academic achievement and an individual's intelligence quotient (Bong and Clark 1999). An individual's self-efficacy significantly impacts their cognition, behaviour and emotional state, thereby influencing how they think, act and motivate themselves (Bandura 1997; Beatson et al. 2020). Self-efficacy beliefs are positively related to social interactions, thereby helping to develop professional skills such as communication, decision-making and leadership (Choi 2005; Wang et al. 2016), which in turn enhance the employability prospects of accounting students (De Lange et al. 2023).

Self-efficacy is also influenced by an individual's social and cultural environment, as it shapes their values and beliefs about performing a particular task based on societal expectations (Bandura 1997). For example, if a student lives in a society where academic achievements are measured by grades, high-achieving students are likely to rate their self-efficacy beliefs higher. Students often link their academic performance to their self-efficacy beliefs, which may not actually reflect their true abilities (Beatson et al. 2020; Cheng and Chiou 2010; Choi 2005; Lent et al. 1986).

Bandura (1977, 1986, 1997) combined social interaction and past experience to formulate social cognitive theory (SCT). An individual's skill development is not the outcome of his own trial; rather these skills are developed by observation and experience within a social context (Kolb 1984), such as family, institutions (university) and organisations (workplace) (Hofstede 2011). According to Bandura, an individual gains experience by observing others within the context of these social contexts, which over time develops into self-efficacy (Bandura 1997, 2001; Beatson et al. 2019, 2020). Self-efficacy beliefs are therefore underpinned by societal and cultural expectations as they change in response to shifts in the social and cultural environment. As self-efficacy enhances an individual's confidence to perform a particular task efficiently, it can aid in the development of students' professional skills. Bandura's SCT thus explains the predominant aspects of skill development, which are social interaction and self-efficacy.

TABLE 1 | Five-factor model (FFM) of personality.

Factors of personality	Definition	Personality facets	Professional skills
Openness	A state of mind to be open to new ideas, cultures, intellectual experiences	Ideas Artistic interests Emotionality Adventurous Intellect Liberalism	Creative thinking Flexible Adaptable Ethical awareness
Conscientiousness	Refers to the way we control, direct and regulate our thought, characterised by a person who is highly organised, responsible and hardworking	Self-efficacy Orderliness Dutifulness Achievement Self-discipline Cautiousness	Confidence Self-awareness Reliable Ethical decision-making
Extraversion	Refers to the sociable quality of an individual and being in touch with others such that extraverts enjoy being with people and communicate through words to make connections	Friendliness Gregariousness Assertiveness Activity level Excitement seeking Cheerfulness	Confident Communicative Leadership qualities
Agreeableness	The tendency to be kind, unselfish, trustworthy and cooperative	Trust Cooperative Morality Modesty Sympathy Altruism	Teamwork Flexible Adaptable
Neuroticism	Refers to the negative emotional feelings of anxiety, nervousness, sadness and tension and inhibits an individual from making a clear decision and thinking critically	Anxiety Anger Depression Self-consciousness Immoderation Vulnerability	Dependable Anxious Vulnerable (lack of self-confidence) Shy (not expressive)

Note: The factors of personality are based on the FFM (Digman 1990; Goldberg 1992). The personality facets are those specified by Johnson (n.d.) and John and Srivastava (1999). The skills are categorised according to Costa Jr. and McCrae (1992), John and Srivastava (1999), Johnson (n.d.), Kautz et al. (2014), and Saadullah and Bailey (2014).

Source: Adapted from John and Srivastava (1999) and Kautz et al. (2014).

Empirical studies related to the self-efficacy and professional skills development of accounting students are limited. Studies conducted at the institutional level have highlighted the relevance of academic performance and achievements to the self-efficacy levels of students, with a limited focus on professional skills development (Beatson et al. 2020; Cheng and Chiou 2010; Frame et al. 2016). In general, students rate their self-efficacy beliefs based on their academic achievements (Beatson et al. 2019; Byrne et al. 2014; Choi 2005; Lent et al. 1986), which enhance their confidence levels and encourage them to believe they can perform tasks efficiently. For example, Frame et al. (2016) found academic achievement was linked to intellect, which was fostered by high levels of self-efficacy. Additionally, Freudenberg et al. (2011) suggested that team-based learning enhances an individual's self-efficacy by increasing their knowledge of a subject. Specifically, the study highlights how real-time team-based learning interventions provide students with opportunities to engage in creative thinking, thereby broadening their cognitive horizons. This caveat is particularly relevant for Asian countries like India, Sri Lanka and China (Abayadeera and Watty 2016; Gupta et al. 2014; Lin et al. 2005), where societal expectations of

student academic achievement mainly focus on mastering content knowledge. Such societal expectations tend to give a false perception of students' real efficacies (Funk 2009).

Previous job experience has also been found to impact the personality and behaviour of students (Hofstede and McCrae 2004; Sugahara et al. 2010). Bandura (1986) suggested that demographic variables, such as gender and work experience, can influence self-efficacy, which in turn shapes individual personality and behaviour (Bandura 1986). Research has consistently shown that men and women exhibit differences in confidence and performance, with women generally reporting lower levels of self-confidence and assertiveness (Beatson et al. 2020; Naik and Yadav 2017; Williams and Wiebe 2000). This gender gap is particularly pronounced in culturally conservative and patriarchal societies, such as India (Gallagher and Kaufman 2004; Walia 2017), where traditional norms often result in women displaying more conservative decision-making and communication styles compared to men (Bimal and Naela 2012; Hofstede and McCrae 2004). These demographic variables have a profound impact on the professional skills development of accounting

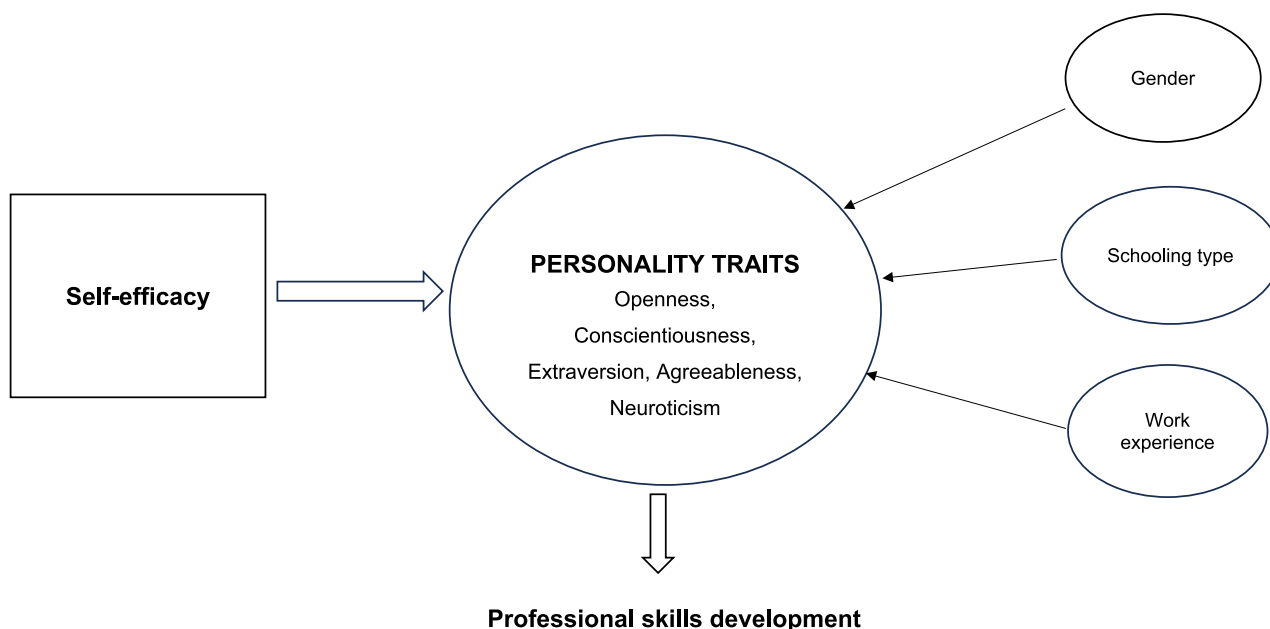


FIGURE 1 | Study conceptual framework.

students, as different personality traits complement different skills as discussed above.

The majority of studies examining self-efficacy in the discipline of accounting have been conducted in developed countries, such as New Zealand (Beatson et al. 2019, 2020), United Kingdom (Hassall et al. 2013), United States of America (Dull et al. 2015), Ireland (Byrne et al. 2014) and Australia (Sugahara et al. 2010). Only a few studies have been conducted in developing countries, including Malaysia (Lai 2008; Marzuki et al. 2017) and Bali (Herawati et al. 2020). Self-efficacy is yet to be explored in developing countries such as India, which not only has a unique and highly diverse social and cultural setting compared to other nations, but is also characterised by a level of internal diversity unmatched elsewhere (Dheer et al. 2015; Malik and Pereira 2016; Sen 2021).

This study investigates the link between self-efficacy and the development of professional skills, such as communication, teamwork, creative thinking, ethical judgement and leadership, of accounting students based on their personality and social and cultural environment in a developing country context. India was selected as the context of the study due to its high levels of cultural diversity. This study seeks to answer the following questions:

- RQ1: What is the relationship between the self-efficacy beliefs and personality traits of Indian accounting students?
- RQ2: Are Indian accounting students' self-efficacy scores linked to their professional skills development?

To address RQ1, the following hypotheses are proposed:

H1. *Self-efficacy influences the personality trait of openness.*

H2. *Self-efficacy influences the personality trait of conscientiousness.*

H3. *Self-efficacy influences the personality trait of extraversion.*

H4. *Self-efficacy influences the personality trait of agreeableness.*

H5. *Self-efficacy influences the personality trait of neuroticism.*

The conceptual framework of the current study is underpinned by SCT. Figure 1 shows the proposed relationships between the independent variable (self-efficacy) and dependent variables representing the five personality factors (openness, conscientiousness, extraversion, agreeableness and neuroticism), where each of these personality traits complements the development of professional skills. In the multiple regression analysis, three control variables (gender, schooling type and work experience) were added to the models to control for their possible effects on the development of professional skills.

3 | Research Method

3.1 | Participants

The target population was accounting students currently pursuing an undergraduate degree or who had graduated within the previous 6 months from a university in India. Universities offering specialised accounting courses¹ located in the major city of each demographic region of India, that is, Delhi (north), Bangalore (South), Ahmedabad (West) and Kolkata (East), were selected to provide a representative mix of the population, as these are the four major regions of India (Dheer et al. 2015). One university was privately owned, with the remainder being public universities. Ethics approval was received prior to the commencement of data collection. Prior consent from the head of the accounting department (HoD) at each university was obtained via email at least 1 month prior to the commencement of data collection.

The survey questionnaire was emailed to the HoDs of the selected universities, who then forwarded the survey questionnaire via email to the accounting students at their university. A convenience sampling approach was adopted to ensure accessibility to accounting students and recent accounting graduates from these universities through academic networks and institutional collaborations, allowing for cost-effective, comprehensive and timely data collection. A total of 1162 survey questionnaires were distributed, with 572 valid responses being received as shown in Table 2.

3.2 | Survey Instruments

The survey questionnaire began by introducing the study and its purpose. The introduction also contained information about informed consent, ethics approval, confidentiality of participants, information about how the survey responses would be utilised and the time required to complete the questionnaire.

The survey questionnaire collected three types of information for quantitative data analysis: demographic information, personality traits and self-efficacy beliefs. Demographic information was collected using seven items, including gender, schooling type (public/private) and work experience. The questions for personality traits and self-efficacy beliefs were adopted from survey instruments validated in both western and Asian contexts: the Mini NEO IPIP (International Personality Item Pool) scale (20 items) and the General Self-efficacy Scale (GSES) of Schwarzer and Jerusalem (10 items) (Donnellan et al. 2006; Waraich and Chechi 2017).

The Mini-IPIP is a 20-item instrument that measures the five facets of personality, namely openness, conscientiousness, extraversion, agreeableness and neuroticism (OCEAN). The original IPIP inventory consists of 120 items, whereas the Mini-IPIP is a shorter version developed by Goldberg in 1999 based on Costa Jr. and McCrae (1992). The Mini-IPIP was chosen to minimise participant errors due to nonattentiveness and careless responses, which can arise when survey respondents become frustrated with long surveys. Furthermore, it has been tested and validated on college students and is freely available (Cooper et al. 2010; Donnellan et al. 2006). Responses are provided on a Likert scale of 1 to 4. Each trait has equal numbers of negatively and positively keyed items except openness, which has 3 negatively keyed items and 1 positively keyed item. As explained earlier, each of the OCEAN personality traits is linked to different facets that are responsible for the development of

various professional skills, including ethical decision-making, creative thinking, communication, leadership and teamwork skills (John and Srivastava 1999; Kautz et al. 2014; Saadullah and Bailey 2014) (see Table 1).

The general self-efficacy of accounting students was measured using the 10-item GSES published by Schwarzer and Jerusalem in 1995. This scale was originally developed in Germany in 1981 and has been widely implemented internationally (Luszczynska et al. 2005). Its main advantages are that it is free to use (and open source), has been validated in studies conducted in Western, European and Asian countries, including India (Luszczynska et al. 2005; Scholz et al. 2002; Waraich and Chechi 2017), and can be generalised to any age group (Schwarzer et al. 1995). The 10 items of the GSES are designed to measure confidence, motivation and optimism, with responses provided on a Likert scale of 1 to 5. The total score is calculated by summing the scores of all items, with a possible total score range of 10–50; higher scores indicate greater self-efficacy. Testing of this scale using various samples, countries and languages has yielded internal consistency coefficients ranging from 0.75 to 0.91 (Scholz et al. 2002). The GSES is a good predictor of human behaviour under a range of conditions and is related to different personality traits that lead to the development of various professional skills (Bandura 1977; Hassall et al. 2013; Sugahara et al. 2010; Wang et al. 2016, 2018; Wennberg et al. 2013).

The questionnaire consisted of a total of 37 questions and was estimated to take approximately 15 min to complete. The self-administered survey questionnaire was hosted by the online platform Qualtrics.

3.3 | Data Analysis

Data were analysed quantitatively using SPSS software. The data were first manually checked and cleaned with all responses with missing data and outliers removed to eliminate their potential impact on the data analysis process (Cooke 2010; Hair et al. 2010). The data were also checked for normality and reliability (see Appendix 1). All assumptions of multiple regression were tested (linearity, multicollinearity, regression errors, prediction accuracy and homoscedasticity); no violations were observed.

Descriptive statistics were conducted, followed by regression analysis to assess the relationships between self-efficacy (independent variable) and the personality traits (dependent variables) leading to professional skills development, controlling for gender, schooling type and work experience.

TABLE 2 | Distribution of participants.

	<i>N</i> (distributed)	<i>N</i> (valid)
Regions	1162	572
North	450	258
South	252	106
East	245	117
West	215	91

4 | Results and Discussion

4.1 | Demographic Variables

As shown in Table 3, a high proportion of respondents had no work experience (79%) and were aged 18–20 years (68.4%), indicating that Indian society is more inclined towards education before entering the workforce. The majority of respondents were women (58.7%), reflecting the popularity of accounting among

TABLE 3 | Demographic statistics.

Variable	Frequencies	
	(N=572)	(%)
Gender		
Female	336	58.7
Male	236	41.3
Schooling (public/private)		
Public	186	32.5
Private	386	67.5
Age		
<18 years	69	12.1
18–20 years	391	68.4
21–22 years	82	14.3
23 years and older	30	5.2
Year of undergraduate study		
First year	141	24.6
Second year	187	32.7
Third year	195	34.0
Recent graduates	49	8.7
Work experience		
No experience	452	79.0
<1 year	55	9.6
1–2 years	41	7.2
More than 2 years	24	4.2

women, and attended private primary and secondary schools (67.5%), suggesting higher socioeconomic status. The demographic data on gender, schooling type and work experience were generally reflective of the characteristics of the population in each of the four regions of India (Wheebox 2018).

4.2 | Investigation of the Research Questions

4.2.1 | Self-Efficacy Beliefs

The self-efficacy scale was checked for normality and reliability, with all items in the GSES indicating normal univariate distribution. The values of skewness were between -1.884 and -0.778 and kurtosis values were within the acceptable range of $+3$ to -3 , except for items 1, and 6 which were slightly outside this range. Respondents tend to scale higher on these items, resulting in higher mean values for self-efficacy scores (George and Mallery 2009). Table 4 presents the mean scores for each of the GSES items. The accounting students rated themselves highest ($M = 4.48$, $SD = 0.770$) on the statement ‘I always manage to solve difficult problems if I try hard enough’, which is reflective of their problem-solving skills. However, it was unclear whether

TABLE 4 | Descriptive statistics of the 10-item GSES.

Self-efficacy items	Mean	SD	Skew.	Kurt.
1. I always manage to solve difficult problems if I try hard enough	4.48	0.770	−1.884	4.192
2. If someone disagrees with my ideas, I can find the means and ways to get justification for my ideas	4.17	1.019	−1.385	1.545
3. It is easy for me to stick to my aims and accomplish my goals	4.19	0.996	−1.171	0.684
4. I am confident that I could deal efficiently with unexpected circumstances	4.18	0.937	−1.333	1.774
5. Thank my resourcefulness, I know how to handle unforeseen situations	4.05	0.975	−1.131	1.099
6. I can solve most problems if I invest in the necessary effort	4.44	0.835	−1.752	3.356
7. I can remain calm when facing difficulties because I can rely on my coping abilities	3.77	1.227	−0.778	−0.398
8. When I am faced with a problem, I can usually find several solutions	4.06	0.968	−0.962	0.463
9. If I am in trouble, I can usually think of a solution	4.25	0.921	−1.323	1.608
10. I can usually handle whatever problems come my way	4.18	0.913	−1.291	1.745

Note: The items were measured on a Likert scale of 1 to 5, with 1 being the minimum and 5 being the maximum score.

these students rated themselves higher in self-efficacy because of their strong knowledge of the course content or because they had strong social skills (item 1, Table 4).

The students scored above average ($M = 3.77$, $SD = 1.227$) for the statement ‘I can remain calm when facing difficulties because I can rely on my coping abilities’. The mean score suggests that Indian accounting students tend to mostly remain calm in challenging situations. However, the higher standard deviation suggests significant variability in how students

TABLE 5 | Descriptive statistics of the Mini-IPIP scale.

Five factors	N	Minimum	Maximum	Mean	SD
Openness	572	4.00	20.00	15.2010	3.74537
Conscientiousness	572	4.00	20.00	12.9353	4.05708
Extraversion	572	4.00	20.00	9.7692	3.83128
Agreeableness	572	4.00	20.00	14.3497	3.85918
Neuroticism	569	4.00	20.00	11.8453	3.71673

rated their ability to remain calm, implying a wide range of coping abilities and anxiety levels in response to difficulties. As accounting curriculum in India emphasises attainment of technical knowledge rather than professional skills, and contains exam-centric assessment (Das and Singh 2018; Thottoli 2020), this indicates that students tend to derive their confidence from external validations such as grades and societal expectations. As a result, their self-efficacy in relation to coping (e.g., remaining calm) might be influenced by their social environment rather than their actual ability.

As the majority of students in this study had no work experience (79%) (see Table 1), they would likely be unaware of real-life problems encountered in the workplace. Bandura (1997) validated this phenomenon in other settings and termed it students' initial lack of awareness. Once students enter the workforce and gain experience, their self-efficacy scores may decrease and become more realistic. Overall, results suggest that the perception of self-efficacy is unclear among the accounting students of India. Students perceive self-efficacy as being related to confidence in achieving higher academic grades, having a strong knowledge of the subject, and a good reputation among their peers due to the emphasis on theoretical knowledge attainment rather than professional skill development. This is also evident in various other Asian cultures, such as China and Indonesia, where student examination scores play a crucial role in determining their career and success in life (Chang 2015; Sharma et al. 2024). It is therefore difficult to conclude that professional skills development is solely based on self-efficacy beliefs.

4.2.2 | Personality Traits

The scores of all five personality traits were calculated using the method prescribed for the survey instrument Mini-IPIP (Donnellan et al. 2006) and are reported in Table 5. The minimum score is 4, and the maximum is 20, with 10 being considered the average score for a particular trait. Each personality trait shapes different behavioural tendencies that studies have identified as personality facets (John and Srivastava 1999; Kautz et al. 2014), which in turn influence the development of professional skills (refer Table 1).

The accounting students scored highest on the personality trait of openness, which suggests that the students have high creative thinking and ethical awareness skills. The high openness score is also consistent with the use of creative thinking skills in response to problems (John and Srivastava 1999; Srivastava et al. 2003). Thus, the students do not solely rely on

their teachers to find solutions to problems as they are open to new ideas, cultures and intellectual experiences (McCrae and Costa 1992). The relatively high openness score indicates that these students are highly adaptable to, and flexible in, a changing social environment.

The high agreeableness score indicates that the students in this study have good teamwork skills based on cooperative and friendly behaviour (Malik and Pereira 2016; Singh 2009; Yohsuke et al. 2019). The personality traits of openness and agreeableness align with sustainable practices that are shaped by the demand and expectation of the social environment (Hofstede 2003). As openness is associated with creative thinking, ethical awareness and adaptability (Di Fabio and Saklofske 2018; McCrae and Allik 2002), and agreeableness is linked to cooperation, empathy and social harmony (Banerjee 2008), both these traits can promote behaviour that encourages long-term sustainability in diverse social and cultural contexts.

The openness (15.20/20) and agreeableness (14.34/20) scores also support the fact that pedagogy at Indian accounting institutions may be slowly changing to meet employer requirements (Das and Singh 2018). These scores suggest that Indian accounting students are creative, adaptable and open to new experiences, qualities that are essential for working in an innovative and collaborative environment. Additionally, their high agreeableness reflects a cooperative and empathetic approach that facilitates teamwork and social harmony.

The Indian accounting students scored slightly below average on extraversion, indicating that they are neither reticent loners nor jovial conversationalists; they enjoy time with others but also time alone. One likely explanation for this score is that while the language of instruction at most Indian universities is English, students tend to converse with their peers in their native language. These students therefore operate within different language environments in their family and institutional contexts. As a result, despite being sociable, their communication skills are not as honed as they otherwise might be. This may hinder the development of their communication skills when sharing ideas with their peers and teachers in class. The slightly below average score suggests that the communication and leadership skills of these students may need to be strengthened to align with the level demanded by employers globally (Tharapos 2022).

Respondents scored a mean of 12.93 and 11.84 on the traits of conscientiousness and neuroticism, respectively. Conscientiousness and neuroticism scores are indirectly linked, as conscientiousness manifests as organised and dutiful behaviour to avoid

uncertainty, and neuroticism reflects anxiety or negative emotion (John and Srivastava 1999). These scores suggest that Indian accounting students are not strong followers of rules, regulations and dutifulness. The mean conscientiousness score indicates that Indian accounting students have average ethical decision-making and leadership skills.

The results of this study indicate that the personality traits of accounting students in India are influenced by factors other than self-efficacy, such as their social and cultural environment, including their socioeconomic status, type of schooling (public or private), exposure to work culture and family values (Sharma et al. 2024). Additionally, previous studies have found that age, academic performance and work experience (Bandura 1995; Hofstede 2003; Singh 1990; Sugahara et al. 2010) also contribute to an individual's personality development. Considering the age of the students in this study, they tend to adopt a more open, flexible and adaptable approach as they explore various career options. However, it is possible that as they enter the workforce and establish their careers, their levels of openness and agreeableness may decline.

In summary, the analysis of the data suggests that Indian accounting students have higher teamwork and creative thinking skills as evidenced by their high scores for agreeableness and openness, but require improvement in their decision-making, ethical awareness, leadership and communication skills based on their scores for extraversion, conscientiousness and neuroticism.

4.2.3 | Self-Efficacy and Professional Skills Development

Regression analysis was performed to test the relationship between self-efficacy as the independent variable and five personality traits (OCEAN) as the dependent variables to determine the development of accounting students' professional skills. Additionally, three control variables (gender, schooling type and work experience) were also introduced in the models to eliminate their influences (refer Figure 1).

Table 6 presents the results of significance testing of the models using multiple regression. Three of the five models, Model 1 (openness), Model 2 (conscientiousness) and Model 5 (neuroticism) were significant, with p values < 0.05 . However, self-efficacy does not appear to be related to extraversion (Model 3) and agreeableness (Model 4) among Indian accounting students. Model 1 was the strongest of the five models ($R^2 = 0.209$).

In relative terms, self-efficacy explains a greater portion of the variation in the personality trait of openness compared with the other FFM personality traits. The relatively low R^2 values (around 0.10) are consistent with the results from other studies that have utilised the FFM (Furnham et al. 2005; Krishnan 2017; Migliore 2011; Sharma et al. 2024). Given that personality traits are multi-faceted and comprise distinct yet interrelated attributes, identifying all variables influencing them is not feasible (Tharapos et al. 2019). A low R^2 indicates that external factors not included in the models contribute to variations in the dependent variable.

The results for Model 1 indicate that self-efficacy is positively related to openness. As noted by Wang et al. (2016), academic achievement is linked to the openness personality trait as students with high self-efficacy beliefs generally perform well in their studies due to their enhanced confidence levels. The positive relationship between self-efficacy and openness is also consistent with Freudenberg et al. (2011), who found that team-based learning in real-time broadened students' cognitive horizons. Various studies have concluded, however, that both self-efficacy and mindset impact an individual's openness levels (Beatson et al. 2019; McCrae and Allik 2002; McCrae et al. 2008; Wang et al. 2016, 2018). However, self-efficacy acts as an enabler for openness, rather than being sufficient on its own. Other factors such as culture, social environment, genetics and non-environmental factors must also be considered when evaluating openness.

Openness fosters creative thinking, flexibility, adaptability and ethical awareness skills (Kautz et al. 2014; Saadullah and Bailey 2014). The results of this study suggest that Indian accounting students exhibit above-average openness levels, implying that they have the potential to develop ethical awareness and creative thinking skills. However, while the data indicate that students may be increasingly able to think independently and creatively, it does not conclusively show a complete transition away from reliance on teachers and textbooks. Rather, it suggests a gradual shift in accounting education in India towards a blend of theory-based and practice-based learning, with some development of professional skills; however, further emphasis on nurturing flexibility and adaptability is required to fully meet the demands of the globalised work environment.

The results for Model 2 show that self-efficacy is directly related to conscientiousness, which is a measure of dutifulness and being organised (John and Srivastava 1999; Johnson, n.d.). Studies have found that conscientiousness is linked to ethical behaviour, confidence and self-awareness, which lead to achievement

TABLE 6 | Summary of all models.

Model	Predictors	p	Coefficient	R^2
Model 1—Openness	Self-efficacy	0.001	0.221	0.209
Model 2—Conscientiousness	Self-efficacy	0.008	0.215	0.073
Model 3—Extraversion	Self-efficacy	0.814	−0.018	0.062
Model 4—Agreeableness	Self-efficacy	0.114	0.122	0.066
Model 5—Neuroticism	Self-efficacy	0.001	0.253	0.066

and success (Saadullah and Bailey 2014). Conscientious individuals tend to display higher ethical judgement skills on account of their dutifulness and inclination to do the right thing. Conscientious students are more disciplined and sincere in their studies due to the desire to complete tasks on time. Accounting students who follow policies and procedures at their institution are likely to behave in the same way at their workplace since they value security in employment. Doing the right thing makes them feel more confident, reliable and ethical—key qualities of a professional accountant. The conscientiousness scores suggest that Indian accounting students are above average in their ethical judgement, confidence and reliability skills.

Models 3 and 4 were not statistically significant in predicting the personality traits ($p > 0.05$) and have limited explanatory power, suggesting that self-efficacy does not have a meaningful impact on extraversion and agreeableness.

The combination of self-efficacy and gender predicted neuroticism (Model 5), with self-efficacy being positively related to neuroticism, while gender exhibited a negative relationship. Some studies have suggested that self-efficacy is negatively related to neuroticism (Chaudhary and Panda 2019; Wang et al. 2018); whereas self-efficacy, in conjunction with social environment, partially influences neuroticism, thereby highlighting the role of external factors such as social context (Strobel et al. 2011; Wang et al. 2016). While statistically significant, the results of our study suggest that self-efficacy and gender account for only a small portion of the variance in neuroticism. This suggests that other factors, such as genetic endowment, play a more substantial role in defining the neuroticism trait.

In countries such as India, married women tend to assume the traditional role of homemaker, resulting in limited exposure to the external world, which can inhibit development of their decision-making ability and increase reliance on their male counterparts (Malik and Pereira 2016). Our results suggest the potential influence of societal norms and expectations with respect to gender, as women may face additional social pressures and responsibilities. Thus, the relationship between gender and neuroticism is shaped by social and cultural factors, suggesting that gender differences in personality traits are not universal but context dependent.

5 | Conclusion

This study examined the relationship between self-efficacy and personality traits to determine the development of professional skills among accounting students. The results indicate that the impact of self-efficacy on personality traits varied among Indian accounting students due to India's unique social and cultural environment that is inclined towards the preservation of social harmony, a trait of collectivist cultures. It is difficult to generalise about the development of professional skills based on self-efficacy beliefs and personality traits by Indian accounting students in this study due to the differing social and cultural environments prevailing in the various regions of India. Students who rate themselves highly on the personality trait of openness can have a distorted view of their self-efficacy because their social environment considers high-achieving students most

efficient. Professional skills development cannot be solely based on a person's personality and likely depends on a combination of various underlying factors, including heredity, globalisation, socioeconomic status, work experience, age and urban and rural settings. Our results partially align with previous studies that have found significant impacts of self-efficacy on leadership, communication and decision-making skills (Baron and Morin 2010; Basol and Karatuna 2017; Hassall et al. 2013). The discrepancies likely reflect the fact that previous studies were primarily conducted in developed nations among mature working professionals in organisations with similar work cultures, whereas the present study focused on how students' self-efficacy beliefs influence their personality traits in different social and cultural environments.

The results of this study on how self-efficacy might influence the development of accounting students' professional skills have important implications for accounting educators and higher education providers. The accounting higher education environment must evolve to create a culture that promotes and develops both technical and professional skills that meet the demands of employers of accounting graduates globally (Tharapos 2022). The integration of industry in all stages of the accounting programme would provide opportunities for the integration and continuous development of professional skills (Chan 2015; Freudenberg et al. 2010; Leong and Kavanagh 2013). Integrating professional skills development throughout the accounting program will significantly improve accounting graduates' chances of securing meaningful employment. This is particularly important in developing countries like India, where unemployment rates among accounting graduates are higher than in disciplines that prioritise professional skills development (Ministry of Labour and Employment 2020).

To achieve these objectives, professional bodies, such as the Institute of Chartered Accountants of India, must foster strong and productive collaborations between accounting educators and practitioners to codesign assessment that enhances students' professional skills and provides real-world professional experience. Incorporating work integrated learning and mandatory professional year programmes into undergraduate accounting curriculum will significantly contribute to the professional skills development of accounting students. The provision of government subsidies and additional resources to public universities would assist in facilitating these initiatives.

As with all studies, this study is not without limitations. The use of self-reported questionnaires to measure the self-efficacy and personality traits of students can lead to bias, which may limit the authenticity of the results (Bourke et al. 2016). To mitigate this effect, the language of the items was varied in the questionnaire. For example, both positive and negative items were included in the self-efficacy instrument, and multiple questions were asked for each personality trait. The current study relied on students' perceptions to examine the effect of self-efficacy on professional skills development. It is possible that given students' limited life experiences, their responses were not informed by the realities of working in a professional business environment.

Due to the remoteness of the researchers and time constraints, convenience sampling was adopted. While we sought to

minimise bias by ensuring that the sample was as diverse and as representative as possible within the constraints of the study, most of the respondents were located in the metropolitan areas of India, which have higher exposure to current technologies and more advanced lifestyles. Future studies conducted with students located in rural areas in India would provide a more holistic understanding of this area.

While studies have examined students' perceptions of self-efficacy and professional skills (Frame et al. 2016; Mgaya and Kitindi 2009), further research from the perspectives of other stakeholders, such as graduates, employers, professional bodies and educators, is required. These perspectives would provide a more holistic understanding of this issue.

Acknowledgement

Open access publishing facilitated by Victoria University, as part of the Wiley - Victoria University agreement via the Council of Australian University Librarians.

Data Availability Statement

Data will be available on request.

Endnotes

¹The curricula of the selected universities focussed not only on content knowledge but also on professional skills development through assignments, presentations and quizzes completed on both an individual and group basis.

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Appendix 1

Data Normality and Reliability

Both the instruments used in this study, the general self-efficacy scale and the Mini-IPIP scale, indicated normal univariate distribution since their skewness and kurtosis were between the acceptable values (except for item 1 and item 6 for kurtosis values) and did not exhibit any issues (George and Mallery 2009; Table A1).

TABLE A1 | Reliability of survey instruments.

Type of variables		Name of variable	Cronbach's alpha value
Independent	GSES	1. Self-efficacy beliefs (Item 1, Item 2, Item 3, Item 4, Item 5, Item 6, Item 7, Item 8, Item 9, Item 10)	0.790
Dependent	MINI-IPIP	1. Openness (Item 26, Item 27, Item 29, Item 30)	0.667
		2. Conscientiousness (Item 14, Item 15, Item 17, Item 18)	0.708
		3. Extraversion (Item 2, Item 5, Item 3, Item 6)	0.594
		4. Agreeableness (Item 8, Item 9, Item 11, Item 12)	0.684
		5. Neuroticism (Item 20, Item 21, Item 23, Item 24)	0.599