

The impact of mass media entrepreneurship education on entrepreneurial mindset and intentions

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Abstract

The existing research has focused on the role of traditional entrepreneurial education in promoting entrepreneurship. This study suggests that mass media radio entrepreneurial education, which is underexplored, fosters the development of entrepreneurial mindset and intentions. As such, this study investigated how mass media entrepreneurial education influences entrepreneurial intentions through the development of entrepreneurial mindsets. Cross-sectional quantitative research was conducted on a final sample of 702 potential entrepreneurs in South Africa. Correlation analysis and structural equation modeling were used to analyze the data. The results of the study showed a strong positive relationship between some dimensions of mass media entrepreneurial education, entrepreneurial mindset, and intentions. Entrepreneurial mindset derived from mass media education had

a significant impact on entrepreneurial intentions. In addition, the entrepreneurial mindset mediates some dimensions of mass media entrepreneurial education and entrepreneurial intentions. The study shows alternatives to traditional entrepreneurial education programs. Mass media can be used as an alternative when formal entrepreneurial education is limited.

Keywords: Entrepreneurial Education, Entrepreneurial Intentions, Entrepreneurial Mindset, Mass Media Entrepreneurship, Radio

Introduction

Entrepreneurial education is central to explaining how individuals develop entrepreneurial intentions (Aparicio et al., 2021; Bux & van Vuuren, 2019). Much entrepreneurial education has been carried out in academic classrooms, yet many public broadcasting institutions are mandated to inform, educate, and entertain their listeners (Silva et al., 2018). Mass media entrepreneurial education through radio matters as it is one way of making entrepreneurial education accessible, especially in contexts where access to the entrepreneurial education system is challenging and entrepreneurial intention rates are low (Bowmaker-Falconer & Herrington, 2020; Bux & van Vuuren, 2019). This study argues that entrepreneurial education offered in mass media programs will be an alternative in under-resourced environments.

Various approaches have been employed to deliver entrepreneurial education, including business plan formulation, business simulations, small business startups, job shadowing an entrepreneur realistically, and brainstorming ideas (Hasan et al., 2017). While extensive studies are conducted on the effectiveness of entrepreneurial education in educational institutions and across various academic disciplines (de Villiers Scheepers et al., 2018), Laguía and Moriano (2021) agree that literature is scant, if not mute, on mass

media entrepreneurial education. Of interest in this study is radio, which continues to be an influential medium in the global south and is understudied in the context of the entrepreneurial education discipline (Laguía & Moriano, 2021; Yunandar et al., 2019).

Radio matters as it is still the cheapest, most listened-to-medium through which messages get conveyed (Bosch, 2022) and has been used extensively for news dissemination regarding varied subjects such as politics, disease outbreaks, and entertainment (Riha et al., 2021). Suárez et al. (2021) postulate that “mass media is known to be a powerful vehicle for articulating and defining public perception with a measurable impact” (p.2). Therefore, radio can stimulate entrepreneurial intentions by sharing entrepreneurship-related content (Baggen et al., 2021; Laguía & Moriano, 2021; Madalena et al., 2014).

Although there are studies on mass media entrepreneurship, they do not focus on the education aspect but on how perceived legitimacy and skills obtained from media influence entrepreneurial intention (Laguía & Moriano, 2021). Considering the inadequacies in knowledge, this study assesses whether mass media entrepreneurial education propagated through radio maintains a positive relationship with entrepreneurship intentions, as found in university-based educational programs (Suárez et al., 2021). Further, we argue that the impact of mass media entrepreneurial education on entrepreneurial intentions is through the mediating role of entrepreneurial mindset. We build on Cui and Bell (2022), who argued that researchers should study the relationship between entrepreneurial education, mindset, and intentions in multiple contexts. Using Hasan et al. (2017), this study conceptualizes mass media entrepreneurial education as generalized, motivational, and augmented. These three forms of mass media entrepreneurial education will influence entrepreneurial mindset and intentions differently.

A quantitative study was conducted on a final sample of 702 participants in South Africa to test the relationship between mass media entrepreneurial education, mindset, and

intentions. This context is characterized by a high unemployment rate (StatsSA, 2021), developing entrepreneurial education (Bowmaker-Falconer & Herrington, 2020), a low level of entrepreneurial intentions (Bowmaker-Falconer & Herrington, 2020), and a radio population that exceeded 30 million in the years 2020/21 (BRCSA, 2021). Taking note of these challenges in the study context, alternative entrepreneurial education programs can help increase entrepreneurial intentions. The result of the study shows a strong relationship between some dimensions of mass media entrepreneurial education and entrepreneurial mindset and intentions. Further, the entrepreneurial mindset mediates mass media entrepreneurial education and entrepreneurial intentions.

The findings of the study have academic and practical implications. First, the study shows mass media entrepreneurial education as a non-conventional mechanism influencing entrepreneurial intentions. Individuals who followed entrepreneurial programs had better intentions than those who did occasionally. Second, the study shows that the impact of mass media education on entrepreneurial intention can be explained through the mediation of an entrepreneurial mindset. This finding contributes to the scant research on factors explaining how entrepreneurial education influences intentions. Third, the study shows that there are dimensions to entrepreneurial education that yield various outcomes. Therefore, researchers and business practitioners should approach entrepreneurial education based on their goals. As a growing field, increasing studies in mass media entrepreneurial education will benefit various stakeholders, including media content producers, curriculum developers, education institutions, entrepreneurial education distribution channels/platforms, and policymakers.

Literature Review

Entrepreneurial Intentions

Among the many theories contrasted and challenged, the Theory of Planned Behavior is the most cited, focusing on intentions and behavior (Ajzen, 1991; Tornikoski & Maalaoui, 2019). The theory assumes that humans engage cognitively and plan before acting (Tornikoski & Maalaoui, 2019). It is known that attitudes towards a behavior, subjective norms, and perceived behavioral control (PBC) are the three independent determinants of intentions in the theory of planned behavior (Cui & Bell, 2022; Krueger & Carsrud, 1993). This theory is the anchor of entrepreneurial intentions.

Entrepreneurship is primarily regarded as an intended and planned behavior (Farrukh et al., 2018), while intentions are accepted as a precursor to action in favor of entrepreneurial activities such as venture origination (Krueger & Carsrud, 1993; Farrukh et al., 2018). The entrepreneurial intention, in yet another study, was defined as “the state of consciousness of entrepreneur’s direct attention, experience and action to a business concept” (Lu & Wang, 2018, p. 63) or a desire “to either own their own business or start one” (Lu & Wang, 2018, p. 63). For this study, intention within entrepreneurship is therefore defined as a pre-determination by an individual to create a new venture.

Mass Media Entrepreneurial Education

The entrepreneurship field uses the terms entrepreneurship education and entrepreneurial education interchangeably. Erkkilä (2000) explained that the confusion is due to the context in which the term refers. In the United States, entrepreneurship education focuses on educating individuals about small business activities. At the same time, the United Kingdom uses enterprise education to train individuals about enterprising

behaviors, including skills and attitudes beyond business use (Erkkilä, 2000). Therefore, entrepreneurial education expands beyond the contexts, encapsulating both entrepreneurship and enterprise education. In this study, we define entrepreneurial education as teaching the knowledge, attitudes, and skills required to encourage entrepreneurial behaviours and execute entrepreneurial activities.

This study defines mass media entrepreneurial education as the formal and informal propagation of entrepreneurial education content using broadcast or mass-reaching media channels and formats such as radio (Madalena et al., 2014; Ndou et al., 2018). The reciprocal relationship between media and entrepreneurship was clearly described by Hang and Weezle (2005) in how media influences the entrepreneurship phenomenon in society. Mass media entrepreneurial education equips listeners to succeed at business origination and administration by providing information and training that develops and enhances opportunity identification, critical thinking, decision-making, and innovativeness (Aparicio et al., 2021; Lackéus, 2020). With radio described as the “theatre of the mind” (Ferguson & Greer, 2018), the listener is taken into a mental classroom as entrepreneurial education content-orientated programming is presented through various formats such as information sharing, dramas, interviews, music, public announcements, and advertisements (Laguía & Moriano, 2021; Sari et al., 2021).

The focus is on three types of entrepreneurial education: generalized, motivational, and augmented mass media entrepreneurial education. Through the generalized mass media entrepreneurial education, entrepreneurship possibility is ignited, and awareness of individuals’ inborn abilities is raised. Providing well-crafted theory-inspired content and principles allows the listeners to conceive the possibility of success in entrepreneurial practice (Hasan et al., 2017). Motivational mass media entrepreneurial education is set to motivate listeners to choose entrepreneurship as a career option (Qureshi & Mian, 2021) and develop a sense of confidence to pursue entrepreneurial ambitions (Suárez et al., 2021).

Augmented mass media entrepreneurial education supports the preceding two kinds of entrepreneurial education (Hasan et al., 2017; Shi et al., 2020). By creating opportunities for audiences to engage with the theoretical and informative components of mass media entrepreneurial education, augmented mass media entrepreneurial education through the use of competitions (Mckenzie, 2017), scenario presenting, quizzes and simulations give audiences and students a sense of the experience of the conceptual and theoretic elements provided by the preceding two (Hasan et al., 2017; Madalena et al., 2014). The argument is that these dimensions of mass media entrepreneurial education will influence the entrepreneurial mindset and intentions differently (Hasan et al., 2017).

Entrepreneurial Mindset

Various definitions exist in the academic literature that concur that an entrepreneurial mindset distinguishes entrepreneurs from non-entrepreneurs (Kouakou et al., 2019). The entrepreneurial mindset defined by Naumann (2017) is a way of thinking that focuses on creating value without regard for resource constraints in a business environment characterized by uncertainty and ambiguity. Additionally, an entrepreneurial mindset can be seen as the ability to take note of unrelated variables and organize them in thought to create a product or a service, which can lead to new venture creation or the growth of existing business (Baron, 2006). Recently, Pidduck et al. (2023) provided an integrated definition of entrepreneurial mindset as the “dispositional and opportunity-based schema that stimulates goal-oriented entrepreneurial behavior” (Pidduck et al., 2023, p.47). This type of mental disposition and opportunity beliefs distinguish those who can innovate, take risks, identify opportunities and exploit them, having conceived intentions to start a business in their minds.

Conceptual model and hypotheses development

The overall conceptual model of the study shows how mass media entrepreneurial education influences entrepreneurial intentions through the development of entrepreneurial mindsets. The hypotheses derived from the model are discussed next.

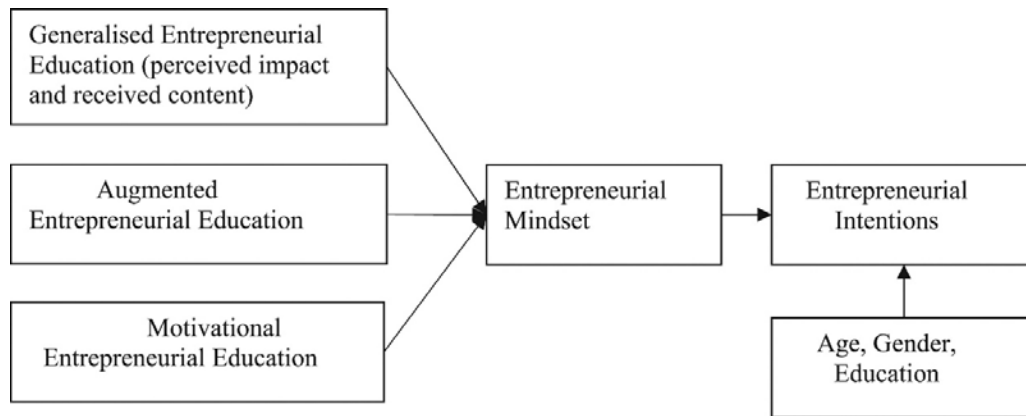


Figure 1. Conceptual model of the study.

Mass Media Entrepreneurial Education and Entrepreneurial Mindset

In the education context, an entrepreneurial mindset can be developed through acquiring training provided by mass media entrepreneurial education (Hägg & Gabrielsson, 2020). The three dimensions of mass media entrepreneurial education are essential in forming an entrepreneurial mindset (Hasan et al., 2017). A generalized entrepreneurial education provides academic concepts that increase entrepreneurial awareness and dispensing information regarding entrepreneurial activities and venture creation (Lekoko et al., 2012). During awareness of entrepreneurship, an opinion or attitude is formed regarding the discipline and how one can engage with it (Liñán et al., 2018). Motivational mass media entrepreneurship creates a positive mindset of adopting entrepreneurship as a career option (Hasan et al., 2017). While augmented entrepreneurial education, or experiential pedagogic approaches, are meant to equip the students for real-

life ease of integration (Baggen et al., 2021; Ghafar, 2020). Understanding how each dimension contributes to the relationship between mass media entrepreneurial education and entrepreneurial minds will assist in developing relevant entrepreneurial curricula and content and highlight which dimension to focus on to achieve the targeted behavioral changes (Laguía & Moriano, 2021).

- Hypothesis 1 – Mass media entrepreneurial education has a positive impact on the entrepreneurial mindset.
- Hypothesis 1a - Generalized mass media entrepreneurial education has a positive impact on the entrepreneurial mindset.
- Hypothesis 1b - Augmented mass media entrepreneurial education has a positive impact on the entrepreneurial mindset.
- Hypothesis 1c - Motivational mass media entrepreneurial education has a positive impact on the entrepreneurial mindset.

Mass Media Entrepreneurial Education and Entrepreneurial Intentions

The effect of entrepreneurial education on entrepreneurial intentions has received sturdy attention (Krisnaresanti et al., 2020), yet it is scanty with respect to the relationship between mass media entrepreneurial education's sub-dimensions and entrepreneurial intentions. Mass media entrepreneur education influences attitudes that stimulate new venture creation ideas (Laguía & Moriano, 2021). Unlike business education, this field focuses on equipping recipients with the necessary skills for organizational administrative roles and starting a business (Aparicio et al., 2021; Robinson & Gough, 2020). Regarding the sub-dimensions, generic mass media education will provide entrepreneurs with the theoretical content and principles required when starting a business, thus increasing their intentions. Motivational mass media entrepreneurial education will inspire individuals to

start their businesses. Lastly, the augmented one will provide individuals with practical experience in entrepreneurial activities, thus increasing their intentions. Understanding the contributory weight of each sub-dimension will deepen the development of entrepreneurial education theory (Hasan et al., 2017).

Hypothesis 2 – Mass media entrepreneurial education has a positive impact on entrepreneurial intentions.

Hypothesis 2a - Generalized mass media entrepreneurial education has a positive impact on entrepreneurial intentions.

Hypothesis 2b - Augmented mass media entrepreneurial education has a positive impact on entrepreneurial intentions.

Hypothesis 2c - Motivational mass media entrepreneurial education has a positive impact on entrepreneurial intentions.

Entrepreneurial Mindset and Entrepreneurial Intentions

There may be a lack of consensus about the exact definition of an entrepreneurial mindset among researchers and scholars. However, there is clear agreement that cognition and emotions are all essential elements of an entrepreneurial mindset (Kuratko et al., 2021). It is also evident in the research findings that an entrepreneurial mindset is a mode of thinking that allows the entrepreneur to adjust their thinking in response to environmental dynamics and uncertainty (Naumann, 2017). It is a robust manner of thinking that assists the entrepreneur in persisting even in unfavorable situations (Cui & Bell, 2022; Wardana et al., 2020). Entrepreneurial mindset even within the context of other disciplines that include engineering (Rae & Melton, 2017), technology training and venture creation (Ndou et al., 2018; Swartz et al., 2022), and vocational studies (Di Pietro, 2018), has been found

to equip students with competencies required for them to think entrepreneurially for new business origination within existing organizations, or to start their ventures (Ndou et al., 2018). Therefore, this study hypothesizes that an entrepreneurial mindset has a positive effect on entrepreneurial intentions.

Hypothesis 3 – Entrepreneurial mindset has a positive impact on entrepreneurial intentions.

The Mediating Role of Entrepreneurial Mindset between Mass Media Entrepreneurial Education and Entrepreneurial Intentions

Since an entrepreneurial mindset is critical in facilitating the positive relationship between entrepreneurial education and entrepreneurial intentions (Daspit et al., 2021), it does warrant, therefore, that channels or platforms such as mass media be considered as potential channels that can stimulate the development of entrepreneurial intentions in audiences (Qureshi & Mian, 2021). Borrowing insights from the traditional entrepreneurial education literature (Cui & Bell, 2022; Kouakou et al., 2019; Kuratko et al., 2021; Qureshi & Mian, 2021), this study argues entrepreneurial mindset mediates the relationship between mass media entrepreneurial education and entrepreneurial intentions. Entrepreneurial education can be propagated on mass media platforms (Suárez et al., 2021; Yunandar et al., 2019), influencing the development of an entrepreneurial mindset of youth affected by high unemployment rates within various countries. The radio platform presents the advantages of low cost, broad reach, context relevance, and message transmission using different local languages (Esch et al., 2016; SABC, 2021).

Hypothesis 4 – Entrepreneurial mindset mediates mass media entrepreneurial education and entrepreneurial intentions.

Hypothesis 4a - Generalized mass media entrepreneurial education mediates mass media entrepreneurial education and intentions.

Hypothesis 4b - Augmented mass media entrepreneurial education mediates mass media entrepreneurial education and intentions.

Hypothesis 4c - Motivational mass media entrepreneurial education mediates mass media entrepreneurial education and intentions.

Research Methodology

The design of this study is a cross-sectional quantitative survey. The unit of analysis for this study was at an individual level; therefore, response data was collected from radio listeners in South Africa. The total number of weekly radio listeners in South Africa, is +- 36 million, according to BRCSA (2021) and Nevill (2020). Since it was impractical to research the entire population, a sample was selected. The targeted respondents were listeners between 18 years and older who were within reach of the radio broadcast in South Africa. The ultimate number of respondents that participated in this study was 854.

Measurement Instrument

The scale adapted from Hasan et al. (2017) measured mass media entrepreneurial education and its sub-dimensions: generalized entrepreneurial education, augmented entrepreneurial education, and motivational entrepreneurial education. The Likert scale for all items ranged from 1, strongly disagree, to 5, strongly agree. The Cronbach alphas of generalized and entrepreneurial education were above the threshold of 0.70, while

motivational had a Cronbach alpha of 0.629. The scale was deemed suitable for the study as it focuses on entrepreneurial education rather than business.

The entrepreneurial mindset was adapted from Cui and Bell (2022). Since the scale is multi-dimensional, this study focused on problem-solving and creative entrepreneurial mindset orientation, essential in igniting entrepreneurial intention. The items were on a Likert scale of 1 (strongly disagree) to 5 (strongly agree). The entrepreneurial mindset scale has a Cronbach alpha of 0.70.

The entrepreneurial intention has six measurement items adapted from the scale by Cui and Bell (2022). The Likert scale ranged from 1, strongly disagree, to 5, strongly agree. The Cronbach alpha of the scale was above the threshold of 0.70.

Data Collection

Ethical clearance was obtained before the data collection at the researcher's university. Primary data were collected using an online questionnaire. Participants gave voluntary consent before completing the survey. The questionnaire link was distributed on social media platforms to increase the response rate (Mochon et al., 2017). Bias was towards the platforms with the highest proven penetration and engagement in South Africa, such as Facebook and LinkedIn (Mochon et al., 2017). Reminders were used to increase the data collected by directing the audience to a survey link to complete the questionnaire. The questionnaire completion duration was 10 - 15 minutes.

Data Analysis

The descriptive statistics profiled the respondents with distribution analysis (% frequencies) and mean and standard deviation of the constructs. A reliability test using Cronbach's α was also conducted in the study to measure the internal consistency of the instrument. All the constructs had acceptable Cronbach above 0.7 (Hair et al., 2019).

Factor analysis determined whether the construct was unidimensional or multi-dimensional. An exploratory factors analysis was conducted on the 13 items of generalized entrepreneurial education. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO = 0.948) and Bartlett's Test of Sphericity ($\chi^2 = 7769$, $df = 78$, $p < .001$) confirmed that the factor analysis would produce accurate results. The factor analysis split the generic entrepreneurial education into two constructs named that were named Generalized Entrepreneurial education-received content (GEE-RC) with five items and Generalized Entrepreneurial education-perceived impact (GEE-PI) with eight items, all with good loading factors higher than 0.4 (Shrestha, 2021). Generalized Entrepreneurial education-received content (GEERC) focuses on delivering the content of the entrepreneurship program. The Generalized Entrepreneurial education-perceived impact explains the perceptions of the ability of the entrepreneurial programs to ignite entrepreneurial intentions.

A partial least square algorithm for constructs was analyzed for confirmatory factor analysis to determine the factor loadings, convergence validity with Average Variance Extracted (AVE) composite reliability with composite_rho a and rho_c, and Cronbach alpha. This was followed by discriminant validity using cross-loadings and Heterotrait-monotrait ratio (HTMT).

After conducting the analysis for validity and reliability, the relationship was analyzed using a correlation test and structural equation modeling partial least squares (PLS-SEM) using path coefficients using bootstrapping. The variability in the dependent variable, entrepreneurial intentions, was determined by one or more explanatory variables, thus the mass media entrepreneurial education and the mediation effect of the entrepreneurial mindset. The results were analyzed and reported for the coefficient (β) as well as the statistical significance based on 95% confidence level ($p < 0.05$).

Results

Profile of the Respondents

There were three females in five people (58.5%) and two males (41.5%) in every five people. The most dominant age groups represented were 25-34 years and 35-44 years, with 37.7% and 39.7%, respectively. The lowest representation was of respondents who were older than 55 years, as they constituted only 2.30%. The highest education level of the respondents ranged from Postgraduates (40.3%), then Post High School certificate and Undergraduate Degree, with 24.6% and 24.4%, respectively.

Of the total respondents, 72.0% indicated that the radio station they listen to offers business or entrepreneurship content, while 24.1% indicated that it happened occasionally or sometimes; furthermore, 3.98% said the radio stations they listen to do not offer business or entrepreneurship content. More than half indicated that they follow business or entrepreneurship content on the radio (52.8%), while 30.3% highlighted they only follow it occasionally or sometimes. Lastly, 16.2% did not follow business or entrepreneurship content on the radio. Although the entry question was broad, including business or entrepreneurship, the survey questionnaire or measurement items were based on entrepreneurship education.

The preferred radio language stations were African – African language stations (57.5%), followed by English / Afrikaans stations (31.5%), then a combination of African Language Stations, English/Afrikaans Stations (11.2%). In the sample of 854, the respondents who highlighted that their radio station does not offer education content and those who did not follow business or entrepreneurship content on the radio were excluded for further analysis as they might not provide credible answers to the questions related to educational content in the radio. This resulted in a sample of 702 for measurement and structural model analysis.

Measurement model

In the measurement model, the factor loading provides how well the items measure each of the six underlying constructs presented in Table 1. All factor loadings (λ) were 0.70 and higher except for AEE1, EMST8 and ENIT6, which were excluded in the final model (Hair et al., 2019). The generalized entrepreneurial education yielded two constructs named generalized entrepreneurial education-perceived impact (GEE-PI), which is about the program's ability to enable listeners to identify business opportunities, and generalized entrepreneurial education-received content (GEE-RC), which focuses on the structure of the presented content. Cronbach alpha (α), and composite reliability (CR) with omega-a (ρ_a) and omega-c (ρ_c) measured the reliability and dependability of the composite scale. All the results were higher than the threshold of 0.7 (Cheung et al., 2023). The Average variance extracted (AVE) confirmed the convergence validity with a value ≥ 0.50 (Hair et al., 2019).

Table 1. Factor Loadings, Reliability and Convergence Validity Measures.

	(λ)	α	CR (ρ_a)	CR (ρ_c)	AVE
Generalised entrepreneurial education – RC		0,892	0,894	0,920	0,699
GEE1- RC	0,809				
GEE2-RC	0,868				
GEE3-RC	0,858				
GEE4-RC	0,857				
GEE5-RC	0,785				
Generalised entrepreneurial education – PI		0,912	0,914	0,929	0,620
GEE6-PI	0,770				
GEE7-PI	0,795				
GEE8-PI	0,774				
GEE9-PI	0,839				
GEE10-PI	0,821				
GEE11-PI	0,789				
GEE12-PI	0,771				
GEE13-PI	0,737				
Augmented Entrepreneurial Education		0,924	0,926	0,942	0,766
AEE2	0,840				
AEE3	0,888				
AEE4	0,876				

AEE5	0,902				
AEE6	0,869				
Motivation Entrepreneurial Education		0,935	0,936	0,949	0,756
MEE1	0,827				
MEE2	0,880				
MEE3	0,874				
MEE4	0,878				
MEE5	0,865				
MEE6	0,893				
Entrepreneurial Mindset		0,869	0,875	0,899	0,560
EMST1	0,710				
EMST2	0,734				
EMST3	0,700				
EMST4	0,749				
EMST5	0,778				
EMST6	0,792				
EMST7	0,771				
Entrepreneurial Intentions		0,935	0,935	0,950	0,794
ENIT1	0,831				
ENIT2	0,899				
ENIT3	0,927				
ENIT4	0,909				
ENIT5	0,885				

The discriminant validity was assessed with HTMT as it is more robust than the Farnell-Locker Criterion. The results confirmed the discriminant validity with HTMT statistic less than 0.85 (Henseler et al., 2015) (Table 2).

Table 2. Discriminant Validity With HTMT.

	AEE	EMST	ENIT	GEE-PI	GEE-RC	MEE
AEE						
EMST	0,483					
ENIT	0,321	0,639				
GEE-RC	0,348	0,313	0,268			
GEE-PI	0,449	0,479	0,362	0,802		
MEE	0,431	0,410	0,310	0,798	0,846	

Common method variance

The common method variance is possible when the data is obtained from one data source (Podsakoff et al., 2003). The common method variance can induce systematic bias in research by overinflating or deflating correlations, putting at risk the validity of findings

drawn regarding the relationships among constructs (Reio, 2010; Karimi & Meyer, 2019). The analysis of the common method bias involved conducting the full collinearity test on the inner model, focusing on examining the variance inflation factor (VIF) values. According to Kock's (2015) guidelines, common method bias was not observed, as all values recorded were below the threshold of 3.3 (Table 3).

Table 3. Common Method Variance Analysis With VIF Values.

	AEE	GEE-PI	GEE-RC	MEE	EMST	ENIT
AEE					1,207	
GEE-RC	2,128			2,128	2,129	2,495
GEE-PI	2,128	1,000		2,128	2,310	3,198
MEE						3,037
EMST						1,242
ENIT						

Correlation Matrix

Generalized entrepreneurial education-received content (GEE-PI) ($r = 0.346, p < .01$), and generalized entrepreneurial education-perceived impact (GEE-RC) ($r = 0.244, p < .01$), both had a statistically significant correlation with entrepreneurial intentions (ENIT). However, generalized entrepreneurial education perceived impact (GEE-PI) has medium strength, while generalized entrepreneurial education-received content (GEE-RC) has a weak strength. Motivational entrepreneurial education (MEE) has a statistically significant correlation with entrepreneurial intentions ($r = 0.291, p < .01$), and augmented entrepreneurial education also has a statistically significant correlation with entrepreneurial intentions ($r = 0.315, p < .01$). There is also a statistically significant positive correlation between generalized entrepreneurial education-received content (GEE-RC), generalized entrepreneurial education-received content (GEE-PI), Motivational entrepreneurial education (MEE), and augmented entrepreneurial education (AEE) individually with the entrepreneurial mindset (EMST) with medium strength. The correlation results in Table 4

show that an entrepreneurial mindset (EMST) has a statistically significant positive and strong correlation with entrepreneurial intentions (ENIT) ($r = 0.688, p < .01$).

Table 4. Correlation Matrix.

#	Construct	Mean	SD	1	2	3	4	5	6
1	ENIT	4.23	0,90622						
2	EMST	3.99	0,68307	.576**					
3	GEE-RC	3.50	0,90494	.244**	.272**				
4	GEE-PI	3.72	0,80722	.346**	.430**	.723**			
5	AEE	4.05	0,85140	.315**	.426**	.315**	.425**		
6	MEE	3.86	0,84899	.291**	.363**	.737**	.785**	.397**	

**Correlation is significant at the .01 level (2-tailed).

Hypothesis Testing

The explanatory power of the model was analyzed with R^2 which provides the variance explained, with the results showing $R^2 = 0.276$ for EMST and 0.355 for ENIT (Table 5). These R^2 are greater than 0.26 which implies that the model explanatory power is substantial based on the guidelines of Cohen (1988). The model's effect size (f^2) highlights the strength of the relationship between the constructs. The effect sizes were all negligible (0.001 – 0.004) except for the EMST with $f^2 = 0.307$ which indicates that the impact of EMST as a predictor is medium at a structural level (Cohen, 1988). The predictive relevance of the structural model was tested, and the results show that the Q^2 value obtained was 0.263 and 0.135 for EMST and ENIT, respectively. This confirmed that the values are well constructed and that the model has a predictive relevance.

Table 5. Explanatory Power of the Model.

	R^2	Q^2	f^2 EMST	f^2 ENIT
ENIT	.355	.135		
EMST	.276	.263		0,307
AEE			0,108	0,001
GEE-RC			0,006	0,001
GEE-PI			0,047	0,002
MEE			0,003	0,000
Control variables				
Age				0,001
Gender				0,004
Level of education				0,004

The first hypothesis states that mass media entrepreneurial education positively impacts the entrepreneurial mindset (Table 6). The generalized entrepreneurial education-received content has a negative statistically significant impact on mindset (GEE-RC -> EMST; $\beta = -0,102$, $p < .05$). The generalized entrepreneurial education-perceived impact has a positive significant effect on mindset (GEE-PI -> EMST; $\beta = 0,320$, $p < .001$). The augmented entrepreneurial education influence mindset (AGEE -> EMST; $\beta = 0,310$, $p < .001$). Lastly, effect of motivational entrepreneurial education on mindset is not significant (MEE -> EMST, $\beta = 0,078$, $p > .05$). These results partially supported Hypothesis 1 (H1) (*H1a*, *H1b*), but did not support *H1c*. Noteworthy, GEE-PI -> EMST was statistically significant for those who followed business or entrepreneurial education content, while it was not statistically significant for those who sometimes or occasionally followed these programs.

Hypothesis 2 tested the relationship between the impact of mass media entrepreneurial education on entrepreneurial intentions. The results also show that the path, generalized entrepreneurial education-perceived impact on entrepreneurial intentions (GEE-PI -> ENIT), had a statistically significant positive relationship ($\beta = 0,234$, $p < .001$). The paths, general entrepreneurial education-received content does not have a statistically significant relationship with entrepreneurial intentions (GEE-RC -> ENIT; $\beta = -0,013$, $p > .05$). A statistically significant positive relationship was also between augmented entrepreneurial education and entrepreneurial intention, AGEE -> ENIT ($\beta = 0,194$, $p < .001$). Motivational entrepreneurial education has no statistically significant relationship with entrepreneurial intentions (MTEE -> ENIT; $\beta = 0,042$, $p > .05$). These results support some elements of Hypothesis 2. Noticeable in the results is the difference between those who follow business or entrepreneurial education content on the radio and those who sometimes or occasionally follow. The paths for GEE-PI-> ENIT and AEE-> ENIT are all statistically significant for those who follow business or entrepreneurial education content.

Table 6. Path Coefficients of the Relationship Between Mass Media Entrepreneurial Education, Entrepreneurial Mindset, and Intentions.

Effects	Paths	Complete	Follow (Yes)	Follow (Sometimes/occasionally)
Total effect	AEE -> EMST	0,310***	0,326***	0,276***
	AEE -> ENIT	0,194***	0,234***	0,120
	EMST -> ENIT	0,527***	0,487***	0,553***
	GEE-RC -> EMST	-0,102*	-0,136*	0,011
	GEE-RC -> ENIT	-0,013	-0,058	0,105
	GEE-PI -> EMST	0,320***	0,324***	0,264**
	GEE-PI -> ENIT	0,234**	0,303***	0,120
	MEE -> EMST	0,078	0,179*	-0,099
	MEE -> ENIT	0,042	0,069	-0,045
	Age -> ENIT	0,020	0,004	0,035
	Gender -> ENIT	0,107	0,078	0,142
	Education -> ENIT	-0,049	-0,045	-0,049
Direct effect	AEE -> EMST	0,310***	0,326***	0,276***
	AEE-> ENIT	0,030	0,075	-0,032
	EMST -> ENIT	0,527***	0,487***	0,553***
	GEE-RC -> EMST	-0,102*	-0,136*	0,011
	GEE-RC-> ENIT	0,041	0,008	0,098
	GEE-PI -> EMST	0,320***	0,324***	0,264**
	GEE-PI -> ENIT	0,065	0,145	-0,026
	MEE -> EMST	0,078	0,179*	-0,099
	MEE -> ENIT	0,001	-0,018	0,010
	Age -> ENIT	0,020	0,004	0,035
	Gender -> ENIT	0,107	0,078	0,142
	Education -> ENIT	-0,049	-0,045	-0,049
Specific indirect effect	AEE-> EMST -> ENIT	0,164***	0,159***	0,152***
	GEE-RC-> EMST -> ENIT	-0,054*	-0,067*	0,007
	GEE-PI-> EMST -> ENIT	0,169***	0,158***	0,146**
	MEE -> EMST -> ENIT	0,041	0,087*	-0,055

*- $p < .05$ ** - $p < .01$ *** - $p < .001$.

In contrast, these paths are not statistically significant for those who sometimes or occasionally follow.

There is positive and significant support for the third hypothesis that entrepreneurial mindset influences entrepreneurial intentions (EMST -> ENIT; $\beta = 0.527$, $p < 0.001$), thus supporting hypothesis 3. Hypothesis four focuses on the mediation effect

of the entrepreneurial mindset on the relationship between entrepreneurial education and entrepreneurial intention. The complete analysis shows that the specific indirect effects path, GEE-PI -> EMST -> ENIT is statistically significant ($\beta = 0.169, p < .001$) implying a presence of the mediation analysis, where the mindset is a mediator of the relationship between general entrepreneurial education received content and entrepreneurial intention. However, the direct effect, GEE-PI-> ENIT is not statistically significant ($\beta = 0.065, p > .05$). This means there is a full mediation with the specific indirect path statistically significant and the direct path not statistically significant. The path GEE-RC -> EMST -> ENIT is also statistically significant ($\beta = -0,054, p < .05$) while GEE-RC-> ENIT is not statistically significant ($\beta = 0.041, p > .05$) indicating a full mediation. There is also a statistically significant relationship for path, AEE -> EMST -> ENIT ($\beta = 0.164, p < .001$) with path AEE -> ENIT not statistically significant ($\beta = 0.030, p > .05$) indicating a full mediation. The specific direct effect path, MEE -> EMST -> ENIT is not statistically significant ($\beta = 0.041, p > .05$), meaning that the mindset does not mediate the relationship between MEE and ENIT. It can be concluded that the entrepreneurial mindset fully mediates mass media entrepreneurial education (GEE-PI, GEE-RC and AEE) and entrepreneurial intentions while not mediating MEE and ENIT, and these results partially support *H4*. Further analysis focuses on those who follow business education content on the radio and those who sometimes or occasionally follow. Two distinctions are evident; first, for those who follow business education content on the radio, motivational entrepreneurial education has a statistically significant direct effect on the MEE -> EMST -> ENIT ($\beta = 0,087, p < .05$), while for those who follow sometime or occasionally are not statistically significant. Second, unlike those who follow the radio content where the path GEE-RC -> EMST -> ENIT is statistically significant, the path for those who sometimes or occasionally listen, the EMST has no mediation role.

Discussion

The study aimed to examine the impact of mass media entrepreneurial education on entrepreneurial intentions through mindset. The first hypothesis shows that the four sub-dimensions of mass media entrepreneurial education had a statistically significant positive correlation with the entrepreneurial mindset. When considered collectively within the model, generalized entrepreneurial education–perceived impact (GEE-PI), generalized entrepreneurial education–received content (GEE-RC), and augmented entrepreneurial education (AEE) were statistically significant. In contrast, motivational entrepreneurial education (MEE) was not statistically significant. The significant results were congruent with the literature, which found that mass media entrepreneurial education produces positive attitudes toward entrepreneurship, enhancing an adaptive mental disposition (Hägg & Gabrielsson, 2020; Nguyen et al., 2019). In alignment with Ahmed et al. (2020), entrepreneurial education is a prelude to forming an entrepreneurial mindset that fosters goals for new venture creation or any entrepreneurial career path.

In this study, augmented mass media entrepreneurial education has a substantial influence and seems critical to influence the mindset. Like other scholars, Laguía and Moriano (2021) found a link between people watching entertaining television shows like *Dragon's Den*, a competition for entrepreneurs, and their ability to learn about entrepreneurship from the show. Noticeably, the lack of a statistically significant relationship between motivational entrepreneurial education (MEE) might allude to the weakness of this form of entrepreneurial education currently on the mass media or its inability to influence the mindset. This surprising finding contradicts Qureshi and Mian's (2021) argument that education is meant to inspire people to choose entrepreneurship as a career path. Also, not in line with Suárez et al. (2021), who said that when people listen to this kind of entrepreneurial education in the media often, they gain the confidence to follow their business dreams. These findings suggest that contextual factors influence the general

motivation of potential entrepreneurs. Therefore, there is a need to understand those contextual factors and develop the motivational aspect of mass media entrepreneurial education.

The last element is that generic mass media entrepreneurial education received content significantly negatively impacts the entrepreneurial mindset. The findings demonstrate that the structure and generic details of program monitoring and evaluation do not influence the entrepreneurial mindset. Instead, the content should be focused on entrepreneurial activities associated with starting and running the business. The mediation findings expand the entrepreneurship-specific and generic discussion in detail.

The second hypothesis examined whether mass media entrepreneurial education had a favorable influence on entrepreneurial intentions. The correlation results revealed that all four sub-dimensions of entrepreneurial education had a statistically significant positive correlation with entrepreneurial intention. Although that is the situation, the structural model, which considers all the dimension of entrepreneurial education at the same time, shows that generalized entrepreneurial education–perceived impact (GEE-PI) and augmented entrepreneurial education (AEE) were statistically significant. Meanwhile, generalized entrepreneurial education–received content (GEE-RC) and motivational entrepreneurial education (MEE) were not statistically significant. The significant findings confirm the various research undertaken in numerous continents and nations that discovered that entrepreneurial education fosters in pupils a positive attitude toward enterprise and small business creation (Bilic et al., 2011; Lee et al., 2005; Nyadu-Addo & Mensah, 2018). Also, the positive findings add to TBP the notion that education is an antecedent of intention.

The non-significant findings on motivation and intentions suggest that the content does not provide enough motivation to start a business. As such, the content should aim to encourage aspiring entrepreneurs. The received content generalized education had a

negative relationship with intentions. This may suggest that the received content on the radio does not adequately prepare individuals to start businesses. For mass-media entrepreneurial content to work, it should be aligned with the activities required to start a business.

The third hypothesis investigated whether the entrepreneurial mindset has a positive impact on entrepreneurial intentions. The study's results showed a strong statistically significant correlation between entrepreneurial mindset and entrepreneurial intentions, which was confirmed with the structural model. In this context, the hypothesis of this study that an entrepreneurial attitude has a beneficial influence on entrepreneurial inclinations is aligned with the multiple studies that have shown that having an entrepreneurial mindset and wanting to start a business go hand in hand (Campos et al., 2017; Kouakou et al., 2019; Ndou et al., 2018; Robinson & Gough, 2020).

The last hypothesis tested whether the entrepreneurial mindset mediated the relationship between mass media entrepreneurial education and entrepreneurial intentions. The results of the research show that there is a statistically significant relationship in the path of generalized entrepreneurial education – perceive impact -> entrepreneurial mindset -> entrepreneurial intentions (GEE-PI -> EMST -> ENIT). Also, there was a statistically significant positive relationship in the path augmented entrepreneurial education -> entrepreneurial mindset -> entrepreneurial intentions (AEE -> EMST > ENIT). These results are aligned with the existing literature that education is an effective means of encouraging the growth of an entrepreneurial mindset (Ahmed et al., 2020), and it has also been found to assist in the formation of entrepreneurial goals (Anjum et al., 2018; St Quinton et al., 2021). Therefore, these findings confirm that an individual can learn to think like an entrepreneur through training through mass media entrepreneurial education (Hagg & Gabrielsson, 2020) to formulate new ideas (Krisnaresanti et al., 2020). The study also

adds the notion that entrepreneurial education that is impactful and task-specific contributes significantly to mindset and intention.

There is a statistically significant negative relationship in the path, generalized entrepreneurial education–received content -> entrepreneurial mindset ->entrepreneurial intentions (GEE-RC -> EMST -> ENIT). While the existing studies have found a positive mediation between mindset, general entrepreneurial education, and intention (Cui & Bell, 2022; Qureshi & Mian, 2021), the current study found contradictory findings. There are explanations for the results. The results suggest that generic and poorly-curated content can result in negative mindsets and intentions. Another explanation is that the content will not be presented for class purposes but will be made more commercial. This generic and non-specific mass media education has unintended consequences. The entrepreneurship literature argues that content specific to entrepreneurial activities has much more impact (Unger et al., 2011). Lastly, some of the scale items could be much more specific to focus on the kind of content offered rather than the structure of the programs and how they are monitored.

Another surprising finding (MEE -> EMST -> ENIT) is that mindset did not mediate the motivation for mass media entrepreneurial education. This is because there was no relationship between motivational entrepreneurial education and mindset and mindset and entrepreneurial intentions. A possible explanation could be that the research was conducted in an environment where individuals are already demotivated due to macroeconomic conditions. Further, the advent of covid-19 and infrastructural challenges resulting in the closure of struggling small businesses may negatively impact aspiring entrepreneurs' self-confidence. Since radio also conveys such negative news, entrepreneurial education could have unintended consequences. While the spillover effects of the macro-economic environments are acknowledged, the content of the mass media entrepreneurial education

could focus more on being impactful and building self-confidence for successful business venturing.

When the groups were compared, the results showed that those who listened to entrepreneurship programs had better outcomes, thus, entrepreneurial mindset and intentions. These findings suggest that practitioners could use mass media to educate the community about entrepreneurship.

Conclusion

The study explored how mass media entrepreneurial education influences entrepreneurial intentions through mindset. The study's main contribution is adding an entrepreneurial mindset to the relationship between entrepreneurial education and intention. For entrepreneurial education to effectively influence intentions, it should ignite the entrepreneurial mindset. Our study adds to the continuing debates that the role of entrepreneurial education on entrepreneurial outcomes is contingent on other contextual factors. Further, the study demonstrated how the various elements of entrepreneurial education influence intentions and the mediating role of entrepreneurial mindset on those sub-dimensions. For example, the findings show that some aspects of the mass-media entrepreneurial education perceived impact and augmented mass-media entrepreneurial education result in intentions when mediated by an entrepreneurial mindset. These findings suggest that different types of entrepreneurial education will have different outcomes. Therefore, research should not treat entrepreneurial education as a one-dimensional construct but as a multi-dimensional construct with multiple roles. Lastly, the study adds to entrepreneurial education the notion that non-conventional or classroom methods could be used to teach entrepreneurship. We discuss the implications of entrepreneurship education in the next section.

Implications for Management Practice

There are several implications for entrepreneurial education. First, the study found that radio is a non-conventional platform for training institutions to present entrepreneurial education to the communities. These findings suggest that entrepreneurial education trainers could collaborate with local mass media companies to disseminate entrepreneurial education to the local communities. The study indicates that entrepreneurial education results in intention when it focuses on activities such as opportunity identity, exploitation, and setting up a business venture. Also, the participants do not only learn from the presenters but also from other listeners who have practical experience. Therefore, educators should make the content more practical, building on other entrepreneurs' real entrepreneurial experiences. The study showed the role of entrepreneurial mindset in enhancing entrepreneurial intentions. Therefore, educators should ensure that part of the content they prescribe should also build an entrepreneurial mindset of the potential entrepreneurs. Lastly, the results showed that the different types of entrepreneurial education achieve different outcomes. Educators should ensure that the content is aligned with the intended outcomes. The results showed that those who frequently listened to entrepreneurship programs had better outcomes than those who did occasionally. These training institutions should continue sharing entrepreneurial education as it empowers the communities.

Radio can serve as a channel that interconnects knowledge transfer across institutions of higher learning, the public, business, and government. Positioning itself within the ambits of knowledge transfer and adhering to factors that influence the successful transfer of knowledge, radio would re-invent itself for sustained competitiveness in a dynamic media environment. It will further be setting up quality control frameworks focusing on elements such as mass media entrepreneurial education, the quality of the program, and evaluation processes to assess the most creative attention-

holding approaches for different kinds of listeners. This must also consider the contextual factors that may influence the effectiveness of the channel. The immediacy of radio presents the advantage of curriculum evolutions and sharing that can move at the speed of change, reaching masses with relevant entrepreneurial education.

Government can focus and allocate a budget towards developing mass media entrepreneurial education content for radio, television, and news in collaboration with stakeholders such as industry stakeholders, academic scholars, research institutions, and sectors with the highest demand for skills development. Developing a mass media format compatible entrepreneurial education curriculum framework will expedite the government's mandate to enhance entrepreneurial activity in the country.

Limitations

The use of English questionnaires may have presented a limitation as the dominant radio listeners in South Africa are African language station audiences. Additionally, collecting data online may also have been a limitation, as South Africa still has a disproportionate bandwidth distribution and access to technology. Although mass media entrepreneurial education, entrepreneurial mindset, and entrepreneurial intentions are the three variables the study has focused on, other factors contribute to the intention to start a business that was not fully explored in this study. Additionally, the limitation of this study is also found in using the quantitative method exclusively, where the use of a mixed method and a longitudinal model may provide a deeper understanding of the impact of mass media intrapreneurial education on intrapreneurial preparation and enhancement of entrepreneurial activity within the country. We observed terminology challenges when conducting the literature review. For example, business and entrepreneurship and entrepreneurial and entrepreneurship education could be used interchangeably. Therefore, future research should ensure that the key constructs are well-defined. Since there are

scarce lists of radio listeners, the study's limitation is that the survey was administered on social media platforms. As a result, the participants self-selected themselves to participate in the study. Although the invitation to participate in the study focused on those without businesses and were intending to start, we should have included a screening question to validate their responses. Future research should include the screening item to ensure that those participating in the study do not have businesses.

Suggestions for future studies

Future studies should explore other mediating variables in the relationship between entrepreneurial education and intentions. Also, include some contextual factors that could serve as moderators of such a relationship. Since various forms of entrepreneurial education influence intentions differently, there is a need to conduct qualitative interviews with the entrepreneurial education presenters to understand how they design and deliver the content. Similarly, there could be interviews with the listeners to explore their experience of mass media entrepreneurial education. There is an opportunity to conduct mass media entrepreneurial education experimental design studies to determine the entrepreneurial intentions before and after the programs. Such studies could use various groups to understand how socio-demographic factors such as informal institutions, culture and language influence the relationship between mass media entrepreneurial education and intentions. The study focuses on the self-selected sample; therefore, future research could use databases of the community members to ensure that everyone has an equal chance of participating. While the survey questionnaire's measurement items of this study were on entrepreneurial education, the entrance question was either business or entrepreneurship. Therefore, future research should have measures that separate business and entrepreneurship.

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