





High school learners' perceptions of careers in the built environment sector



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Background: The purpose of this study was to examine the perceptions of learners on careers in the built environment. The industry is confronted with a critical shortage of skilled workers, which significantly hampers its growth and labour productivity. This workforce scarcity mainly stems from a lack of effective strategies for recruiting and retaining learners in construction programmes.

Objectives: The objective of this study was to examine the perceptions of learners on careers in the built environment.

Method: This study examined the perceptions of 43 previously disadvantaged black high school learners, regarding careers in the built environment sector. Using the planned behaviour theory, qualitative questionnaires investigating learners' perceptions of careers in the built environment were used to collect data. The data were thematically analysed using the Braun and Clarke's six phases of analysis.

Results: The findings indicate that a learner's attitude towards a career influences their decision in selecting it or not. The career perceptions of the community and significant others affect the career choice of a learner.

Conclusion: The built industry must ensure that it attracts new career entrants; there is thus, a need for the built environment to conduct career talks and disseminate information about the different careers in the industry. Adequate career information allows learner to choose careers confidently.

Contribution: This study contributes towards assisting the built environment sector in creating an attractive value proposition for learners to join the sector. It will also assist the sector to know which kind of information they need to disseminate to attract learners in choosing careers.

Keywords: learners; planned behaviour; built environment; career choice; construction industry.

Introduction

The construction industry is globally seen as one of the major contributors to the economic development of a nation. The industry is widely considered to be the world's largest industrial employer of labour, with an estimate of around 7.7% of global employment before the coronavirus disease 2019 (COVID-19) pandemic (International Labour Organization [ILO], 2021). Construction careers have yet to become a preferred choice among learners. As a key player in the South African economy, the construction industry should be a viable career choice for the next generation. The Engineering Council of South Africa (2021) reported that in 2020, out of 15 501 learners that were eligible to study engineering, 80% of them decided not to enrol for the qualification. This indicates that even though learners qualify for professions in the built environment, they do not prefer the careers on offer in the industry. The occupations that are in high demand in the South African engineering sector include that of production manager, civil, industrial, and engineering manager (Rasool, 2021). Aghimien et al. (2019) state that young graduates are not showing any interest in pursuing careers in the built environment, and this has caused a skills shortage in the industry.

The ability to achieve the objective of economic growth and eradicate poverty in South Africa is hindered by the shortage of engineers in the industry (Akinradewo et al., 2022). The construction industry plays a pivotal role in the South African economy, contributing an income of R436.7 billion in 2020, which is a 2.4% decrease from the year 2017 (Statistics South Africa, 2020). Statistics

South Africa (2020) also reported that from 2017 to 2020, employment in the built environment decreased by 7.2%. Furthermore, these decreases in jobs were reported in the construction of civil engineering structures (89010 jobs), construction of buildings (17972 jobs), construction by specialist trade contractors (10480 jobs) and other building installations (8505 jobs). One crucial aspect is that there is a serious lack of young persons who enter the industry for their career (Hugo et al., 2018; Ochiba et al., 2022). The built environment is suffering from upskilling staff, skills retention, skills transfer from older, experienced employees to younger employees (Mashego, 2021; Shikweni et al., 2019). According to Statistics South Africa (2023), the gross earnings in the construction sector decreased by 2.7% in March 2023 as compared to the previous year, resulting in the sector being ranked 5th in terms of pay.

One of the other major issues facing the construction industry lies in the lack of skilled workers, which has digressed over time (Haupt & Harinarain, 2016; Ostadalimakhmalbaf et al., 2021; Windapo, 2016). Research shows that the South African education system does not produce the required graduates with the desired demographics to implement employment equity; moreover, the sector and the country are experiencing a loss of critical developmental skills (Akinradewo et al., 2022; SAFCEC, 2019). According to Yokwana et al. (2016) and Haupt and Madikizela (2009), white men still being in top management positions make the built environment unattractive to women and black people as a meaningful career. Dithebe et al. (2022) report that the skilled labour force in the construction sector of South Africa is in shortage. Fika et al. (2021) attribute the shortage of skills in the construction industry to inadequate and inappropriate (soft) skills among young graduates. There have been several studies that have tried to understand why the built environment is not able to attract skilled workers. Other studies have explored the reasons why the built environment has had a shortage in skilled labour (Akomah et al., 2020; Brucker Juricic et al., 2021; Ceric & Ivic, 2020; Kim et al., 2020; Mohd Fateh et al., 2022). Yet, there have been limited studies in exploring the perceptions of learners on careers in the built environment.

There is an imminent need to understand the career perceptions of the next generation, especially those from previously disadvantaged backgrounds. The remnants of apartheid school policies have had adverse effects on the ability of career guidance to help learners successfully transition from school to work or further education and select careers (Jonck & Swanepoel, 2019; Mahlangu, 2011). In addition, Makola et al. (2021) state that the underresourcing of black public schools in South Africa affects the school's ability to offer effective career guidance to learners. With the state of public education in South Africa mainly affecting black learners, those enrolled do not have access to the information that will grant them the opportunities to select suitable careers. Therefore, this study sought to answer the following research question, 'What are the views of high school students from previously disadvantaged backgrounds

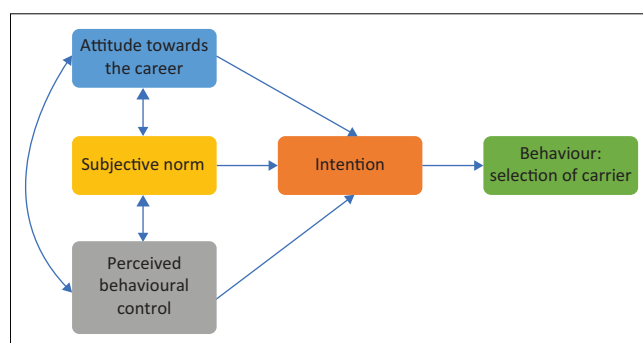
regarding careers in the built environment following their attendance at a career talk?'

Ajzen's (1991) theory of planned behaviour was used as a theoretical framework in understanding the intentions of learners regarding careers in the built environment. Planned behaviour is a model that has been widely used in psychology; it is concerned about the intended behaviours of individuals (Ajzen & Fishbein, 1980). The theory of planned behaviour has been used to predict the decisions that have important implications such as career decisions (Gorgievski et al., 2018). Ajzen (1991) suggests that a person's planned behaviour could be precisely predicted using three primary assumptions of attitude, subjective norm, and perceived behavioural control. The theory of planned behaviour has been used to understand and predict the complex behaviour of individuals. Mothibi and Malebana (2019) mention that a person's behaviour or intentions are determined by their own evaluation of personal belief, perceived social pressure, and capability to perform said action. With the need to understand learners' perceptions of careers in the built environment, a qualitative research design was employed. Using a qualitative questionnaire, data were collected from Grade 10–12 learners from previously disadvantaged schools.

It is believed that the study will make two major contributions. Firstly, in understanding the perceptions of previously disadvantaged learners on careers in the built environment. Secondly, aiding the built environment sector in constructing career guidance programmes that will attract learners. The next section of the article reviews the literature on the theory of planned behaviour. This is followed by the goals and methodology of the research. The findings and discussions are then presented.

Theory of planned behaviour

The theory of planned behaviour (Figure 1) looks at the intent of a premeditated action at a specific time and in a specific place (Bosnjak et al., 2020; Miller & Howell, 2005; Neneh, 2017). According to Ajzen (1991), intentions are motivated



Source: Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

FIGURE 1: Theory of planned behaviour.

actions to be exerted by an individual to achieve a particular behaviour. However, this planned behaviour will only be carried out if the person has a positive attitude towards the act, combined with positive perception from significant others and control of the intended action. Hariko and Anggriana (2019) mention that when making career decisions, a person will need to know and understand themselves, appropriate career information, and career goals. With regard to planned behaviour, there are three primary assumptions, namely, attitude, subjective norm, and perceived behavioural control (Lungisa et al., 2019). Using these primary assumptions of planned behaviour, one could accurately predict a person's intentions (Ajzen, 1991). These primary assumptions are discussed below.

Attitude

Sorsdahl et al. (2013) state that attitude is what the individual thinks about performing a specific behaviour – their belief can be positive or negative. If the attitude towards an act is positive, it is likely that it will be actioned out. Attitudes are derived from a set of beliefs, evaluations of outcomes, and consequences pertaining to a particular behaviour (Sanne & Wiese, 2018). Access to information allows individuals to form attitudes, skills and knowledge towards their careers and the world of work (Hariko & Anggriana, 2019). According to Cunningham and Kwon (2003), the attitude towards performing a task will be positive if that activity will yield the desired outcomes, while unfavourable results will contribute towards a negative attitude. Therefore, a positive attitude would constitute that a particular behaviour will result in a beneficial and enjoyable outcome (Hamilton and Terblanche, 2018; Neneh, 2017). For the purpose of this study, the learner's perspective or attitude towards the built environment is explored.

Subjective norm

The subjective norm principle looks at the perceptions that significant others, friends, and the community of the individual hold about a behaviour (Lungisa et al., 2019; Mfazi & Elliott, 2022). This means that people will easily partake in an act that is positively perceived by significant others and the community. There is a possibility of social pressure from family and friends that might influence a particular action of planned behaviour (Neneh, 2017). According to Hariko and Anggriana (2019), family and peers form an integral part of the support structure of an individual – this relationship can be a driver of or a barrier to one's career choice. Individuals could take part in behaviour that does not necessarily benefit them, but the action might put them in good standing with people close to them. Learners tend to compromise career choices in order to remain consistent with family wishes and preferences (Ma et al., 2014). Akinradewo et al. (2022) highlight that providing parents with career opportunities and industry information in Science, Technology, Engineering and Mathematics (STEM) will help combat the skills shortage in the built industry. If more information

about a career is known to significant others and the community, they could influence perceptions about the career in question. The more accepted a behaviour is, the more likely it is to be carried out. In the case of this study, learners might choose a career in the built environment because their significant others and community might perceive this decision as a good one.

Perceived behavioural control

Several factors such as skills, time, money, cooperation from others and opportunities affect planned behaviour (Ajzen, 1991). According to Mfazi and Elliott (2022), perceived behavioural control refers to believing in one's ability to use available resources when executing an activity. Tsui et al. (2019) state that people's choices are influenced by their environment, significant others and the prevalence of barriers or support factors. Individuals want to do things that are within their own will, where they are in control; planned behaviour is about being able to control actions that follow intent.

The level of success highly influences planned behaviour: the more likely for the objective to be achieved, the more willing the individual is to carry out the action. Hamilton and Terblanche (2018) mention that despite an individual having a positive attitude and positive subjective norm, it can still be difficult to perform the set behaviour. In a study, Gweshe and Brodie (2019) found that learners with a fragile identity towards their own ability in mathematics did not aspire to careers that required the subject. According to Nephawe (2018), career choices require learners to know their interests, talents, weaknesses, strengths and abilities. When individuals realise that they have the resources, skills, time and money to achieve an objective from a planned behaviour, they will go ahead with the action.

In the current study, the theory of planned behaviour was used to explain the learners' attitudes, their intentions and their perceived behaviours relating to the built environment careers. It is assumed that if significant others and the community at large view building-related vocational skills as valuable and positive, learners would be encouraged to embrace built-related subjects as a career of choice during their studies at Technical, Vocational Education and Training (TVET) and at higher education institutions. Indeed, the same is true of the many in the unskilled labour force who have joined the construction industry because of various personal circumstances. What is key, is the highlighting of the significance of this industry in all its forms. The built environment industry is a huge sector and it is one of the largest industries that contributes to the economic development of the country. Within the built environment, there are crane operators, ironworkers, plumbers, painters and brick layers. These careers may not necessarily need learners to pursue tertiary studies at higher education institutions. Learners can also choose to go into the built environment immediately after high school because of significant others encouraging them into the world of work, as a result of a majority of the people in the community doing it.

Aim of the study

The aims of the study were firstly, to understanding the views of previously disadvantaged learners on careers in the built environment. Secondly, to aid the built environment sector in constructing career guidance programmes that will attract learners.

Research methods and design

A qualitative research approach which adopted a case study design was used in this study to understand high school learners' perceptions of careers in the built environment sector. When using a qualitative approach, researchers are able to describe in detail the feelings, opinions and experiences of participants, and explain the meanings behind their actions (Saunders & Lewis, 2018). According to McGuirk and O'Neill (2016), qualitative research should be used when seeking to understand the experiences people have through multiple interpretations, multiple frames of references at certain events and places.

The main assumption of the study is that learners from previously disadvantaged schools have limited knowledge and understanding of careers in the built environment. Because of competing teaching responsibilities, time constraints and limited curriculum, life orientation teachers at previously disadvantaged schools are not able to fully contribute to the career development of learners (Albien & Naidoo, 2017). These constraints experienced by previously disadvantaged schools, therefore, impact the interest and willingness of learners in choosing careers in the built environment. In this study, learners attended career talks about the built environment, which influenced them to also view jobs in this field as viable career options.

Case study designs imply selecting a limited number of study subjects or a small geographical area (Yin, 1994). According to Crowe et al. (2011), case studies are useful when employed to get an in-depth understanding of an issue, phenomenon or event. The focus of this study was on the experiences of learners attending a built environment career talk and how it had influenced their perceptions of careers in the sector. The qualitative questionnaire used in this study was developed to examine the opinions and views of learners about careers after they had attended a career talk focussing on built environment careers. Questionnaires are used to collect data on people's awareness of events, opinions, attitudes, social interactions, behaviour and experiences (McGuirk & O'Neill, 2016). The questionnaire used in this study contained the following questions:

- What did you like about the careers presented today?
- What did you not like about the careers presented today?
- What would make you choose in the built environment sector over other careers?

Participants and setting

The 43 participants selected for this study included Grade 10–12 learners who were attending the annual Department of Public Works and Infrastructure (DPWI) winter school programme. Figure 2 and Figure 3 indicate the gender and grade distribution of the participants which were made up of 23 females and 20 males. The winter school programme aims to empower top-performing Grade 10–12 maths and science learners from previously disadvantaged public high schools that are adopted by the DPWI. The aim of the DPWI programme is for the learners to take up built environment studies in higher education institutions and ultimately be absorbed into the department. While at the school camp, the participants attended career guidance presentations on careers in the built environment.

The career presentations were delivered by alumni of the DPWI programme who are now employed by the DPWI. The alumni also went through the winter school, finished their basic schooling, and were afforded bursaries to study in higher education institutions and pursue careers in the built environment. The talks presented by the alumni did not only cover the careers but also included the life stories of how and where they grew up to motivate the learners. Diale (2022), Funk and Parker (2018), and Matshabane (2016) emphasise the importance of black role models in encouraging learners in related careers. Table 1 indicates the career fields which the speakers represented, as well as the race and gender of each speaker.

Because of the researchers' involvement in the Community Engagement Asset Mapping: Breaking the Cycle of Poverty

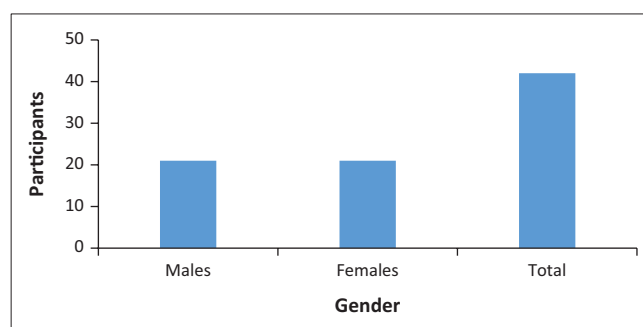


FIGURE 2: Gender distribution of participants.

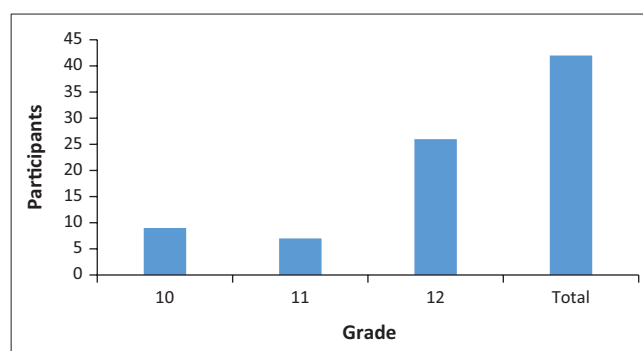


FIGURE 3: Grade distribution of participants.

the research site was conveniently sampled. According to Etikan et al. (2016), convenient sampling refers to a target population that was not randomly selected; participants meet in geographical proximity and availability requirements, and they have the willingness to participate in the study.

Data collection and analysis

In this study, data were collected from 43 conveniently sampled high school learners using a qualitative questionnaire. Before the participants filled out the qualitative questionnaire, there was an info session, where the researchers explained the purpose of the study and ethical considerations the learners had when it came to the study. The participants were given about 30 min to fill out the qualitative questionnaire after the built environment career talks. Table 2 shows the activities followed to collect the data in the study. The learners were recruited, where they volunteered and consented to take part in the study. Once all the students were gathered, the purpose of the study was communicated, and the ethical rules were explained. The researchers attended the built environment career talks, where students could ask the presenters questions. After the career talks, the researchers gave the learners 30 min to answer three open-ended questions in the qualitative questionnaire. When the learners needed clarity on some of the questions, the researchers were there to offer guidance.

The collected data were then thematically analysed using Braun and Clarke's (2006) six phases of analysis. According to Scharp and Sanders (2019), thematic analysis is the process of identifying salient aspects within large data sets, and reporting on the patterns found. The three open-ended questions that were answered were used as the data analysis framework.

The first step of the six phases of analysis was skipped because there was no need for transcription of the participants' responses. Firstly, the analysis started with researcher 1

TABLE 1: Demographics of speakers from different built environment careers.

Career	Presenter	Race
Civil Engineering	Male	Black person
Mechanical Engineering	Male	Black person
Quantity Surveying	Male	Black person
Architecture	Male	Black person
Construction Project Management	Female	Black person
Landscape Architecture	Male	Black person
Horticulture	Female	Black person
Town Planning	Male	Black person
Property Valuation	Female	Black person
Real Estate	Female	Black person

TABLE 2: Data collection activities.

Data collection sequence	Activity
Step 1	Recruitment, information session and handing out of printed qualitative questionnaire
Step 2	Participants attend built environment career talks
Step 3	Participants filled out the qualitative questionnaire
Step 4	Collection of filled out qualitative questionnaires from participants

reading and re-reading the participants' responses to determine items of interest. Secondly, the coding process was followed to identify latent and obvious content. Thirdly, codes were examined to determine if any trends emerged. Fourthly, the themes were chosen and assessed in line with the aim of the study in mind. Lastly, the emerging themes were named. Researcher 1 sent the analysis to the other researchers of the study to provide an external check on the analysis process and the resulting themes. This was to ensure dependability of findings.

Ethical considerations

Ethical clearance to conduct the study was granted by the University of South Africa, College of Education (clearance number: 2017/02/15/90179617/04/MC). The volunteers were asked to complete a paper-based questionnaire at the end of the built environment career talks. A questions-and-answers session was held, during which the researchers explained the research ethics, the reasons for completing the questionnaires, the participants' rights, and anonymity. Each of the participant provided their own consent to participate in the study; this was in addition to the parental consent that was also received.

Findings

A total of five themes were derived from the data. To ensure the trustworthiness, the responses are presented with no editing or correcting of grammar and spelling. Each of the themes are discussed in detail below.

Careers as acts of service

Some of the participants saw careers in the built environment as an opportunity to improve the world around them and to make a difference:

'For me to be able to make a change this is the perfect opportunity. Changing the built environment ensures the change we need as South Africans. Changing an environment and make it a better one you increase the drive in people who have lost hope to live and be better person you increase the hope you now live in a better world and want to make a change for future generations.' (Grade 12, Female, 17 years old)

'In own place where grew up in, I want to change people's place cause they don't look happy at all, so that why I've chose architecture cause I believe in change.' (Grade 12, Male, 17 years old)

'It is that they offer society with a wide range of improvement and create opportunities to develop the country or world in construction and infrastructure.' (Grade 11, Male, 16 years old)

This finding supports the notion that the learners have a positive attitude towards a career in the built environment, and that their decision might be influenced by their significant others, their community and their environment. Subjective norm is largely influenced by the perception of significant others or the learners' surrounding communities. The positive or negative perception of an act by a community or loved ones would influence behaviour. Furthermore, the

perception of the community or loved ones has a significant influence on the intent of behaviour. The participants in this study indicated that a career in the built environment would not only fulfil them but also benefit their community and their loved ones. The support from loved ones and the community encourages the participant in selecting a career in the built environment.

Better understanding of the built environment careers

Some of the participants expressed that the career talks helped them to get a better understanding of the careers that were available in the built environment, giving them a better vantage point in choosing their career. The participants mentioned the following:

'The career that I found interesting today was the one of Q.S [quantity surveyor] because the presenter outlined it very clearly and it gave me a better understanding of what a Q.S really is and what they do. The career presented today gave me an eye opener on which and what I would like to do after matric. What I really like the most is the fact that I was actually inspired.' (Grade 11, Male, 16 year old)

'I got to gather and learn more things that I earlier did not know. What I really liked the most was that the career that I've always and wanted to follow was wonderfully introduced and everything about it was made specific and I even got to know the reequipment that I am supposed to have in order for me to apply and be accepted.' (Grade 12, Female, 18 years old)

'The presentations today had been an enlighten one. Loading incredible ideas and thoughts that may help one to understand any subject or object in the world. Energetic and profound speakers that shook my thinking region of public works. Because of these presentations I now know what profession should I go after. Careers presented everything that I mentioned above and explain the reason for this promptness of the speakers. These careers do not require much but a definite goal.' (Grade 12, Male, 20 years old)

A lack of information can become a possible barrier in choosing a career. The findings in this study are similar to those of Makola et al. (2021) and Ngoepe et al. (2017), where career talks had expanded the learners' knowledge and had helped them in selecting or affirming their careers. The more knowledge learners have on a particular career, the more they are self-reliant in making career choices. Having more information on a career gives learners a sense of behavioural control, giving them confidence and removing barriers that might influence decisions. Furthermore, having more information on a career increases confidence, affecting the attitude towards that career.

Realising personal traits for careers

Many participants indicated that through the career talks they could deduce that their own, personal traits were suitable for the career they aspire to choose in the built environment:

'We will forever build and the built environment sector is a very broad sector. It is forever improving. I am a very hands-on person so I feel like this is where I belong.' (Grade 12, Male, 17 years old)

'Being specific I chose quantity surveying profession it suits my characters very well. I usually do civil engineering at my school and I want to go further with it. I also got to know that my character really match with this career, I like working with numbers, I also like working with money. Those are the reasons why I choose the career in the built environment.' (Grade 12, Female, 18 years old)

The planned behaviour theory looked at the influence of perceived behavioural control on deciding on intent. This finding indicates that learners will likely choose a career in the built environment as some aspects of their personal traits will be within their control to be able to have a successful career in the built environment.

Built environment jobs are jobs of the future

Some of the participants expressed that careers in the built environment are jobs of the future, citing that these jobs in the built environment will always be needed, resulting in greater job security:

'There are many job opportunities and the careers presented can never get out of value because life is all about buildings without them there won't be life. They also let youngsters to enrich this world of ours with beautiful buildings, applying their minds.' (Grade 12, Female, 18 years old)

'According to what I see or the perspective that I see this all from, choosing a career in the built environment sector would be me securing my future for life. I mean a person working in the built environment sector, you'll have a job because people will always need houses, roads and safe water pipes and all of that comes from the built environment sector.' (Grade 12, Female, 17 years old)

These findings indicate that learners have a positive attitude towards careers that offer better job security. Careers with better job security, positively influence the perception of learners, resulting in a positive attitude in selecting the said career. The findings above indicate that built environment has several careers that are considered as jobs of the future and that offer stability.

Gaps in the career talks

Not all impressions of the career talks were positive, as some of the participants were not happy with certain aspects of the presentations. This can influence the attitude towards a career in the built environment. Participants said the following:

'The people presenting these careers were over doing it, I felt forced to do these careers. The careers that were presented today were mostly about money and I don't like the concept of being in the built environment for money, I want to be in it for change and not money.' (Grade 12, Female, 17 years old)

'They are complicated need one that knows their dream knowing that I still do not know mine, so it was hard to choose. Only told

us the good things about the careers other than difficulties and mistakes people make. So that we do not do the same mistake.' (Grade 10, Female, 15 years old)

This finding indicates that the career talks should not only focus on the positive aspects or on how much money a person can make; the presentations should also highlight the challenges that come with the job. The not-so-positive attributes of careers need to be shared so that learners fully understand the type of career that they are choosing. The findings also show that the way the career is presented could negatively influence the attitude of the learners towards built environment. As mentioned in the literature above, a negative attitude towards an action will mostly result in non-participation in the said behaviour.

Discussions

Influence of exposure to careers in the built environment

The purpose of this study was to understand the views of previously disadvantaged learners on careers in the built environment. Career choices made by high school learners who are interested in the built environment are influenced by their attitudes towards the industry or career, subjective norms of significant others, and perceived behavioural control they have in performing tasks in the career. Exposing learners to careers in the built environment can significantly influence their decisions in choosing careers in the industry. The exposure enables the learner to make a calculated decision when it comes to careers in the built environment. It is important for learners to attend career exhibitions so that they know that the built environment encompasses more than building houses and schools (Chileshe & Haupt, 2007; Cruz & Kellam, 2018). Yoel and Dori (2022) found that exposing learners to STEM programmes in high school leads to STEM careers being chosen later in life – especially for those who were not intending on choosing STEM careers. In their study, Minooei et al. (2017) found a relationship between intention and confidence in the participants who had more information on the built environment. Having more information on a career gives learners a sense of behavioural control, giving them confidence and removing barriers that might influence decisions.

The impact of career talks on perceived behavioural control

The informative built environment career talks gave the learners an opportunity to analyse their own perceived behavioural control in the built environment. The career talks informed the participants about the traits required for careers in the built environment. This gave the learners an opportunity to determine if their own personal traits aligned with the requirements for performing some of the tasks in the built environment. The findings support those of Anssi et al. (2017) and Arif et al. (2019) who found that learners perceived personal attributes, especially self-efficiency to be an integral part of selecting their career. Mohtar et al. (2019) found that self-belief and the ability to

perform required activities affect the career interests of learners. The career talks gave the learners the self-belief, self-efficiency and confidence to select careers in the built environment as they now know whether they have the abilities to perform the required tasks. In their study, Jonck et al. (2019) found that learners experienced a high level of anxiety in selecting a career if they did not have sufficient self-knowledge to make the correct decisions.

Positive attitudes towards careers in the built environment

Most of the participants reflected a positive attitude towards the built environment, as they saw that choosing a career in the industry offers better job security and that the career will help make South Africa a better place. This indicates that the learners regard careers in the built environment as opportunities to create a better world. Most of the learners in this study come from poor backgrounds where the infrastructure such as roads and bridges are dilapidated or lacking (Mathye et al., 2022; Tshuma, 2022). In a study by Kant et al. (2018), they found that their American Indian or Alaska Natives participants who predominantly come from poor backgrounds wanted to study in science, technology, and engineering fields as those careers would allow them to make a difference in their community. The influence of the environment and the community around the participants was evident, as it was perceived that careers in the built environment would allow them to improve the lives of others and make the world a better place. This indicated that if the learners selected a career in the built environment and used their skills to improve their surroundings, the community and significant others around them would perceive this behaviour as positive. Thus, for a sense of belonging to prevail, learners would want to steer themselves to what the community desires, not to disappoint those close to them.

Factors influencing career choices in the built environment

Most of the learners indicated that careers in the built environment were jobs of the future and that is the reason why they would choose to work in the industry. In their study, Tsui et al. (2019) found that career choices were shaped by job stability and prospects. Many of the learners placed a higher priority on job security and prospects the career offers. Chileshe and Haupt (2007) in their study found that learners ranked salary, working conditions, opportunities for promotion, and lifelong learning opportunities as factors that influence their career decisions. A study by Rasheed et al. (2019) found that learners put security needs over physiological needs when deciding on a career path in the built environment. Ahmed et al. (2017) mention that it is natural for learners to align themselves with careers that offer superior job opportunities and a secure future. Jonck et al. (2019) found that learners became indecisive about their careers if they were not sure that they will find employment.

Presenting the dark side of built environment careers

The opportunity to attend the career talk on the built environment helped the learners to gain more information on careers in the industry. For most of the participants, this newfound information re-affirmed the positive attitudes they already had about careers in the built environment. However, for some participants, the new information on careers came with aspects that affected their attitude towards the built environment negatively because of the lack of balance in the information provided on the built environment careers presented. Baruch and Vardi (2016) state that communicating the dark sides of careers gives a more balanced perspective – where people can compare the opportunities against the threats. Highlighting the less attractive features of careers will allow the learners to fully analyse their capabilities to handle the hardships that come with the career, thereby reinforcing their behavioural controls.

Limitations and implications of the study

The study was not without limitations. As a small sample was used, additionally convenient sampling was employed; therefore, the findings cannot be generalised. A larger varying sample could be used in future studies where researchers could use the planned behaviour theory to explore the perceptions of learners on other STEM sector careers.

The findings of the study corroborate the assumptions in the theory of planned behaviour. A positive attitude leads to a higher chance of the learner selecting a career in the built environment. In the context of this study, our findings support and extend the concept of subjective norm. The participants come from disadvantaged communities with dilapidated infrastructure; therefore, their environment influences their career decisions to enter the built environment sector. Hence, they see careers in the sector as an act of service, rather than an act for their own personal and financial gain that comes with being employed in the built environment sector. It is not only the significant others but also the environment such as the living conditions that one comes from that can influence career choice in the built environment. Especially considering the concept of ubuntu, which is a principle that most of the participants in this study would abide by.

The study also confirms the assumptions of behavioural control. Behavioural control is one's ability to use available resources to carry out an act or behaviour. The learners gravitated towards careers in the built environment as they believed that they had the skills and talents required for careers in the sector. The participants in the study believed in their abilities in maths and science to meet the criteria required to study and work in the built environment. The more confident the learners in their abilities, the more they will carry out the action and pursue careers in the built environment sector.

Conclusion

In conclusion, the study has found that learners saw working in the built environment as an act of service and not as an opportunity of self-enrichment. The findings reveal that learners from disadvantaged backgrounds are not only influenced by their significant others, but their environment also has an influence in their career choice. This implies that learners would consider how their career choice would impact their environment and community. Although planned behaviour (Ajzen, 1991) has proven to be useful in predicting an individual's intention, the findings in this study have highlighted that the background of the individual and influence of environmental factors need to be considered. Considering the background and environment of the learner may provide more useful information in understanding the intent of learners choosing careers in built environment.

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Authors' contributions

All the authors of this article belong to the same community engagement group and were involved in different duties in authoring this article. I.D. was responsible for conceptualising the article, correspondence, writing, analysing data and finalising the article. S.M. was responsible for the methodology, data collection and editing. P.S. was responsible for the literature review and data collection. R.T. was responsible for initiating drafts and proofreading.

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Data availability

The data that support the findings of this study are openly available from the corresponding author, I.D., upon reasonable request.

Disclaimer

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