

November – 2024

Socio-Demographical Variables as Predictors of Academic Self-Directedness

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Abstract

This study explores whether a range of socio-demographical factors predict adult learner self-directedness in the context of South African open and distance e-learning higher education (ODELHE). We observe significant differences between socio-demographical groups in the sub-dimensions of the Adult Learner Self-Directedness Scale. The study advances a theory on adult learner self-directedness in ODELHE contexts. Educators should consider learners' support practices, particularly in the cases of women, Black Africans, and younger cohorts. ODELHE practices should also consider learners' high school grades and proficiency in English, their library access, number of modules they are enrolled in, and who they support financially as factors influencing their level of self-directedness. Such considerations can be used to address the need for the translation of knowledge into policies and activities that improve educational opportunities for students.

Keywords: open and distance e-learning (ODEL), open and distance e-learning higher education (ODELHE), higher education, adult learner, self-directedness, socio-demographic variables

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The context of this research is adult learning in the environment of open and distance e-learning higher education (ODELHE). In the post-millennium business climate, every employee is expected to be a (potential) lifelong learner—able and willing to manage individual learning to remain competitive and employable in the 21st-century world of work (Botha, 2015; Cascio & Boudreau, 2016). This study investigates whether a range of socio-demographic variables of specific relevance to the ODELHE environment significantly predicts adult learner self-directedness (ALSD). This study employs the following variables: employment status, occupation, socio-economic situation, financial support responsibilities, access to a library, access to a computer, proficiency in English, number of modules for which the learner was enrolled, and source of funding.

Literature Review

Educators in all spheres have highlighted the necessity for inculcating self-directedness in adult learners to support the notion of lifelong learning in a rapidly changing and uncertain world. Self-directedness as a mastered capability is no less important in South Africa (Du Toit-Brits, 2019). Self-directed learners are assumed to be capable of self-reflection, taking responsibility for managing their learning, persevering with learning despite challenges, and critical questioning throughout their learning journey (Chen et al., 2022). Du Toit-Brits (2019) suggests that higher education students in South Africa demonstrate a deficiency in exhibiting curiosity, generating innovative concepts, participating in idea exchange, effectively leveraging constructive criticism for personal development, solving problems, making well-founded decisions rooted in factual information, adjusting to ongoing changes, employing knowledge to solve practical challenges, and participating actively in learning encounters relevant to the 21st century.

Learning in an ODeL context requires students to engage in meaningful practices that are reflective, constructive, and self-regulated. In addition, productive and efficient learning experiences engage students in creative thinking and active practice, thus driving the development of progressive mental models (Mudau & Van Wyk, 2021). By actively thinking about and participating in the learning activities offered, ODeLHE students build knowledge and understanding, avoiding the passive reception of knowledge transmitted from the teacher (Mudau & Van Wyk, 2021).

Self-directed learning (SDL) relates to a process whereby students progressively assume responsibility and control over their own learning by monitoring and managing their behaviour and metacognitive activities (Morris, 2019). Self-monitoring relates to how individuals create meaning from educational materials, while self-management focuses on how they use the learning context to achieve personal learning goals (Van Woezik et al., 2019). Both self-monitoring and self-management are collaborative practices, relying on internally and externally accessed information for success.

Therefore, the inculcation of SDL in higher education milieus depends on internal and external factors. Internal factors relate to students' motivation to learn, their perceived competence in the subject matter, their self-perceived beliefs in their capacity to manage their learning effectively, and their perceived autonomy to drive their own learning (Van Woezik et al., 2019). External factors relate to contact with peers and academic teaching staff and interaction with the learning environment (Van Woezik et al., 2019); however, socio-economic and socio-cultural circumstances also affect self-directedness.

Individual agency is central to the concept of learning self-directedness. Individual agency is a multi-dimensional concept, consisting of motivation-driven activity and the concomitant regulation of those activities. Schoon and Heckhausen (2019) indicate that individual agency develops through socio-cultural interactions and argue that the development of agency is negatively affected by adverse personal socio-economic circumstances.

SDL has gained attention from educational practitioners and researchers over the past few decades, specifically within the ODeLHE environment. Because ODeLHE provides flexibility in terms of place, time, and pace of learning, adult learners must possess a high level of self-directedness. In the age of the fourth industrial revolution, when the ability to adapt easily to changing social and business circumstances is key, the capacity for self-directedness has become essential (Morris, 2019). The capacity to be self-directed is influenced by factors such as education level, prosperity, and individual autonomy, but it is not consistent throughout diverse contexts (Van Woezik et al., 2019). Furthermore, the data on whether gender and age affect the capacity for self-directedness is inconclusive (Loeng, 2020).

Various studies indicate that students' socio-economic background influences their academic success at residential universities (Coetzee et al., 2014; Fasce et al., 2013; Loeng, 2020; Subotzky & Prinsloo, 2011). Academic success can be described as the acquisition of subject-specific knowledge through navigating and mastering the learning process while also developing employability capacities (Cachia et al., 2018). Socio-economic circumstances include but are not limited to students' family income, the school attended before university, access to the necessary resources for successful study, and proficiency in the language of tuition. Specifically in multilingual countries where the business language and language of tuition for higher education is English, a lack of proficiency in English can create a barrier to successful higher education studies, as emphasized by Preece (2019). In addition to a lack of proficiency in the language of education, students' geographical location, access to financial resources, and quality of primary and secondary education affect successful ODeL study (Subotzky & Prinsloo, 2011). Örs (2018) reports that gender affects self-directedness in nursing students, while Lema and Agrusa (2019) indicate that previous work experience, type of work, and average grades obtained at university affect student self-directedness. The concept of SDL was proposed, described, studied, and advanced mainly in developed countries (Brookfield, 2003), giving it a Eurocentric slant that calls into question its assumption of universal applicability (Loeng, 2019). The reason for the focus on SDL in developed countries might be their higher level of access to resources, educational infrastructures, and research funding, facilitating the exploration and advancement of this concept. Students' socio-economic situation may influence their capacity to practise SDL in ODeLHE learning contexts, where they are expected to actively drive their learning, independently identify their learning difficulties, and find ways to address those difficulties.

A paucity of research on the effect of socio-cultural background on ALSD in an ODeLHE context in developing countries (such as South Africa) necessitated a study that would include as many socio-cultural variables as possible to establish the vulnerabilities of adult learners in ODeLHE as accurately as possible.

Research Question

Considering the above literature review, the following research question was formulated:

Do diverse socio-demographic characteristics of adult students enrolled in ODeLHE significantly predict adult learners' academic self-directedness? These characteristics include their age, race, gender, employment status, occupation, socio-economic situation, being depended upon financially, access to a library, access to a computer, proficiency in English, course load (number of modules they are enrolled in), and source of funding.

Research Method

This study used a non-experimental research design to answer the research question. We used a quantitative, cross-sectional survey design (specifically descriptive, correlational and inferential statistical analyses) to realize the empirical research objectives.

Population and Sampling

The sample ($N = 747$) consisted of predominantly Black (African) women between the ages of 18 and 25 years old. This is the overall demographic of the specific institution. Most of the respondents were employed full time in administrative and skilled occupations. A significant percentage of the sample had no steady monthly income and were responsible for supporting themselves and more than two dependents. Further analysis of the sample indicated that the respondents not only had large family and financial responsibilities but also lived in constrained socio-economic circumstances. Since socio-economic and cultural variables affect adult learner success (Akala & Divala, 2016; Cincinnato et al., 2016; Välimaa & Nokkala, 2014), the influences on ALSD should be investigated in South Africa.

Only 32% of participants had access to the university's library, 25% had their own computers, and 23% had access to a computer at work. The limited access to a computer in an age when information is easily accessible through online platforms reveals challenges these adult students may experience in an ODeLHE context that is either fully online or uses a blended tuition and assessment approach (Halabi et al., 2014; Nguyen & Ikeda, 2015). Furthermore, easy access to the resources of academic libraries is vital for students who are required to use diverse sources in their studies to develop capability in academic inquiry and critical analysis (Soria et al., 2013).

The respondents overall reported a fair to poor final grade for high school English, indicating the possibility of struggling in an ODeLHE context where the language of tuition is English. Post-secondary students who struggle with the language of tuition may find it more challenging to complete their studies successfully (Desai, 2016). Furthermore, most of the participants indicated they were registered for more than four modules, resulting in a substantial academic workload in addition to their existing family and work responsibilities. The majority of the participants funded their tertiary studies themselves, demonstrating that the adult learners faced substantial challenges to meet their monetary commitments. It is evident that the participants in this study invested heavily in their futures in terms of time and money. Nevertheless, the participants possibly expected too much of themselves regarding the time required given the time they had available for successful ODeLHE outcomes. Time management is a considerable concern in SDL, and novice adult learners may struggle to accurately estimate the time needed for success (Anderson et al., 2014; Thibodeaux et al., 2017).

Extensive research is needed to understand the relationship between socio-demographic variables and academic self-directedness in ODeLHE. Such understanding may have practical implications for

ODELHE providers, instructional designers, and educators. Providers and designers can tailor their instructional materials and delivery methods to meet the needs of learners with different socio-demographic characteristics. Educators can also use the findings to identify learners who may require additional support or interventions to enhance their self-directedness.

Measuring Instruments

In view of the cross-sectional survey design approach adopted for this study, we used self-report measuring instruments. A biographic questionnaire (including all the socio-demographical categories investigated in this study), along with the Adult Learner Self-Directedness Scale developed by Botha (2014), was used to gather the data. The questionnaire was validated by Botha in a South African context in 2018. The responses of the participants were imported and analyzed using SPSS Version 20.1.

Analysis of Research

In this section, we discuss whether the various socio-demographic variables predict ALS in ODeLHE. The variables we report on are as follows: gender; race; age; employment status; occupation; socio-economic situation; being dependent upon financially; access to a library; access to a computer; proficiency in English; number of modules for which the participant is enrolled; and who is paying for the learner's studies.

As a first step, we report on the correlations between the variables and the three factors of the ALS (Table 1). Thereafter, we report only on the socio-demographic variables that functioned as significant predictors (Table 2).

Table 1

Correlations Between Socio-Demographic Variables and the Factors in Adult Learner Self-Directedness

Socio-demographic variable	Measures	Factors in adult learner self-directedness		
		Success orientation for ODeLHE	Active academic behaviour	Strategic resource use
Employment status	Correlation coefficient	.033	-.025	-.103**
	Sig. (2-tailed)	.366	.495	.005
	<i>N</i>	741	741	741
Occupation	Correlation coefficient	-.013	.034	.092*
	Sig. (2-tailed)	.731	.355	.013
	<i>N</i>	731	731	731

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Socio-economic situation	Correlation coefficient	.062	-.034	-.103**
	Sig. (2-tailed)	.094	.357	.005
	<i>N</i>	741	741	741
Financial dependents	Correlation coefficient	.096**	-.006	-.006
	Sig. (2-tailed)	.009	.872	.070
	<i>N</i>	747	747	747
Access to a library	Correlation coefficient	.078*	.046	.054
	Sig. (2-tailed)	.035	.219	.143
	<i>N</i>	733	733	733
Access to a computer	Correlation coefficient	.139**	.047	-.001
	Sig. (2-tailed)	.000	.205	.970
	<i>N</i>	738	738	738
Grade in high school English	Correlation coefficient	.216**	-.021	.116**
	Sig. (2-tailed)	.000	.205	.002
	<i>N</i>	721	721	721
Number of modules	Correlation coefficient	.064	-.043	.088**
	Sig. (2-tailed)	.086	.245	.018
	<i>N</i>	725	725	725
Source of funding	Correlation coefficient	-.044	.048	.061
	Sig. (2-tailed)	.238	.195	.100
	<i>N</i>	736	736	736
Gender	Correlation coefficient	-.176**	.027	-.015
	Sig. (2-tailed)	.000	.311	.095
	<i>N</i>	746	746	746
Race	Correlation coefficient	.117**	.037	.016
	Sig. (2-tailed)	.000	.466	.692
	<i>N</i>	744	744	744
Age	Correlation coefficient	.103**	.009	-.018
	Sig. (2-tailed)	.006	.820	.640
	<i>N</i>	706	706	706

Note: * correlations are significant at the .01 level; ** correlations are significant at the .05 level; ODeLHE = open and distance e-learning higher education.

Table 1 shows significant positive correlations between “success orientation for ODeLHE” and the socio-demographic variables access to a computer ($r = .139, p = .000$), grade for high school English ($r = .216, p = .000$), financial dependents ($r = .096, p = .009$), access to a library ($r = .078, p = .035$), race ($r = .117, p = .000$), and age ($r = .103, p = .006$). A significant negative correlation was found between “success orientation for ODeLHE” and gender ($r = -.176, p = .000$). No significant correlations were found between active academic behaviour and socio-demographic variables. In terms of “strategic resource use,” we found significant positive correlations between occupation ($r = .092, p = .013$), grade for high school English ($r = .116, p = .002$), and number of modules ($r = .088, p = .018$). In addition, significant negative correlations were found between “strategic resource use” and employment status ($r = -.103, p = .005$) and socio-economic situation ($r = -.103, p = .005$).

Based on the correlation analysis, the next step was to conduct stepwise regression analysis to determine the predictive values of the socio-demographic variables and self-directedness.

Table 2

Multiple Regression Analysis Results

Predictor variable	Success orientation for ODeLHE			Active academic behaviour			Overall adult learner self-directedness		
	β	t	p	β	t	p	β	t	p
Grade in high school English	.224	4.36	.000						
Gender	.208	4.04	.000				.108	2.022	.044
Access to a library				.135	2.556	.000	.112	2.130	.034
Number of modules				-.111	-2.089	.011			
Financial dependents				.106	2.009	.045			
Model statistics	2 nd step			3 rd step			2 nd step		
	Fp	17.39	(.000)	Fp	4.97	(.002)	Fp	4.33	(.014)
	Adjusted R^2	.09		Adjusted R^2	.03		Adjusted R^2	.019	

Note: *** correlations are significant at $p = .001$ level; ** correlations are significant at $p = .01$ level; * correlations are significant at $p = .05$ level; ODeLHE = open and distance e-learning higher education.

Table 2 shows that the socio-demographical variables of grade in high school English, gender, access to a library, number of modules, and financial dependents are significant predictors of self-directedness. Table 2 also shows that the regression analysis produced an empirically significant model for the “success orientation for ODeLHE” factor with the gender and grade for high school English as predictor variables ($F = 17.39, p = .000$; adjusted $R^2 = .09$; small practical effect). An empirically significant model was produced for the “active academic behaviour” factor with access to a library, number of modules, and financial dependents as predictor variables ($F = 4.97, p \leq .05$; adjusted $R^2 = .05$; small practical effect).

Lastly, the overall scale also produced an empirically significant model with gender and access to a library as predictor variables ($F = 4.33, p \leq .05$; adjusted $R^2 = .02$; small practical effect).

While the regression analyses yielded statistically significant results, indicating significant predictions (Salkind, 2010), it is noteworthy that the practical effects, as denoted by the adjusted R^2 values, were found to be relatively small. This observation implies that the proportion of variance in self-directedness accounted for by the predictor variables included in the models is limited. Consequently, it is conceivable that additional factors, beyond those examined in the regression models, exert influence on ALSD in ODeLHE environments. The small practical effect size underscores the complexity of the phenomenon under investigation and suggests the presence of unexplored variables or nuanced interactions that warrant further inquiry.

The variance in “success orientation for ODeLHE” was positively accounted for by grade for high school English ($\beta = .22, p = .000$) and gender ($\beta = .21, p = .000$). Access to a library positively accounted for the variance in “active academic behaviour” ($\beta = .14, p = .000$) and overall self-directedness ($\beta = .11, p = .03$). Lastly, the variance in “active academic behaviour” was accounted for by number of modules for ($\beta = -.11, p = .01$) and financial dependents ($\beta = .11, p = .05$).

Conclusion

Discussion of Findings

The findings provide new insights into the research on self-directedness in South African higher education, since it appears that socio-demographic variables are significant in predicting ALSD in ODeL contexts. More specifically, the results revealed that the socio-demographical variables of the grade for high school English, gender, access to a library, number of modules registered for, and financial dependents significantly ALSD within the South African ODeLHE context.

Grade for high school English and gender were found to be significant predictors of the “success orientation for ODeLHE” factor. This suggests that learners who had higher grades for English and identified as a particular gender exhibited a greater success-oriented attitude toward their studies in an ODeLHE environment. These findings are consistent with previous studies that highlighted the importance of language proficiency (Garrison & Vaughan, 2008; Kim & Bonk, 2002) and individual characteristics (Elliot & McGregor, 2001) in promoting academic self-directedness.

Secondly, access to a library was found to be a significant predictor for both “active academic behaviour” and “overall self-directedness.” These findings are consistent with Kuo et al. (2013), who emphasized

that learners who had access to information and learning hubs (such as a library) were more likely to engage in active academic behaviours and demonstrate higher levels of self-directedness. This suggests that the provision of adequate resources and learning environments is vital for supporting learners' autonomy and facilitating their engagement in SDL activities.

Furthermore, the number of modules enrolled in and the presence of financial dependents were found to be significant predictors of "active academic behaviour." Learners who were registered for a greater number of modules and who provide financial support for others exhibited higher levels of active academic behaviour. These findings are corroborated by Reeves et al. (2016), who highlight the influence of practical considerations on learners' engagement and SDL. This implies that learners with more modules and those who provide financial support may have a greater sense of commitment and motivation to actively participate in their studies.

Overall, these findings contribute to our understanding of the socio-demographic factors that influence ALSD in ODeL environments. Emphasis is placed on the importance of language proficiency, individual characteristics, access to resources, and practical considerations in shaping learners' engagement and success in SDL. The results underscore the need for educational institutions to consider these factors when designing and implementing supportive interventions and resources to enhance learners' self-directedness and promote successful academic achievements. It is, however, important to note that while the study did find statistically significant associations, the effect sizes were relatively small, indicating that socio-demographical variables explained only a limited portion of the variance in self-directedness. Future research should focus on exploring whether other factors, such as motivation, prior learning experience, and learning strategies, may have a more significant contribution in explaining self-directedness.

The results of this study contribute to the body of knowledge on best practice guidelines for the design and development of ODeLHE learning material to facilitate the inculcation of ALSD in previously disadvantaged adult learners. In addition, the results can be used in the design and implementation of workplace learning opportunities to facilitate the inculcation of ALSD. Specifically, the use of online and e-learning applications and delivery methods should be investigated thoroughly to ensure that vulnerable adult learners are not disadvantaged further by the use of these delivery methods.

Implications for Theory and Practice

Given the imperatives of the National Skills Development Strategy III, which aims to promote and support skills development and training in South Africa, knowledge about adult learners and the conceptualization of ALSD in the research literature are vital to contribute to skills development and the national development goals in the long term (Coetzee & Botha, Author 2013). The majority of students in South Africa study through ODeLHE. In addition, within the context of the skills development imperatives created by the National Skills Development Strategy III (Tshilongamulenzhe, 2010), research contributions in the form of recommendations and best practice guidelines in the design and delivery of online learning in both the tertiary and workplace learning environments may significantly enhance the practice of both through HRD interventions.

ALSD is influenced by socio-demographic factors such as culture, gender, and socio-economic environment. ODeLHE requires high levels of ALSD, and research has suggested that ODeLHE is the way for Africans to access tertiary education to improve their socio-economic circumstances and the economy of the continent as a whole (Mpofu, 2015). However, since socio-demographic factors

influence ALSD, it is possible that those learners who supposedly should benefit from improved access to tertiary education through ODeLHE, are in fact further disadvantaged (Mpofu, 2015).

Limitations of the Study

The current study was conducted in one South African higher education institution. Because of contextual differences, the sample and the fact that the sample was composed mainly of African women mean that the findings cannot be generalized. Few studies have focused on ALSD, especially within developing countries, limiting information for comparison. The paradigmatic perspective of the research was limited to the interpretation of findings within the boundaries of adult learning in ODeLHE and workplace learning milieus. The cross-sectional design of this study limits any causal inferences. We recommend that future research involving different population groups in various educational and occupational settings be conducted before generalizations can be made to the broader population.

Another limitation of the study pertains to the small practical effects observed in the regression analysis, indicating a limited proportion of variance in self-directedness accounted for by the predictor variables. This underscores the need for further investigation into additional factors that may influence self-directedness among adult learners in the ODeLHE environment. As a result, future research endeavours should strive to elucidate the complex interplay of variables and potential interactions that contribute to the phenomenon of SDL in ODeLHE contexts.

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