

Health behaviour, decision making and perceived parenting: Are male and female learners significantly different?

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Abstract

The study aimed to establish the perceived parenting styles, decision making styles and engagement in healthy lifestyle behaviours of male and female learners in secondary schools in the Western Cape, South Africa. A cross-sectional comparative design was implemented. The sample consisted of 457 Grade 9 learners from the Overberg Educational District. The mean age for the sample was 16 years (SD= 1.45), made up of more female (53.8%) than male (46.2%) participants. Both descriptive and inferential statistical analyses were used. When testing for differences between male and female learners using MANOVA, no significant main effects were found. The findings, therefore, suggest that authoritative parenting, vigilant decision making and frequent engagement in healthy lifestyle behaviours were the most prevalent behaviours amongst male and female learners.

Introduction

Lack of growth in global health funding and initiatives over the past decade has been accounted for by the global economic crisis, and the economic BRICS (Brazil, the Russian Federation, India, China and South Africa) alliance is one of the only economies that has seen growth regardless of the economic crisis (Harmer, Xiao, Missoni & Tediosi, 2013). These emerging economies have been recognised as playing an important part in global health (Harmer *et al.*, 2013). Considering the role of emerging economies, research has focused largely on economic growth and development, and less focus has been paid to the potential to improve global health (Acharya, Barber, Lopez-Acuna, Menabde, Migliorini, Molina, Schwartländer & Zurn, 2014), particularly as the BRICS economies sustained growth in global health initiatives as alluded to by Harmer and colleagues (2013). Health related problems in emerging economies (BRICS), has seen an increase in non-communicable diseases that are associated with lifestyle-related behaviour (Acharya *et al.*, 2014). These economies could face dire consequences if left unattended, and could cripple their economic growth and development. However, one of the strategies of emerging economies framed in Institutional Theory is the important role of accessing agencies and institutions for the betterment of the economy (Hoskisson, Eden, Lau & Wright, 2000). The growing health concerns for an emerging economy like South Africa sought alliances with institutions (governmental departments, organisations, and schools) that are integral in social and organisational behaviour with the overall aim of reducing

transaction and information costs (Hoskisson *et al.*, 2000). In addressing some of the health challenges South Africa implemented the Integrated School Health Policy making use of institutions like the Departments of Education and Health, the World Health Organisation and schools that assist in reducing transaction costs which is important for an emerging economy.

The Integrated School Health Policy aims to promote favourable health and the development of learners and their communities (Departments of Health and Education, 2012). Health awareness and literacy of primary and secondary school learners have been promoted within the school setting by means of access to information and providing the necessary skills in Life Orientation lessons. The Curriculum and Assessment Policy Statements (CAPS) for Life Orientation for Grades 7 to 9 mentions that one of the specific aims of Life Orientation is to “guide learners to make informed and responsible decisions about their health, environment, subject choices, further studies and careers” (Department of Basic Education, 2011: 7). How South African learners make decisions and the role that the environment plays in decision making remains unclear because it has not been examined in previous research.

Decision making is important particularly within the school setting and relates to subject choice, completing prescribed tasks and homework, and behaving in accordance with the school’s ethos. The CAPS for Life Orientation focuses on ‘development of the self in society’. Consequently, the Life Orientation curriculum focuses specifically on developing life skills with regard to informed choices that promote positive healthy lifestyles (Department of Basic Education, 2011).

Healthy lifestyle behaviours

The behaviours and lifestyle choices that individuals engage in are estimated to make up 60 per cent of their perceived quality of health and well-being (World Health Organisation, 2004). The quality of health and well-being of learners is particularly important when considering the focus of the Life Orientation curriculum, which is aimed at promoting positive lifestyle choices. Learners in secondary school are in the developmental phase of adolescence, which is synonymous with lifestyle choices that can hinder positive health behaviours. Some of the behaviours that adolescents adopt that hinder health and well-being include smoking, poor nutritional habits, risky sexual behaviours and infrequent engagement in physical activity (Wang, Ou, Chen & Duan, 2009).

Healthy lifestyle behaviours have become an important public health concern over the past few decades (Chen, James & Wang, 2007). The rising mortality rates can be attributed to the lifestyle changes and health-risk behaviours adopted by adolescents. These lifestyle-related behaviours also act as contributory factors for increasing non-communicable diseases and ill-health in later life (Patton *et al.*, 2012; Wang *et al.*, 2009). Non-communicable diseases such as cardiovascular disease, diabetes, cancer and depression, are often the result of choices emanating from poor lifestyle-related behaviour.

Gender is important when considering engagement in healthy lifestyle behaviours (Griffin *et al.*, 2000; Windle *et al.*, 2010). It has been found that females are more prone to poor health-related outcomes than males (McDonough & Walters, 2001). One's overall health is also affected by the perceived stress of life events that is found to be more common among females than males (McDonough, Walters & Strohschein, 2002). Healthy lifestyle behaviours are also dependent on the decisions made to adopt a lifestyle that promotes health and well-being (Umeh, 2009).

Decision making

During adolescence, learners often find themselves having to make decisions on an almost daily basis. These decisions are of importance for their health and well-being. For example, instances where decision making promotes risky learner behaviour, such as decisions to engage in sedentary behaviour, could have dire consequences for the health and well-being of the adolescent (Steinberg, 2004). Individuals often differ in their approaches to effective decision making. The varied approaches to decision making are known as decision making styles. A number of decision making styles have been proposed by various theorists over the years (Burnett, 1991). Of particular relevance to the current article are the decision making styles of Janis and Mann (1977), namely (i) vigilance, (ii) hypervigilance, and (iii) defensive avoidance (Burnett, 1991). These decision making styles differ in the decision makers' (or learners') belief and optimism (as well as the lack thereof) of finding a satisfactory solution to the decision making situation at hand (Burnett, 1991). In some of these decision making styles the decision maker postpones making a decision or passes the responsibility of making a decision on to another person (Burnett, 1991); for example, where learners defer the decision making to engage in scholastic tasks to a later period, or otherwise get peers to make the decision regarding the task on their behalf.

Janis and Mann (1977) have been the pioneers in decision making styles when individuals are faced with conflicting situations in which a decision needs to be made (Commendador, 2011). Their proposed decision making styles function on a continuum of adaptive to maladaptive approaches to decision making. These decision making styles are defined as follows.

1. Vigilant decision making is often related to adaptive forms of decision making and can be caused by optimism about finding alternative solutions to a conflicting situation (Brew, Hesketh & Taylor, 2001; Burnett 1991). Vigilant decision making operates on the premise that there is sufficient time to engage in processes which are deemed necessary when making a good decision (Brown, Abdallah & Ng, 2011). This is applicable when a learner selects a research topic for his/her science project after examining all the possible alternatives, and knows that he/she is competent to complete the task and that there is sufficient time to do so.
2. The hypervigilant decision making style, considered as being a maladaptive form of decision making, is a process where the decision maker is optimistic about the various

alternatives to the decision that needs to be made. There is a belief that there is insufficient time to make a thorough search of possible alternatives (Commendador, 2003). In the school setting, it could be a learner who has examined the possible alternatives for a science project, but feels that there is not sufficient time to fully satisfy the decisional task at hand, which can cause stress and panic.

3. Defensive avoidant decision making occurs when the decision maker feels pessimistic about the alternatives to making a decision, and is categorised as having either (a) the procrastinating decision making style, where the decision maker postpones making a decision or (b) having the buck-passing decision making style, where the responsibility is passed onto someone other than the decision maker (Brown, Abdallah & Ng, 2011). Using the example of the learner with the science project, this can be seen in two situations: (i) where the learner does not examine the alternatives and defers making a decision to a later stage or (ii) when the learner gets his/her peers to decide on the best alternative for the science project.

Decision making of learners during adolescence is important, as it assists with scholastic tasks, such as subject choices, as well as with the many challenges that are common to this developmental phase. Gender plays an important role in decision making (D'Acremont & Van der Linder, 2006; de Acedo Lizárraga, de Acedo Baquedano & Cardelle-Elawar, 2007). The gender differences in decision making raise questions as to the gender norms and stereotypes that society prescribes. Gender norms and stereotypes form part of the values and expectations of individuals, based on the socialisation process. Female decision making processes involve considering alternatives which would yield the least outcome of risk, while males tend to engage in decision making that involves risk-taking (Weber & Johnson, 2009). However, the findings of gender differences are ambiguous (Lin *et al.*, 2014; Weber & Johnson, 2009; Spicer & Sadler-Smith, 2005; Hatala & Case, 2000). The ambiguous findings in research suggest that in some instances gender differences exist in the decision making process, while in others there are not any differences (Lin *et al.*, 2014; Weber & Johnson, 2009; Spicer & Sadler-Smith, 2005; Hatala & Case, 2000). Decision making among adolescents has been found to be related to the decision making processes used by their parents (Öztürk, Kutlu & Atli, 2011; Wolff & Crockett, 2011). It would seem then that parenting plays an important role in a learner's decision making style (Wolff & Crockett, 2011).

Parenting styles

The process of socialisation takes place in the parent-child relationship and by means of the parenting style that the parents employ (Akinsola, 2011). Parenting styles can be defined as the "typology of attitudes and behaviours that characterise how a parent will interact with a child [learner] across various domains of parenting" (Ventura & Birch, 2008: 3). The context in which learners (children) are reared is guided by the parenting styles used by the parent(s) (Darling & Steinberg, 1993).

Authoritarian, authoritative and permissive parenting styles are the three commonly discussed parenting styles in literature, and have been associated with a number of developmental outcomes for learners. The styles are differentiated by the display of parental control and acceptance, as well as warmth and interaction by parents (Fuemmeler *et al.*, 2012).

Authoritarian parenting is synonymous with low acceptance and high control. These parents set strict rules and standards that learners (children) must adhere to, and there is little display of warmth (Swartz *et al.*, 2008). The authoritative parent displays high parental control and acceptance (Swartz *et al.*, 2008). This parent displays warmth and respect towards learners, for whom there would be rules put in place and explanations for the rules (Keshavarz & Baharudin, 2006; Spera, 2005). Permissive parenting, however, is high on acceptance and low on control (Swartz *et al.*, 2008). These parents display nurturance and warmth towards learners, but there are little to no rules or limits imposed on learners (Swartz *et al.*, 2008). Learners who have authoritative parents perform well academically (Akinsola, 2011; Kordi & Baharudin, 2010), while permissive and authoritarian parents are associated with academic under-achievement (Dehyadegary *et al.*, 2012) of their children. When considering some of the differences that are expressed by males and females, it becomes important to consider the role of socialisation – and the differences stressed upon males and females by their parents (Shields, 2002; Chaplin, Cole & Zahn-Waxler, 2005). The differences stressed to males and females may be seen by the attention that is shown to children of different genders by parents of different genders (male-female learner versus maternal- paternal parental figure) (Kerr, Lopez, Olson & Sameroff, 2004; Chaplin, Cole & Zahn-Waxler, 2005).

The differences in parenting, when considering gender, have been noted in research when fathers show differences in attention to male and female children (Kerr *et al.*, 2004; Fivush, 1998; Lytton & Romney, 1991). Research has examined the association of maternal parenting and developmental outcomes of children; however it is often assumed that paternal parenting is the same (Simons & Conger, 2007). Gender differences in children and adolescents are often explored in literature, but gender differences of parents are not found as often (Fivush, Brotman, Buckner & Goodman, 2000; Kerr *et al.*, 2004).

Understanding how South African learners make decisions about healthy lifestyle behaviours and the role that parents play is important. It would assist both the Departments of Health and Education in addressing concerns around health promotion in the school setting, and minimise the burden of non-communicable diseases. Consequently, this study is important from an educational perspective, as it focuses on effective decision making. The overarching aim of the education system is to promote learners who are competent in effective decision making that will encourage holistic health and well-being. The CAPS for Life Orientation encourages good decision and choice making, but whether there is sufficient knowledge provided as to how South African learners make decisions, their lifestyle choices and the roles of parenting and gender in these processes, is still unclear. This study could add to current debates among scholars internationally,

regarding the role of gender in adolescent decision making styles, as well as contributing to the limited available studies considering decision making styles in Africa. It would assist in comparing differences in decision making across cultures as outlined in a review considering decision making from an international perspective by Davids and colleagues (2015). This study therefore: (i) examines the perceived parenting styles, decision making styles and healthy lifestyle behaviours of learners at secondary schools as well as (ii) determining whether significant differences exist between male and female learners in terms of perceived parenting styles, decision making styles and healthy lifestyle behaviours.

Methodology

A cross-sectional comparative group design was used to establish the decision making styles, parenting styles and healthy lifestyle behaviours of learners in the Overberg Education District, and these variables were compared on the basis of gender.

Participants

Schools in the Overberg Education District were stratified on the basis of socioeconomic status to obtain a heterogeneous sample. Four schools were randomly selected in the education district on the basis of socioeconomic status (i.e., school fees were an indicator of socioeconomic status). Permission was granted by the Western Cape Education Department to conduct the study in the secondary schools. The school principals and teachers then granted permission to conduct the study at the identified schools. The Grade 9 learners were invited to participate, on providing informed assent and their parents' informed consent. Confidentiality and anonymity were maintained throughout the study. Participants were informed that they could withdraw from the study at any time without any negative consequences. The final sample consisted of 457 participants 46.2 per cent (n= 209) male and 53.8 per cent (n= 243) female (Table 1). The mean age of the participants was 16.31 (*SD* = 1.45) years.

Table 1 Demographic details of participants

		Total Sample
Gender	Male	209 (46.2%)
	Female	243 (53.8%)
Age	Mean Age	16.31
	(years)	(<i>SD</i> = 1.45)

Measuring instrument

A self-report questionnaire was used to collect data from the participants. The questionnaire comprised the following: (i) a demographical characteristics section, (ii) the Parental Style and Dimension Questionnaire (PSDQ) (Robinson, Mandlco, Frost Oslen & Hart, 2001), (iii) the Health-Promoting Lifestyle Profile II Questionnaire (Walker & Hill-

Polerecky, 1996), and (iv) the Melbourne Decision Making Questionnaire (Mann, Burnett, Radford & Ford, 1997). The Parental Style and Dimension Questionnaire is a 32-item self-report questionnaire based on the three parenting styles as outlined by Baumrind (Robinson, Mandleco, Frost Oslen & Hart, 2001). Participants responded on a 4-point Likert scale for mothers and fathers (1 = *not at all like him/her* to 4 = *a lot like him/her*). The Health-Promoting Lifestyle Profile II is a 52-item questionnaire also using a 4-point Likert scale, where the composite score was used to assess self-reported frequency of engaging in healthy lifestyle behaviours (1 = *never* to 4 = *always*) (Walker & Hill-Polerecky, 1996). The Melbourne Decision Making Questionnaire is a 22-item questionnaire which was based on the foundations of Janis and Mann's conflict model of decision making that assessed decision making styles on a 3-point Likert scale (0 = *not true for me* to 2 = *true for me*) (Mann, Burnett, Radford & Ford, 1997). The Cronbach alpha scores for the (i) Parental Style and Dimension Questionnaire was .85, (ii) the Health-Promoting Lifestyle Profile II was .86 and (iii) the Melbourne Decision Making Questionnaire was .60.

Data analysis

The participants were grouped according to gender for analysing the effect on the outcome variables. Descriptive statistics were used for the sub-scales of *parenting styles*, *decision making styles* and *healthy lifestyle behaviours*. A multivariate analysis of variance (MANOVA) was conducted to compare the different groups (Field, 2009). The group differences for males and females were based on the participants' self-reported responses.

Results

Descriptive statistics for parenting styles, decision making styles and healthy lifestyle behaviours for male and female participants, are presented in Table 2. The results show that maternal authoritative parenting was the most prevalent ($M= 3.09$, $SD= .50$) parenting style across male ($M= 3.10$, $SD= .51$) and female ($M= 3.08$, $SD= .49$) groups. Similarly, for fathers, the most prevalent was the authoritative parenting style ($M= 2.84$, $SD=.61$) across male ($M= 2.90$, $SD= .56$) and female ($M= 2.80$, $SD= .64$) groups. The least prevalent maternal parenting style was authoritarian parenting ($M= 2.42$, $SD= .56$), which was similar for both males ($M= 2.44$, $SD= .54$) and females ($M= 2.41$, $SD= .57$). This was similar for fathers ($M= 2.35$, $SD=.60$), for males ($M= 2.42$, $SD= .56$) and females ($M= 2.30$, $SD= .62$). Vigilant decision making ($M= 1.43$, $SD= .35$) was the most prevalent decision-making style for the total sample, as well as for both male ($M= 1.41$, $SD= .36$) and female participants ($M= 1.45$, $SD= .33$). Buck passing was the least prevalent decision making style ($M= .78$, $SD= .41$), for males ($M= .77$, $SD= .38$) and females ($M= .78$, $SD= .43$). Based on the composite score for healthy lifestyle behaviours, the results suggest that the total sample often engaged in healthy lifestyle behaviours ($M= 2.74$, $SD=.39$). This was similar for male ($M= 2.78$, $SD=.38$) and female participants ($M= 2.71$, $SD=.40$). The results of the multivariate analysis (MANOVA) show that there were no significant effects in regard to gender on perceptions of parenting styles, decision making styles and healthy lifestyle behaviours of participants, $T = .05$, $F(11,295) = 1.37$, $p > .05$.

Discussion

The school setting has always been considered to play a pivotal role in the development of learners, particularly when considering the promotion of positive health and well-being (St Leger, 2001; Hill *et al.*, 2015). From the perspective of Institutional Theory, the school plays an important role for emerging economies like South Africa in minimising transaction and information cost (Hoskisson *et al.*, 2000), particularly when considering that the BRICS alliance health growth was not affected by the economic crisis (Harmer *et al.*, 2013). Singh (2008) has alluded to the importance that the school environment plays in promoting positive lifestyle-related health that has consequences on health in later life. Schools are also considered important in promoting healthy lifestyle behaviours, because a large percentage of the learners' time is spent at school. The pivotal role that schools play in promoting positive health and the rise in health-related issues among learners gave rise to the Integrated School Health Policy (Departments of Health and Education, 2012). The Integrated School Health Policy aims to promote health and well-being of learners both within the school setting and in the surrounding communities (Departments of Health and Education, 2012). The Curriculum and Assessment Policy Statements (CAPS) for Life Orientation for Grades 7 to 9 addresses some of the goals as set out in the Integrated School Health Policy and the Health Promoting Schools framework. Its focus is on assisting learners to make informed decisions with regard to their health, school environment and scholastic development (Department of Basic Education, 2011). Decision making among learners is important, because they are faced with a number of situations in which decisions need to be made, such as subject choices and engaging in scholastic tasks. Decision making tasks are an important developmental activity during adolescence. Learners at secondary schools are in the developmental phase of adolescence, which is synonymous with health-related behaviour that can be detrimental to healthy lifestyles (Wang, Ou, Chen & Duan, 2009).

Table 2 Descriptive Statistics: Parenting Styles, Decision Making Styles and Healthy Lifestyle Behaviours

Scales / Sub-Scales	Total Sample		Males		Females	
	Mean	SD	Mean	SD	Mean	SD
Perceived Parenting Styles¹						
Maternal Authoritative Parenting	3.09	.50	3.10	.51	3.08	.49
Maternal Authoritarian Parenting	2.42	.56	2.44	.54	2.41	.57
Maternal Permissive Parenting	2.46	.56	2.47	.56	2.43	.56
Paternal Authoritative Parenting	2.84	.61	2.90	.56	2.80	.64
Paternal Authoritarian Parenting	2.35	.60	2.42	.56	2.30	.62
Paternal Permissive Parenting	2.43	.55	2.48	.57	2.38	.52
Decision Making Styles²						
Vigilant Decision Making	1.43	.35	1.41	.36	1.45	.33
Hypervigilant Decision Making	1.16	.34	1.11	.33	1.20	.34
Procrastination	.96	.38	.93	.36	.99	.40
Buck-Passing	.78	.41	.77	.38	.78	.43
Healthy Lifestyle Behaviours³						
Healthy Lifestyle Behaviours	2.74	.39	2.78	.38	2.71	.40

¹ Participants responded on a 4 point Likert scale, 1= not at all like him / her and 4= a lot like him / her

² Participants responded on a 3 point Likert scale: 0= not true for me and 2= true for me

³ Participants responded on a 4 point Likert scale, 1= never and 4= always

Health behaviour is a result of the environment in which individuals find themselves (Pelser, 2012). The results of this study show that learners often engage in healthy lifestyle behaviours that promote health and well-being. The learners' engagement in healthy lifestyle behaviours could have been the result of an encouraging school environment (Themane & Osher, 2014). These outcomes could be considered as resulting of the health-promoting endeavours of both the policy and implementation framework of these schools, as well as from the health-promoting interventions within schools (Hill *et al.*, 2015). In the study, the school environment becomes important in promoting healthy behaviour. In addition, the teachers provide health education and develop effective skills in decision making about engaging in healthy lifestyle behaviours. Engaging in healthy lifestyle behaviours is a result of a conscious decision to engage in behaviour that promotes health (Umeh, 2009).

The most prevalent decision making style used by learners was the vigilant decision making style. This is similar to another South African study conducted with senior learners (Masureik *et al.*, 2014). Vigilant decision making styles are associated with positive outcomes (Brew, Hesketh & Taylor, 2001; Chambers & Rew, 2003; Brown, Abdallah & Ng, 2011; Commendador, 2011). The positive outcomes are a result of the processes that a learner engages in before arriving at an alternative which would yield a more desirable outcome (Commendador, 2003; Byrnes, 2005). Byrnes (2005) pointed out that learners who considered a number of alternatives and the consequences of making a decision were less likely to engage in poor health behaviours that hindered the promotion of good

health. When considering the results in the current study, the most prevalent decision making style was vigilant decision making that is associated with examining a number of alternatives. Learners often engage in healthy lifestyle behaviours. The study did not examine the associations between the variables but rather compared the differences on the basis of gender; taking this into consideration, the findings presented by Byrnes (2005) could explain why learners often engaged in healthy lifestyle behaviours. Learners in the study engaged in vigilant decision making that could be as a result of the information and decision making skills provided by teachers in Life Orientation that helped develop competent learners who engaged in healthy lifestyle behaviours. The current study did not examine the role that Life Orientation teachers played in learners' decision making skills, but there is a recommendation for future research to enhance the understanding of the role that the teacher plays. The decision making styles and strategies that learners display are often considered as a developmental outcome that emanates from the decision making styles used by their parents (Öztürk, Kutlu & Atli, 2011).

In the present study, the parents were perceived as being mainly authoritative. Authoritative parents raise children who display academic achievement and reflect pro-social developmental outcomes (Spera, 2005; Keshavarz & Baharudin, 2006; Pérez & Cumsille, 2012; Davids & Roman, 2014). In considering the role that parents play in socialisation, the gender roles that are ascribed to male and female learners also become prevalent (Kerr, Lopez, Olson & Sameroff, 2004; Chaplin, Cole & Zahn-Waxler, 2005). The gender roles that are ascribed to learners are often important as part of development, particularly when examining gender differences from a developmental trajectory (Golan, Hagay, & Tamir, 2014)

In examining developmental gender differences of learners, the study found no significant differences. These findings add to the current debate regarding the role of gender in development, which is often ambiguous and contradictory. For example, on the one hand studies suggest that gender differences do exist in decision making (Lease & Dahlbeck, 2009), healthy lifestyle behaviours (Griffin *et al.*, 2000; Windle *et al.*, 2010) and parenting (Kerr *et al.*, 2004; Chaplin, Cole & Zahn-Waxler, 2005), whereas, on the other hand other, studies have suggested no differences on the basis of gender (Roman & Davids, 2013; Sari, 2008).

The current study suggests that there were no significant differences in male and female learners' engagement in healthy lifestyle behaviours. The findings add to the current body of literature on gender differences as well as elaborating on the contradictory findings when examining gender differences. However, Griffin and colleagues (2000) found that males often engaged in behaviours that were detrimental to health and well-being, which are different to the findings in the current study. To add to the discussion around the contradictory nature of gender differences in development, the learners in the current study had both authoritative maternal and paternal parenting, which is often an outcome of pro-social adolescent development (Simons & Conger, 2007). This suggests that there was no display of differences in parenting when considering both the gender of the parents and

the gender of the learners, which is interesting, particularly when considering that the literature suggests that there are differences in how parents carry out their roles (Shields, 2002; Chaplin, Cole & Zahn-Waxler, 2005). Some studies suggest that there are differences in male and female decision making (Lease & Dahlbeck, 2009), but the current study suggests that there are no significant differences between male and female learners. Brown, Adballah and Ng (2011) suggest that the reason for the similarity in male and female learners' decision making styles with regard to vigilant decision making, could be the fact that both male and female learners are equally capable of making decisions and considering alternatives in the decision making process. The similarities in decision making styles can be explained by developmental theorists, such as Piaget (2006; 1972), who places secondary school learners' developmentally in adolescence where formal operations take place in decision making and cognition. Formal operations in cognitive development are where learners engage in abstract thinking, and problem-solving skills are developed that help to find hypothetical alternatives and solutions to decisions (Shaffer & Kipp, 2014; Steinberg, 2007), which are common to cognitive development in adolescence and not necessarily explained by gender differences.

The findings of the present study provide particular insight into learners engaging in healthy lifestyle behaviours, as well as the most prevalent decision making style and the perceived parenting style. More importantly, it is one of the first studies on the African continent combining parenting styles, decision making and healthy lifestyle behaviours from the perspective of the school setting. From an educational perspective, the study alludes to the important role that teachers play in providing information and assisting in critical skill development, particularly with regard to decision making. The decision making skills that learners are encouraged to exercise in the classroom setting also extend to decisions around healthy lifestyle behaviours, as seen in this study. The important role that parents play, as participators in the school environment, also becomes important in the parenting styles used, which are associated with learner goal-directed and autonomous behaviours. The findings presented in this study have implications for parents, as well as for teachers and principals. The findings serve to assist parents to become more aware of their approaches to parenting and the effect of parenting outcomes on developmental trajectories. Teachers and principals alike are also informed as a result of this study of the important role that the school environment plays in the development of learners. This is important particularly when considering the role of decision making in light of the CAPS for Life Orientation that focuses on the learner becoming actively involved in decision making and promoting pro-social development (Departments of Health and Education, 2012). The current study furthermore contributes to the current understanding of how learners make decisions, which is often unclear when examining literature, but it also provides insight into gender differences of parenting styles and learners' differences that would assist scholars internationally to gain a comprehensive understanding of decision making and gender differences when comparing studies across cultures and geographical locations.

Conclusion

Authoritative parenting styles, vigilant decision making and engaging in regular healthy lifestyle behaviours, were the most prevalent behaviour of learners. The study found no significant main effects for male and female learners on the outcome variables. The current study, however, makes an important contribution to the existing body of knowledge, as it is one of the first studies in South Africa and in Africa which examines gender differences of learners' perceived parenting styles, decision making styles and engaging in healthy lifestyle behaviours.

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