Assessment of Decision Making Skills among Adolescents from Rural and Urban Contexts in Kenya: A Comparative Study of Learners in Public Secondary Schools in Nyeri and Nairobi Counties

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Abstract

Human beings are confronted by situations that require them to make decisions every day in their lives. The natural processes of adjustment to situations in life that human beings are part of demands acts of decision making. Decision making is hence a natural consequence of existence by human beings. The purpose of this study was to assess the decision making skills among adolescents from rural contexts and those from urban environments. The study was guided by the following objectives which was to; assess the status of decision making skills among adolescents from rural and urban contexts in Kenya, evaluate the variables that influence adolescents during decision making processes from rural and urban environments in Kenya and analyze the challenges that face adolescents while making decisions from rural and urban contexts in Kenya. Descriptive research design was used in this study. Social cognitive theory developed by Bandura guided the study. The target population comprised of adolescents selected from schools from Nyeri and Nairobi Counties. A sample of schools from the two counties was selected using Kothari's sampling formula which gave 30 (10%) schools from both counties. The sampled schools were as follows; 2 boys' schools from each county, 3 and 2 girls', 4 and 17 co-educational schools from Nyeri and Nairobi Counties respectively. Data was collected using a questionnaire administered to the sampled adolescents. The study used a sampling formula by Kathuri and Pals to determine the sample size which yielded 391 respondents. Analyzed data revealed that adolescents from urban areas had relatively better decision making skills compared to their counterparts from rural environments. The first hypothesis stated that there was no statistically significant difference in decision making abilities among adolescents from rural and urban contexts. To test this hypothesis, t-test was calculated which gave a level of significance .000 which was less than the p-value (.05). Therefore the null hypothesis was rejected. It was concluded that the decision making skills among adolescents from rural and urban contexts was dissimilar. The second research hypothesis sought to establish whether there was any statistically significant difference in decision making skills between gender from rural and urban contexts. The results of data analysis presented revealed that the level of significance .163 was more than the p-value (.05). Therefore the null hypothesis was accepted. It was concluded that there was no statistically significant difference in decision making skills among male and female adolescents. The study recommended that there is need to strengthen the process of nurturing decision making skills among adolescents in secondary schools in Kenya.

Keywords: Decision making skills, adolescents, problem solving, reasoning, 21st Century skills.

INTRODUCTION

In the contemporary world, the youth need to be equipped with abilities to make sound decisions for them to function effectively in the 21st century. The new world order dictates that individuals have to invention rational resolutions to the challenges they encounter in the rapidly evolving world. The ability to make coherent decision is partly the product of development, social forces and that go on during an individual's lifespan. Ability to make sound decisions not only enables adolescents to resist the push by peers to involve in dangerous behaviours, but also promotes in them skills of effective engagement with other people and awareness of one's own potential. Acquisition of these skills inculcates in adolescents the capacity to interrogate the consequences of their behaviour, understand their own feelings and those of others feelings (Mince *et al.,* 2003). According to Mann, Harmoni and Power (1989) adolescents around the age of fifteen years are expected to have achieved a practical level of decision-making ability. O'Brien (2009) argues that adolescents have sometimes been found to fail in applying rational decision-making skills when threatened with conflict or worrying situations. This has been attributed to negative emotions and lack of instinct control among adolescents due to variations due to; brain circuit, age, and personal experiences such as lack of sleep (NIMH, 2011). Most importantly, adolescents are confronted with situations which dictate that they make lifestyle and career choices that impact their future and the future of society.

Beyth-Marom and Fischho (1997) stress that decision making involves choosing responses over a wide range of options after thoroughly analyzing the possible significance of each alternative. Webster's New World Dictionary and Thesaurus (Agnes & Laird, 2002) defines decision making as a cognitive process of selecting alternatives; making up one's mind; a judgment. Several models of decision-making highlight the importance of contextual dynamics as well as developmental factors that are related to the decision-making process among adolescents (Albert & Steinberg, 2011). This affirmation s in agreement with Mann, Harmoni and Power (1989) whose study revealed that teenagers are incapable of predicting the hazards and benefits, and accurately appraise the information acquired to make appropriate decision. This matches a study by Boyd (2001) which established that decision-making skills were higher among adolescents from urban environments. The study further revealed that adolescents from urban areas viewed problems in the society as general rather than individual and were action leaning in finding clarifications in their daily living activities. Conversely, adolescents from rural settings (Billig, Meyer, & Hofschire, 2003) were found to be more cautious and decisive when they make decisions that affect their lives. However, though institutions of learning provide opportunities to practice and acquire decision-making skills in a safe atmosphere with expert guidance and noble contribution, literature on adolescents' decision-making skills from schools in urban and rural contexts in Kenya is limited.

Lehr (2007) states that education stakeholders in USA are recognizing the need to equip students with decision- making skills critically required to make them effective future citizens. This implies that there is great need for students to learn decision-making skills while in school. They believe that decision-making skills are prerequisite to scientific literacy and good citizenship.

The Partnership for 21st Century Skills, with its eye on helping adolescents succeed, has developed a framework that includes making complex choices and decisions (Framework for 21st Century Learning, 2004). Rutherford and Ahlgren (1989) assert that the high schools administrators advocate for decision-making skills as an important educational objective in multiple standards. According to Arvai *et al.*, (2004) educationists are increasingly recognizing that students' decision-making skills are an important outcome of education in the contemporary times. Furthermore, teaching decision-making in the context of science disciplines accords students valuable skills for using their knowledge in real life situations. Edelson (2001) in his description of the Learning-for-use framework, states that to apply scientific understandings to real life situations, an individual must have wide-ranging decision-making skills in a contextualized environment.

Rural and urban adolescents experience distinctive environments pertaining to provision of information owing to geographical and sociocultural variables which may influence on their abilities to make sound decisions. According to Mincemoyer and Perkins (2003), sound decision making not only supports the youth in resisting negative pressure, but also nurtures social skills and self-awareness, but also inspires them to reflect about consequences of their actions, select goals, and know their own and others' feelings. A study by Mann, Harmoni and Power (1989) established that though adolescence above the age of 14 years had achieved an equitable level of decision-making ability, majority failed to consistently apply comprehensive decision-making skills, particularly when confronted with conflict or demanding situations. O'Brien (2009) suggests that adolescents' decision making skills are predisposed by their adverse emotional reactions and deficiency of impulse control. Gardner and Steinberg (2005) assert that adolescents' decision making is influenced by social cultural variables such as, age, gender, place of residence and every-day experiences. However, previous studies by Byrnes, Miller, and Schafer (1999) indicated that gender as a predictor of decision making have revealed mixed findings that varied across age and context. This is reinforced by studies by and Blum et al (2000) which revealed no universal preference in decision making skills among male and female adolescents.

Mann, Harmoni and Power (1989) report that one of the cardinal goals of education today is to equip learners with competencies to solve problems with conscientiously and come up with the satisfactory decision to challenges. Since, schools are agencies of socialization they are effective forums where the young members of the society can be imparted with competencies of effective decision-making. McCandless and Coop (1979) argue that learning to how to make effective decisions is not easy and that it takes a long time to perfect the skill, consequently, adolescents vulnerable because this stage of life brings about demands to make decision's pertaining to their, cognitive, physical and psychological development. In order to appropriately adjust to these monumental changes, individuals require the ability to make desirable decisions. Schvaneveldt and Adams (1983) contend that during adolescence, individuals are compelled by circumstances to make decisions despite the fact that they have limited skills. Ersever (1996) observes decisions made in teenage may have life-long implications in health, mental health, career, and social interactions. Arguing in the same vein Mann et al (1989) add that decisions made in Adolescence may engender appropriate circumstances for life or

may nature holistic development of the individual. Several features of the rural context, such as geographical, socio-cultural, economic, and health care are relevant in understanding the decision-making skills of adolescents from such environments (Leipert *et al.,* 2012). Rural communities tend to be more conservative, religious and strongly hold on to the traditional values and beliefs. These traditional values and beliefs preclude adolescents from rural environments from being assertive (Riddell *et al.,* 2009). Gender inequality may be especially pronounced in rural areas where traditional roles for women are often deeply ingrained (Riddell *et al.,* 2009).

Myriad interpersonal and intrapersonal barriers occur in decision-making processes among rural and urban adolescents, such as social, psychological and physical inputs as well as perceptions of rural areas as lacking in opportunity. Jarrett, Dadich, Robards and Bennett (2011) assert that adolescents encounter challenges in decision making, because of their reluctance to consult adults over fears about breach of confidentiality, mistrust, shame and lack of adequate information about developmental counseling. Britto, Tivorsak and Slap (2010) concurs with this view and complements that adolescents do not seek guidance in making decisions to individuals outside their peer group; in particular they hold adults and authorities with suspicion over breach of confidentiality and anonymity when in search of assistance; in extreme cases they may decline support rather than risk. Kang *et al.,* (2003) states that other challenges to adolescent's decision making skills include inadequate time with mentors and role models that influence their life's. Studies by Sannisto and Kosunen (2009) established that availability of a resident counsellor in a school setting, markedly improved adolescents decision making skills and rates of deviant behaviours decreased.

Despite the awareness of the centrality of decision making skills among adolescents, studies in in this noble dimension have largely evaded scholarly attention especially in the developing countries. Consequently, most of the information regarding decision making skills among adolescents is found from studies from the developed countries. This study assessed differences in the adolescents' decision making skills from rural and urban contexts in Kenya. The findings of this study provides practical and empirical data to education stakeholders on the need to equip adolescents with decision-making skills as a critical dimension in empowering individuals with the capacity for effective adjustment to the demands of life in the contemporary and complex society.

Statement of the Problem

Globally, scholars and policy makers underpin the fundamental value of empowering youths with decision making skills in order to effectively manage contemporary global challenges such as youth unemployment, harmonious co-existence and gender equity in society. Essentially, questions are raised on whether there are differences in decision making skills among adolescents from rural and urban contexts as well as gender variations within and between these environments in Kenya. The study was inspired by fact that decisions made in adolescence have significant implications in adulthood and therefore ought to be as sound and coherent as possible. In addition, decision making strengthens effectiveness and adaptability of an individual to the requirements of daily living. This study explored the status of decision making skills among adolescents from rural and

urban environments, evaluated the variables that influence adolescents during decision making processes and analyzed the challenges that face adolescents while making decisions from rural and urban contexts in Kenya. Decision making skills empowers adolescents with important life skills such as problem solving skills, high levels of academic performance, citizenship and appropriate intrapersonal and interpersonal relations in society.

Despite the fundamental importance of decision making skills among adolescents, there is scanty literature regarding whether this ability from rural and urban contexts in Kenya. The gap necessitated the need for this study in order to generate empirical data that can inform policy on this desirable educational outcome. This study addressed the stated knowledge gap in respect to whether there were differences in decision making skills among adolescents from rural and urban environments in Kenya.

Objectives of the study

The study was guided by the following objectives which were to:

i. Assess the status of decision making skills among adolescents from rural and urban contexts in Kenya.
ii. Evaluate the variables that influence adolescents during decision making processes from rural and urban environments in Kenya.
iii. Analyze the challenges that face adolescents while making decisions from rural and urban contexts in Kenya.

Research Hypothesis

The study tested the following null hypothesis;

H_{O1}: There is no statistically significant difference in decision making skills among adolescents from rural and urban areas in Kenya.

$H_{O2:}$ There is no statistically significant difference in decision making skills between gender from rural and urban contexts in Kenya.

METHODOLOGY

The study employed a descriptive research design to examine decision making skills among adolescents from public secondary schools in Kenya. According to Kothari (2004) descriptive studies are intended to collect data pertaining to the prevailing status of a phenomenon and draw deductions from the data collected without manipulating the research variables. Additionally, descriptive studies permit exploration of relationships between variables and make it possible for extensive collection of data over a wide area within a short period of time using the cross- sectional design (Kothari, 2004). Descriptive design most appropriate for the study in view of the variables of the study that did not require manipulation.

The Target population for the study consisted of learners from public secondary schools from Nyeri and Nairobi Counties. There were 86 public secondary schools in Nairobi County with 10,796 students (MoEST, 2013). Nyeri County had 214 schools with 58,424 students (Nyeri County office, 2013). Thus the total learner enrollment in the two counties was 69, 220. The schools were stratified into three categories, namely; girls, boys and co-educational institutions. Kothari (2011) observe that in descriptive studies a sample size of 10% of the target population is

adequate to represent a large population. Consequently, a 10% sample drawn from each of the three school categories, in each county was selected, which yielded 2 boys' schools from each county and 2 and 3 girls' schools from Nairobi and Nyeri Counties respectively. Further, 17 and 4 mixed secondary schools from Nyeri and Nairobi Counties were sampled. Therefore the total number of schools selected for the study was 30. The study only sampled the form three students since they were believed to be well accustomed to the school programs to have acquired significant levels of decision making skills compared to the students in form one and two. A sampling formula by Kathuri and Pals (1993) was used to determine the sample size, which yielded a sample of 376 respondents for a population of 18,305 subjects. Since the sampled respondents were distributed in the 30 sampled secondary schools, the number of students selected from each of the schools was 13. In co-educational secondary schools, proportionate stratified sampling was used to select a sample that was representative of each gender according to its population (See table 1).

Table 1: Sample Size

County	Total No. of Schools			No. of Schools Sampled			Students Sampled	
	Girls	Boys	Mixed	Girls	Boys	Mixed	Girls	Boys
	24	20	42	2	2	4	52	52
	25	19	170	3	2	17	150	137
	59	39	212	5	4	21	202	189

Data was collected using the Dindigal, Vijayalaxmi and Aminabhavi (2007) Psychosocial Competence Scale which was adopted and modified by the researchers. The tool consisted of a likert scale with 10 items that gathered data relating to the respondents' decision making skills. The scores obtained were used to compute a mean score which was used to rate the learners' level of decision making skills on a scale of 1 to 5. Respondents who scored below 3.0 were said to have a low level of the decision making skills, 3.0–3.9 moderate level and scores of 4.0 and above were considered to demonstrate a high level of the life skill. To ascertain reliability, the instrument was piloted in two schools that were not earmarked for the study using a random sample of 26 students. Cronbach's coefficient alpha was computed which yielded a reliability coefficient of 0.801. According to Fraenkel and Wallen (2003) a reliability coefficient of 0.70 or more is considered appropriate for the internal consistency of items, hence the tool was accepted as reliable. Data was analyzed by means of descriptive and inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS) version 20.0.

RESULTS AND DISCUSSIONS

The findings of the study are presented according to the stated research objectives and hypothesis.

a) The first research objective assessed the status of decision making skills among adolescents from public secondary schools from urban and rural counties in Kenya. The respondents were provided with items in a likert scale to indicate their opinion and the scores obtained were used to compute a mean score ($\bar{x}$) of decision

making skills of the respondents on a scale of 1 to 5. The findings are presented in Figure 1.

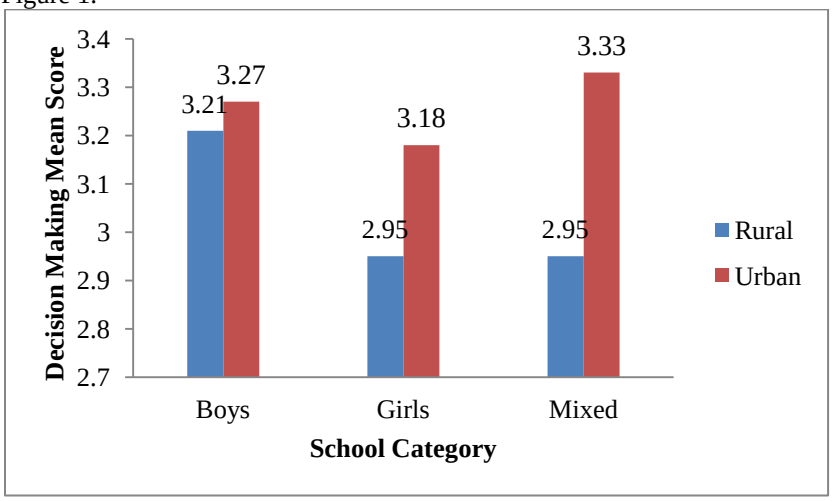

Figure 1: Decision Making Skills According to Rural and Urban Contexts

Analyzed data presented in Figure 1 reveal that decision making skills by students from Nairobi County were higher compared to those of students in the same school category from Nyeri County. In Nairobi County students from co-educational secondary schools had the highest levels of decision making skills ($\bar{x}$ = 3.33), while students from boys' schools ($\bar{x}$ = 3.27) and students from girls' schools had a mean of 3.18. From Nyeri County, boys schools' had the highest level ($\bar{x}$ = 3.21) while girls and co-educational secondary schools had a mean of 2.95 each. The urban adolescents rated higher in decision-making abilities compared to their rural counterparts.

These results are in agreement with a study by Orasanu and Connolly (1993) who established that decision making included sex-related factors and environmental factors which vary from place to place and time to time. The findings complement Billig (2002) study which found that decision-making abilities among urban youth were higher compared to rural youth. Youths from urban areas viewed social problems as personal concerns and suggested ways to remedy the situation. These results agree with Stone and Neale (1984) who established that there were significant differences in the means scores of boys and girls in decision making skills. The results suggested that boys were more problem-focused and tended to use straight forward approaches to solve the problems they encountered in their lives (Stone & Neale, 1984). This was attributed to the assumption that females and males are socialized into dissimilar gender roles. There was emphasis on making boys more independent and assertive in decision making while community relationships expected girls to be submissive and flexible (Gilligan, 1982). Consequently, gender differences as well as the cosmopolitan environment of Nairobi County compared with the rural environment of Nyeri County could be among the variables that contributed to differences in the observed decision making skills by the students.

Results of Tests of First Research Hypothesis

It had been hypothesized that there was no statistically significant difference in decision making skills among adolescents from rural and urban contexts in Kenya. To test this hypothesis, independent sample t-test was computed for the means of the decision making skills for adolescents from rural and urban environments. The findings are provided in Table 2.

Table 2: t-test on Decision making Skills for Adolescents from Rural and Urban Contexts

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Decision making	Equal variances assumed	.316	.574	-3.769	396	.000	-.27603	.07324	-.42002	-.13204
	Equal variances not assumed			-3.898	169.243	.000	-.27603	.07081	-.41582	-.13624

Data analysis presented in table 2 show that the level of significance .000 was less that the p-value (.05). Therefore the null hypothesis was rejected. The study concluded that there was a statistically different ability in decision making skills among adolescents from rural and urban contexts in Kenya. This concurs with Leipert *et al.* (2012) who observed that difference in geographical, fiscal, social and cultural, and health variables in the rural and urban contexts influence the decision-making skills among adolescents. Rural communities are generally more conservative and religious and tend to hold strongly on traditional values and beliefs compared to the urban adolescents. Riddell *et al.* (2009) adds that the traditional values and beliefs may preclude adolescents from rural environments from engaging in assertive behaviours. Therefore the contextual variables in the rural and urban settings could be stimulating differences in the acquisition of decision making abilities among the adolescents.

Results of tests of second research hypothesis

The second hypothesis stated that there was no statistically significant difference in decision making skills between different gender from rural and urban contexts in Kenya.

Table 3: t-test results on decision making skills for male and female adolescents

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Decision making	Equal variances assumed	4.906	.027	1.367	338	.173	.09456	.06918	-.04153	.23064
	Equal variances not assumed			1.399	336.838	.163	.09456	.06759	-.03840	.22751

Data analysis presented in Table 3 clearly indicates that the level of significance .163 was more that the p-value (.05). Therefore the null hypothesis was accepted. It was concluded that there was no statistically significant difference in decision making skills among male and female adolescents in Kenya. Remarkably previous studies by Byrnes *et al.* (1999) indicated that gender as a predictor of decision making abilities among adolescents had revealed mixed findings that varied across age and context. Similarly, studies by and Blum *et al.* (2000) established that no universal gender preference in decision making skills among adolescents. Chien, Lin and Worthley (1996) study found out that adolescent boys and girls had similar abilities in their decision making, however, Tuinstra *et al.* (2000) found significant differences in decision making style among male and female adolescents. Generally, studies indicate that there are no statistically significant differences in decision making among male and female adolescents.

b) The second research objective sought to evaluate the variables that influence adolescents during decision making processes foe adolescents in rural and urban environments in Kenya. The respondents were provided with a five point likert scale that sought their opinions pertaining to the extent to which they considered four variables present in their lives influenced their decision making. The variables investigated included, personal convictions and beliefs, family values, community approval/sanctions and conformity to the convictions of their friends. The responses provided were used to compute mean scores on a scale of 1-5. The findings are provided in Figure 2.

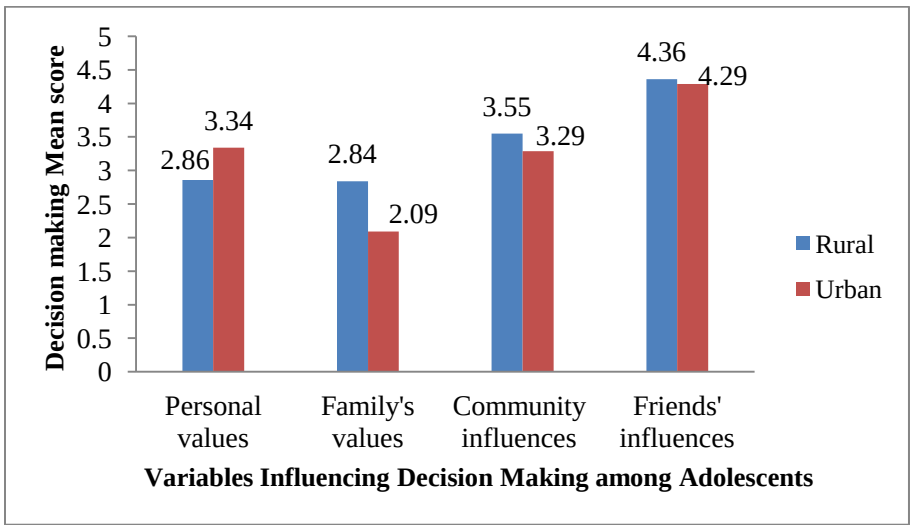

Figure 2: Variables Influencing Decision Making among Adolescents

Analyzed data presented in Figure 2 indicate that friends were the greatest influence in decision making among adolescents from both rural and urban contexts with mean scores of; urban ($\bar{x}$=4.29) and rural ($\bar{x}$=4.29). This was followed by community influence with mean scores, urban ($\bar{x}$=3.29) and rural ($\bar{x}$=3.55). The mean scores for personal values were, urban ($\bar{x}$=3.34) and rural ($\bar{x}$=2.86). Lastly, the mean score for the influence of family values among adolescent decision

making were urban ($\bar{x}$=2.09) and rural ($\bar{x}$=2.84). According to these findings the ranking of the variables influence on adolescents' decision-making in order of importance was; friends, community, personal values and family values. The study revealed that the influences on adolescent decision-making process were embedded in contextual variables in the rural and urban environments. These circumstances may be contributing factors to the observed differences in decision making among adolescents from rural and urban areas. Thus, the higher influence of friends on adolescents' decision making could be explained by the fact that adolescents' peer groups tend to have similar interests and values regarding almost everything. According to Albert and Steinberg (2011) friends are a primary influence on decisions made by adolescents' because of shared values and increased time spent with one another. In addition, adolescents consider their friends as resource persons who could always to be trusted with private information, and thus the apparent tendency to conform to the peer pressure and influence. These findings concur with Gardner and Steinberg (2005) who observed that adolescents' decision making is also influenced by social cultural variables such as, age, gender, place of residence and every-day experiences.

c) The third research objective sought to find out the challenges that face adolescents while making decisions from rural and urban contexts in Kenya. The respondents were provided with items on a five point likert scale and their responses were used to compute a mean score on a scale of 1-5. Figure 3 provides a summary of the findings.

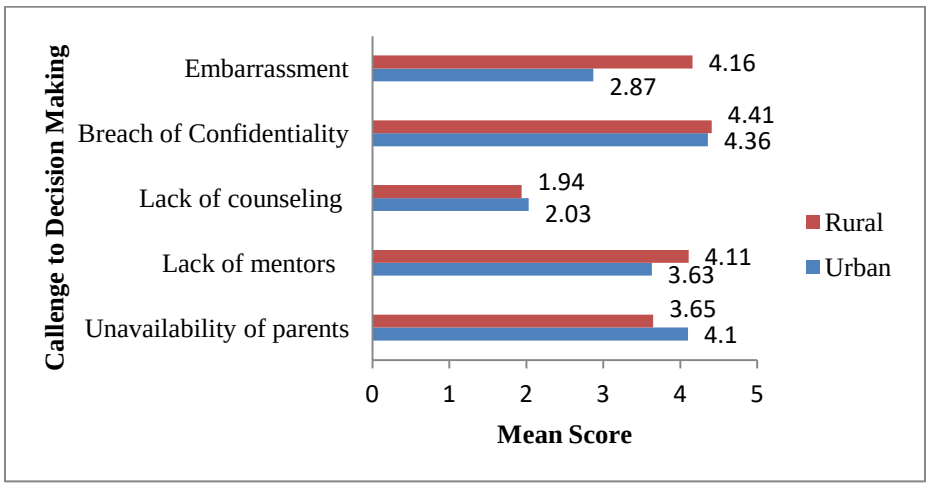

Figure 3: Challenges to decision making among rural and urban adolescents

Figure 3 indicates the challenges encountered by rural and urban adolescents in decision making processes. The respondents mean scores pertaining to concerns about breach of confidentiality were urban ($\bar{x}$=4.36) and rural ($\bar{x}$=4.41). Means scores of other responses were; embarrassment urban ($\bar{x}$=2.87) and rural ($\bar{x}$=4.16), lack of counseling urban ($\bar{x}$=2.03) and rural ($\bar{x}$=1.97), lack of mentors urban ($\bar{x}$=3.63) and rural ($\bar{x}$=4.11), and unavailability of parents urban ($\bar{x}$=4.10) and rural ($\bar{x}$=3.65). The respondents in the study indicated a number of barriers to decision-making, which echoed a study by Kang, et al., (2003) which established

that challenges to adolescent's decision making skills include inadequate time with mentors and role models that influence their life's, irrelevance of the adults around them, poor parenting skills, unavailability and inflexibility of their parents and guardians, and poor linkages with other pertinent service providers. Other researchers, such as Britto *et al.* (2010) and Jarrett *et al.* (2011) add that, social cultural variables such as, religiosity, poor management of leisure activities, social exclusion, desire for social recognition, future prospects, high visibility and familiarity, and scarcity of discreet services have been shown to influence decision making abilities among adolescents. Consequently, these variables may have been among the factors influencing to adolescents decision making abilities in Kenya.

CONCLUSION

The study established that adolescents in urban areas rated higher in decision-making abilities compared to their counterparts in rural areas and boys performed better in decision making compared to girls in both counties. In addition, t-test computed for the decision making abilities for rural and urban adolescents was found to be statistically significant. However, t-test for the decision making skills between male and female adolescents was not statistically significant.

RECOMMENDATION

On the basis of the findings of the research, it can be suggested that there is need to support measures that strengthen decision making abilities among adolescents in rural areas in order to instill capacities for good academic achievement, career choices, functional citizenship, conflict resolution abilities, unemployment, harmonious co-existence and gender equity among adolescents in Kenya. Additionally, nurturing decision making skills among adolescents should be a rigorous effort undertaken by all stakeholders in education, regardless of whether they are directly or indirectly involved, in the conveyance of educational experiences to adolescents. It is important to provide empirical understanding of the prevailing level of decision making abilities of the adolescents and the geographical factors that influence rural and urban environments in their decision making skills. This suggests the centrality of implementation of the Life skills Education policy in schools in order to oblige schools impart learners with decision making skills as specified by the school curriculum.

REFERENCE

Agnes, M. & Laird, C. (Ed.) (2002). *Webster's New World Dictionary and Thesaurus, 2nd.*New York: Hungry Minds, Inc.

Albert D., & Steinberg, L. (2011). *Peer influences on adolescent risk behavior*. New York: Springer.

Arvai, J. L., Campbell, V., Baird, A., & Rivers, L. (2004). Teaching Students to Make Better Decisions about the Environment: Lessons from the Decision Sciences. *The Journal of Environmental Education*, *36*(1), 33-44.

Beyth-Marom, R., Fischoff, B., Quadrel, M. J., & Furby, L. (1991). Teaching decision making to adolescents: A critical review. *Teaching Decision Making to Adolescents*. Hillsdale, NJ: Lawrence Erlbaum.

Billig, S. 2002. *Philadelphia Freedom Schools Junior Leader evaluation*. Denver, CO: RMC Research Corporation.

Billig, S. H., Meyer, S., & Hofschire, L. (2003). *Evaluation of Center for Research on Education, Diversity, and Excellence demonstration site*, the Hawaiian Studies Program at Waianae High School. Denver, CO: RMC

Blum, R., Beuhring, T., Shew, M, Bearinger, L., Sieving, R., and Resnick, M. 2000. The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health 90:*12, 1879-1884.
Boyd, B. L. 2001. Bringing leadership experiences to inner-city youth. *Journal of Extension* 29:4.
Britto, M.T., Tivorsak, T.L., & Slap, G.B. (2010). Adolescents' needs for health care privacy. *Pediatrics, 126*(6), 1469-1476.
Byrnes, J., Miller, D., and Schafer, W. 1999. Gender differences in risk-taking: A meta-analysis. *Psychological Bulletin 125:*367-383.
Calderwood, & C. E. Zsambok, (Eds.), *Decision making in action: Models and methods* (pp. 3-
Chien, Y. C., Lin, C., & Worthley, J. (1996). Effect of framing on adolescents' decision making. *Percept Mot Skills, 3* (1), 811-9.
Edelson, D. C. (2001). Learning-for-Use: A Framework for the Design of Technology- Supported Inquiry Activities. *Journal of Research in Science Teaching, 38*(3),355-385.
Ersever, O. H. (1996). *The Effect of Gaining Decision-Making Skills Program and Encounter Group Experience on the Decision-Making Styles of the University Students*. Unpublished PhD Dissertation. Ankara: Ankara University.
Fraenkel, J. & Wallen, N. (2003). *How to design and evaluate research in education*. New York: Mcgraw-Hill Higher Education.
Framework for 21st Century Learning. (2004). from http://www.21stcenturyskills.org/
Framework for 21st Century Learning. (2004). from http://www.21stcenturyskills.org/
Gardner, M., and Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology 41:*625-635.
Gilligan, Carol (1982): *In a different voice: Psychological theory and women's development.* Cambridge, Massachusetts: Harvard University Press
Jarrett, C., Dadich, A., Robards, F., & Bennett, D. (2011). Adolescence is difficult, some kids are difficult: general practitioner perceptions of working with young people. *Australian Journal of Primary Health, 17*, 54-59.
Kang, M., Bernard, D., Booth, M., Quine, S., Alperstein, G., Usherwood, T., & Bennett, D. (2003). Access to primary health care for Australian young people: service provider perspectives. *British Journal of General Practice, 53*, 947-952.
Kathuri, J. N. & Pals, D. A. (1993). *Introduction to educational research*. Njoro: Egerton University Press.
Kothari, C.R. (2004). *Research methodology methods* & *techniques.* New Delhi: New Age International publisher.
Lehr, J. (2007). *Democracy, scientific literacy and values in science education in the United States.* Rotterdam: Sense Publishing.
Leipert, B., Leach, B., & Thurston, W. E. (2012). *Rural women's health.* Toronto: University of Toronto Press.
Mann, L., Harmoni, R., & Power, C. (1989). Adolescent decision-making: the development of competence. *Journal of Adolescence, 12*, 265-278.
Mann, L., Harmoni, R., and C. Power. (1989). Adolescent decision-making: the development of competence. *Journal of Adolescence 12*, 265-278.
Mincemoyer, C. C., & Perkins, D. F. (2003). Assessing decision-making skills of youth. *The Forum for Family and Consumer Issues (8*)1.
NIMH. (2011). *National Institute of Mental Health*. Bulletin
O'Brien, L. (2009). The neurocognitive effects of sleep disruption in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America. 18(*4), 813-823.
O'Brien, L. (2000). The neurocognitive effects of sleep disruption in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America. 18(*4), 813-823.
Orasanu, J. & Connolly, T. (1993). *The reinvention of decision making*. Norwood, NJ: Ablex.
Riddell, S., Harris N., Smith, E. & Weedon, E. (2010). Dispute resolution in additional and special educational needs: Local authority perspectives. *Journal of Education Policy. 25*(1), 55-71.
Sannisto, T., & Kosunen, E. (2009). Promotion of adolescent sexual health in primary care: survey in Finnish health centers. *The European Journal of Contraception and Reproductive Health Care, 14*(1), 27-38.
Scvaneveldt, Y. D. & Adams, G. R. (1983). Adolescents and the decision making process. *Theory Into Practice.* 22(2), 98-104.
Stone, A. A., & Neale, J. M. (1984). New measure of daily coping: Development and preliminary results. *Journal of Personality and Social Psychology, 46*(4), 892-906.
Tuinstra J., van Sonderen, F. L. P., Groothoff, J. W., van den Heuvel, W. J. A., & Post, D. (2000). Reliability, validity and structure of the Adolescent Decision Making Questionnaire among adolescents in the Netherlands. *Perspectives of Individual Difference, 28*(2), 273–285.