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Mapping Structural Influences on Sex and HIV Education in Church and Secular Schools in Zimbabwe

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Abstract

We used state-of-the-art concept mapping approaches to examine structural institutional effects of church and secular schools on the types of sexual and HIV prevention education messages transmitted to learners. Participants were school teachers (n=26), school counselors (n=28) and pastors involved in student pastoral care (n=14) (males =27, females =41). They reported on perceived messages to influence sexual decisions of learners in their school setting. The self-report data were clustered into message types using concept mapping and contrasted for consistency of content and structure both between and within type of school. We also engaged in extended document study with member checks in the participant schools to determine convergence of the evidence on school type effects of the messages transmitted to students. Church schools prioritized faith informed sexual and HIV prevention messages, whereas both types of schools prioritized life skills education and a future focus. Secular schools prioritized sex and HIV messages in the context of community norms. Facts about HIV and AIDS were relatively underemphasized by church schools. The implicit knowledge values that differentiate types of schools influence learner access to information important for their sexual decisions.

Keywords/phrases

prevention; teenagers; evaluation; faith concepts; orphans

HIV has resulted in millions of orphans in sub-Saharan Africa, and schools are at the forefront of education policies to contain its spread (Africa Scholarship Development Enterprise: ASDE, 2011; UNICEF, 2009). But schools are epistemic or knowledge generating and validating environments (Jansen, 2009; Karmon, 2007), and their value systems likely influence the nature and quality of sexual and HIV prevention education they provide. In sub-Saharan Africa, church schools provide basic education alongside public or secular schools. (Zvobgo, 1994). Church schools established mostly by missionaries from Europe and the United States have a long history of pastoral care to host communities. The nature of the specific sexual and HIV prevention education message church and secular schools perceive to transmit to learners to influence their sexual decision-making is unknown although such knowledge would be important to in-school health policy implementation.

School Structural Effects on Sex and HIV Education

For the present study, we sought to understand school structural policy influences on sexual decisions by learners attending church and secular schools from the perspective of teachers and pastors from the district of Manicaland in Zimbabwe. Manicaland district hosts several Christian faith organizations, of which the United Methodist Church (UMC) is a major education and health services provider. Its social services complement those provided by the Zimbabwean government, and often substitute for the public services of health clinics, and orphan relief aid. We conducted the study in a sample of UMC high schools and community schools in the same neighbourhood. In Zimbabwe, schools are required to teach a life skills curriculum (Ministry of Education, Sport & Culture, 2003). However, our premise was that if school context explained the quality of transmitted education, then two types of school systems (i.e., church and secular) would offer qualitatively different learning contexts for sexual and HIV prevention education. For instance, UMC schools follow Christian missionary values, and would place an emphasis on faith informed concepts on sexual and HIV prevention education. Secular schools in their sexual and HIV prevention education would emphasize life skills education in the context of local cultures and customs. Thus, school context would influence the sex and HIV education messages transmitted to learners.

Teachers (and pastors) are knowledge validators in the school setting (Jansen, 2009) and the main instruments for translating this policy into practice. The curriculum implementation practices they adopt and school institutional values that they project to learners will likely align with the type of school they serve. Teachers in their professional socialization would likely be influenced to uphold the values of the type of school they are employed. There is need for studies to examine school type effects on the sex and HIV messages transmitted to learners to be better able to adapt them to the context of learning.

Goals of the Study

The study investigated school epistemic effects on the type of sex and HIV education messages teachers (and pastors if with church school) perceived to transmit to learners. First, we hypothesized that the teachers and pastors in church schools would perceive to transmit messages mostly faith-oriented messages with those in secular schools emphasizing lifeskills oriented messages. Second, we hypothesized that church and secular schools in their use of curriculum resources would be consistent with their institutional values so that value contrary resources would be excluded or de-emphasized. Third, we hypothesized that teachers would use sexual health curriculum materials to reflect, support, and reinforce school institution values.

Methods

Participants and Setting

Participants were school counsellors (n=28), regular class teachers (n=26) and pastors (n=14) (if church school) (see also Table 1). School counsellors in this context are teachers with the special assignment to also provide student counselling. They are not professionally qualified counsellors and may have received brief workshops on counselling from the public education authority, and church organization (if with church schools). Regular class teachers were randomly selected from the school's teaching roster to participate in the study. The school counsellors, regular class teachers and pastors were retained to participate in subsequent phases of the study, once selected for the initial phase of the study (as described below).

Data Collection

Data collection comprised concept mapping, extended document study, and member checks. In addition, participants provided demographic data on themselves, including their specific role within the school.

Concept mapping—We used concept mapping to construct the structure and content of the types of sex and HIV education messages school personnel believed to transmit to learners or consistent with school policy. Concept mapping (Concept Systems, 2010) is a mixed method approach that combines qualitative techniques (e.g., brainstorming) with quantitative analysis (i.e., Multidimensional Scaling: MDS, Hierarchical Cluster Analysis: HCA), allowing for rich profiling of the phenomenon under study (Kane & Trochim, 2007). The data collection is over 3 to 4 short workshops and includes brainstorming, sorting and rating of statements.

Brainstorming—For the brainstorming, we presented in writing on a flip chart the following prompt to capture the perceived messages to influence sexual decisions by learners:

“Think about the in-school sexual and HIV related messages. As you think about these messages, please generate as many statements (short phrases or sentences) as you can and write them in the numbered blank spaces on this form. Use this statement probe to guide your responses: In-school sexual and HIV related messages taught to teenagers include ____.”

The statements by teachers and pastors from the church schools were substantially similar to those from the secular schools (Kappa coefficient of inter-rater agreement = .90). Thus for the subsequent or data collection for the concept mapping sorting and rating, participants responded to the same list of statements on perceived messages for sex and HIV prevention education.

Sorting and ranking tasks—For the statement sorting, each participant used a bundle of cards with numbered individual statements from the brainstorming to group the statements into piles “in a way that make sense to you”. We asked participants to write the number for each statement on a record sheet so that those statements they grouped together are in the same cluster. Participants provided a short descriptive label for each of the clusters to capture their perceived core meaning for a statement grouping. They also rated each of the statements on a 5-point Likert-type scale on relative importance to the teaching of sexual and HIV prevention education at their school (*relatively unimportant* = 1, *to extremely important* = 5).

Document sampling—During visits to the participant schools (every 6 months over a two-year period), we identified curricula materials, posters, and other ancillary documents used to communicate sexual and HIV-related messages. Criteria for the admissibility of document study data were that the document (1) must have been used or are currently being used as part of sexual and HIV-related education; (2) must be available at the school and in teaching centres (e.g., classrooms, hallways, libraries) and (3) communicate a clear sexual and HIV-related message. The resulting initial record is one which we updated at subsequent visits to document any additional sex and HIV prevention education resources since previous visit.

Member checks—The lead author carried out focus group discussions with eight of the teachers from two purposively selected church schools for their stronger mission presence (i.e., with resident senior pastor) and 12 teachers from two of the high functioning secular

schools (i.e., with higher academic reputation) to clarify the likely role of type of school on the sex and HIV education transmitted to learners. The teacher informants were also asked to share their views on their professional socialization within the school that influenced the ways they provided sex and HIV education at their school.

Procedure

Permission for the study was granted by human research ethics institutional review boards for the University of Sydney, Pacific Institute of Research and Evaluation, the Zimbabwe Research Council, and Zimbabwean Ministry of Education, Sports and Culture. The participant teachers and pastors granted individual written consent. Data were collected during normal school hours.

Data Analysis

The Concept Systems program (Version 4.0) was used for the data capture and analysis. The program applies MDS and HCA to construct participant driven program qualities from the participants' statements. The Concept System software computes hierarchical cluster analysis with Ward's criterion (Everitt, 1980) on sortings and ratings data as previously described. We used a concept mapping split-plot procedure to disaggregate the data by school type to determine the influence of type of school on sex and HIV education messages transmitted to learners. We applied the Dunn-Bonferroni procedure, and report statistically significant findings at $p < .05$, reducing possible inflation of Type 1 error with the multiple pair-wise comparisons on importance ratings for message clusters by type of school.

For the document study analysis, we used panning (Tesch, 1990) to recursively journal the types of curriculum documents at each school to which students prospectively were exposed. We then engaged thematic analysis to discern the major trends in types of curriculum materials by type of school. In analysing the data from the member checks, we documented informant perspectives on school institution values important for understanding sex and HIV education at the church and secular schools.

Results

We report the relative importance of the sex and HIV education messages between and within each school type as an epistemic environment. Next, we report on the evidence from the document study with member checks to further clarify how school type context influenced the sex and HIV education messages transmitted to learners.

School Type Effects on Transmitted Sex and HIV Education

The two school environments transmitted similar types of messages, although with different degrees of emphasis: Facts about HIV and AIDS, Biblical teachings, Life Skills Education, Community/Family Expectations, and a Future orientation. Figure 1 presents the concept mapping pattern match comparing the relative emphasis of perceived transmitted messages both between and within type of school learning environments. A pattern match allows for a visual representation of the relative position of each on the type of messages (or message cluster) on the importance criterion both within and between types of school. The higher the correlation between the clusters by school type, the lower the difference in the perceived types of HIV and AIDS messages transmitted. A low pattern match comparison correlation of .33 was observed (see Figure 1) lending further support to the hypothesis that church and secular schools emphasize different types of messages, consistent with their ethos. For instance, the pattern match within type of school adjusted mean scores show that church schools prioritized messages about Biblical teachings ($M=4.31$, $SD=.28$) equally with Future focus ($M=4.30$, $SD=.20$), and Life skills education ($M=4.29$, $SD=.26$). By contrast, secular

school prioritized Life skills education ($M=4.29$, $SD=.24$), followed by Future focus ($M=4.21$, $SD=.17$) and then Facts about HIV/AIDS ($M=3.62$, $SD=.45$). Overall, Biblical teachings on sex and HIV prevention education were comparatively more valued by church schools ($M=4.31$, $SD=.28$) than by secular schools ($M=3.41$, $SD=.43$), $t(66)=10.37$, $p<.001$. As an example, the faith aligned statement “God will provide the right marriage partner when the time comes” was more endorsed message at church schools ($M=4.43$, $SD=.28$) than at the secular schools ($M=3.72$, $SD=.43$), $t(66)=8.18$, $p<.001$. Use of condoms was rated lower at church schools ($M=2.36$) than at secular school ($M=2.76$), $t(66)=4.61$, $p<.001$.

Table 1 presents the results for the analyses by professional designation of the school personnel involved with learner counselling. Teachers at the church schools endorsed Biblical teachings (Mean =4.27, $SD=.31$) more than those at secular schools ($M=3.57$, $SD=.43$), $t(66)=7.78$, $p<.001$. Although teachers at secular schools emphasized messages about Future focus ($M=4.37$, $SD=.17$) more than those at church schools ($M=3.94$, $SD=.51$) ($p<.05$), overall, church schools endorsed future focus messages more than did the secular schools. The hypothesis that school epistemic environments influenced the types of messages perceived to be transmitted to students is supported by these findings.

Curriculum materials audit—Our extended documents audit revealed that secular schools comparatively had more of the prescribed curriculum materials (mostly textbooks and wall charts) addressing sexual and HIV prevention and from the Zimbabwean Ministry of Education, Sport and Culture than did the church schools. For instance, secular schools had comparatively more of the prescribed textbooks than church schools, $\chi^2(df=1)=3.76$, $p<.05$, and also displayed more public health posters than church schools, $\chi^2(df=1)=6.40$, $p<.01$. One of the church schools had virtually none of the prescribed curriculum materials.

The church schools posted faith oriented display charts with messages such as: *Have self control*, *Value your body*, *Abstinence is the way to go*, and *Respect yourself*. Secular schools posted charts mostly with a life skills focus and hardly any on aspects of faith related to sex and HIV education. Examples of life skills posters at secular schools included “Know your HIV status.”. Our hypothesis that school institution ideology (church versus secular) influences the type of sex and HIV education curriculum materials prioritized by church and secular schools was supported by the evidence.

Member check audit—Teachers from two of the stronger mission church schools observed that they were required as a matter of policy by the church authority (station master) to underemphasize secular HIV prevention concepts (e.g., use of condoms) in preference for faith-based concepts (e.g., abstinence). The church school teachers noted that they were required on hire to sign a contract to observe church mission values (e.g., not teach the use of condoms). Church school teachers were required to teach biblical lessons to the school assembly at least once a semester (in turns), which is not required at secular schools.

Teachers and counsellors from two of the higher functioning secular schools emphasized that they taught life skills for healthy community living. The secular school teachers reported that they were socialized in their teaching roles by peers who also tended to value secular approaches to health and wellbeing. Given the fact that neither type of school strongly supported teaching about condoms, we conclude that the evidence partially support our third hypothesis that the school instructional culture constrained school personnel in the sex and HIV prevention education they transmitted to learners.

Discussion

School institutional values influenced the sexual and HIV prevention messages teachers and pastors perceived to transmit to learners. Church schools ranked Biblical teachings about equally with Future Focus and Life Skills as important messages for HIV prevention. In contrast, secular schools ranked Life Skills as the most important HIV prevention message, at about the same priority as church schools. This may suggest that church schools link a strong faith perspective with positive living and positive life goals, including academic achievement, as a combined message to protect teenagers from an epidemic sexually-transmitted disease. Secular schools, on the other hand, focus life skills first, life goals second, and HIV specific facts third for their HIV prevention message arsenal. Thus each school type translated national sexual health education policy to be consistent with its knowledge values.

The differences in relative emphasis on type of messages by school type suggest that schools as epistemic environments constrained the sexual health messages transmitted to learners. Specifically, the encoded knowledge value systems of the schools (Karmon, 2007) influenced the importance attached to particular types of sex and HIV education messages. Teachers are influenced in enacting their professional roles both by the pre-service training they receive, and even more by the professional socialization by others (Shulman, 1990). We found evidence to suggest that teacher socialization to the school institutional ethos influenced how teachers valued types of sex and HIV messages they transmitted to teenage learners. These findings add to the significance of the underlying knowledge value system of the school as an influence on the sexual health education of learners.

Implications for in-school sexual health education program policies

Sources of variation in the provision and execution of the planned interventions are important to the design and delivery of public health interventions (Elliott & Mihalic, 2004). Contemporary public health intervention efficacy studies have focused on four types of variation in programme qualities: (a) extent of intervention exposure (dosage), (b) quality of implementation (fidelity), (c) relationship with provider (alliance) and level of interest in and perceived utility of the intervention by participants (or satisfaction with the intervention) (Higgins, Mpofu, Hawkins, & Brock, 2011; Karver, Handelsman, Fields, & Bickman, 2005; Payne & Eckert, 2010; McKay & Bannon, 2004). Singly or in combination, these qualities influence the likely impact of a treatment intervention (Hoagwood, 2005). Missing from intervention efficacy studies has been the attention to the fact that health intervention implementation is constrained by the compatibility of the target intervention with the epistemic environment in which it is appropriated.

The potential for epistemic environments to vary treatment intervention effects has significant implications for the design and delivery of in-school sexual health education programme policies. First, school epistemic qualities likely to influence the value attached to particular health concepts and practices. Health education policies customized to the knowledge values of the type of schools are likely to achieve adherence. Second, in implementing intervention treatments, an epistemic environment study would help to determine how and which components of the intended intervention program will need to be (a) changed or addressed differently, (b) replaced with an equivalent component or (c) discarded or negotiated with user-consumer institutions.

Limitations of the study

The study examined teacher, school counsellor and pastor perceptions of school type to influences on sex and HIV education messages transmitted to teenage learners. The self-

reported information from teachers and pastors was corroborated by the evidence from extended document study in the same schools. Nonetheless, the lack of direct and extended observation of teachers imparting sexual health education is a limitation. The study focused only on messages transmitted by the teachers, school counsellors, and pastors rather than received education by the learners. Future studies should investigate received education by the learners to determine the consistency of messages with those believed to be transmitted to them. In addition, direct observation studies of sexual health education in the schools would further clarify the role of school type on the sexual health education received by learners. Only five of each type of school was sampled. Given the variability of sample size per individual school, the analyses were possible between rather than among type of school. Future studies could examine variability within type of school to clarify possible individual school effects on the sexual health messages transmitted to learners. The study was conducted in one rural district of Zimbabwe and the findings may not generalize to other geographical settings or school types without further study.

Summary and Conclusion

The sex and HIV education messages transmitted to learners in church and secular schools are influenced by knowledge value systems of such schools. School personnel reported influences on sex and HIV education and the evidence from the extended curriculum documents seem to suggest a preference for a combination of faith-oriented, future focus, and life skills messages in church schools, and life skills-oriented messages in secular schools. The evidence from the curriculum documents study suggest that sex and HIV education materials prescribed by the public education policy are more likely to be used by teachers in secular schools than in church schools. Quite apparently, both types of school need more emphasis on facts about HIV.

Value contrary messages are underemphasized in both types of schools. We conclude that school epistemic environment influences the structure and content of sex and HIV education messages teachers, school counselors, and pastors perceive to transmit to learners. Implementation of sex and HIV education policy varies among types of school depending on their knowledge traditions or values, and regardless of public health education policy guidelines.

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Figure 1.

Pattern match map (with within group adjusted mean scores) contrasting perceived priority cluster of sex and HIV education messages within and between type of school, and in their relative importance.

Mean importance ratings (and standard deviations) for clusters of transmitted sex and HIV education messages by type of school and school personnel demographics

Table 1

Type of School	School Personnel	Influences of Sexual Decisions				
		BT	CFE	FF	FHIV	LSE
Church						
	Teachers (n=12)	4.27 ^{**} (.31)	3.67(.51)	3.94(.70)	3.70(.29)	4.44(.22)
	Counsellors (n=12)	3.93(.61)	3.53(.61)	4.45(.27)	3.67(.40)	4.45(.23)
	Pastors (n=14)	4.42(1.10)	4.21(.45)	4.85(.32)	3.65(.91)	4.81(.24)
Secular						
	Teachers(n=14)	3.57(.43)	3.59(.52)	4.37 [*] (.17)	3.77(.45)	4.36(.24)
	Counsellors (n=16)	4.14(.68)	3.96(.16)	4.32(.47)	3.48(.55)	4.37(.25)

Note. The mean scores are unadjusted for withgroup covariance to amplify the differences. Comparisons are between similar job titles across type of schools and within type of message.

*
p <.05,

**
p <.01

Note. BT= Biblical teachings; CFE= Community/Family Expectations; FF = Future Focus; FHIV = Facts about HIV and AIDS, LSE=Life Skills Education.