Exploration of Health Concerns and the Role of Social Media Information among Rural and Urban Adolescents: A Preliminary Study

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Abstract

The aims of this study are to identify health concerns and behaviors, to understand why some concerns are more worrisome than others, and to learn what information sources are relied on for a young age cohort—7th grade students-- in two poor and near-poor school districts. Focus groups—one each of girls and boys—in each of two public school districts were held. Health concerns and their rationale for why some are of greater concern than others are remarkably similar among rural and urban participants, and include illegal drug use, smoking marijuana, smoking cigarettes, HIV/AIDS, drinking liquor, becoming a young parent, being hurt in a fight, cancer, diabetes, and having a bad heart. Five over-arching themes emerged accounting for why certain health issues command their concern, and these were remarkably consistent across groups. These include: (1) desire to avoid dying at a young age, (2) social stigma, (3) choices that have negative legal and health ramifications, (4) choices that eliminate youth activities, and (5) avoiding the "heredity is destiny" syndrome. Findings on used and trusted information sources suggest that online social media (MySpace, Facebook) provide a parasocial experience and should be examined as future components of primary socialization theory (PST). If online social media can overcome some wariness regarding credibility they may become important sources for adolescents seeking health information.

Keywords*: health information, health media, adolescent health*

Introduction

Primary socialization theory explains that parents, peers, and schools are the most important forces in adolescent health socialization, with mass media being of secondary importance. But, this model has not captured developments in technology that may be dramatically changing adolescents' information sources about risky or healthy behaviors. This study considers the role of online social media (e.g., Facebook, MySpace) as well as more mainstream Internet sources (e.g., WebMD) as health information sources for young adolescents

Health and Health Information Sources: SES and Locale

Low SES, whether measured by income, education, or job/occupation classification, is highly associated with cancers, heart disease, diabetes, arthritis, hypertension, early pregnancy and infant mortality.[1] Low SES co-varies with other factors (e.g., education, location of housing, job) as determinants of health.[2] While it is important to consider such factors independently, it is critical to never overlook their inter-relationships.[3]

Some risky health behaviors are also associated with low SES, including tobacco use, high alcohol use, and an inactive, more sedentary lifestyle.[4] While these findings are not specific to the adolescent population, they clearly impact poor and near-poor young teenagers as they describe their typical home environment.

There is also a demonstrated relationship between SES and information sources, with poorer Americans less likely to have computers and Internet access in their homes, and less likely to purchase media (e.g., newspapers, cable).[5] One national study of health consumers found that a large difference existed in information sources for a "health conscious" group compared to a more passive, "non-health conscious" group.[6] Those who were rated as "highly health conscious" were most likely to turn to interpersonal, Internet, and print sources of health information. Those who were rated as passive and low in health consciousness received most of their health information from television and radio.

Health Concerns of Young Adolescents

A review of studies of adolescent health concerns reveals how their concerns have changed over time. A 1970s investigation found that dimensions of all health concerns were significantly influenced by race, grade level and gender.[7] Further, the greatest concerns identified in this study were drugs, sex, getting along with parents, acne, depression, and being overweight. A decade later the largest concern of a sample of this age group of children was dental health, followed by friendships, nutrition, and sex. Their issues of least concern included smoking, birth control, pregnancy, and homosexuality.[8]

Much research through the 1990s examined why adolescents engage in risky health behaviors, especially alcohol, drug use, and sexual activities.[9] Some findings suggest that when adolescents engage in dangerous behaviors they do so to attain goals, like gaining admission to a social group, or to cope with anxiety. Some researchers have approached these issues from a decision-making perspective.[10] Regardless of the particular analytic schema, it was generally agreed that early adolescents lack the same abilities to self-regulate and employ consequence-thinking than do adults.

One recent study of young persons' perceptions of health and health literacy called that assumption into question, however, at least for one demographic sub-group. There was a chasm between young people who seem to understand what they do now can impact their health and well-being later in life and those who do not understand this relationship.[11] Non-white, low-income students comprised a significantly larger proportion of the group that did not perceive the link between current behaviors and future health than did white, middle-income students; white, middle-income students were significantly more likely to connect current behaviors with future consequences.

Health Information Sources of Young Adolescents

The importance of parents, friends, schools, and media as health information sources is also well supported by Primary Socialization Theory (PST). Developed largely in response to contradictory evidence on the effectiveness of risky health behavior prevention strategies aimed at young people, PST posits that both positive and risky health behaviors are learned through social interaction.[12,13] These social behaviors and the norms for them are developed in context of interactions with family, school, and peer clusters.[14] According to PST, positive family and school influences are more likely to transmit prosocial norms; peer clusters can

transmit either prosocial or deviant norms but are a primary source of deviant behavior. The stronger the family/child links, the greater the likelihood the child will not engage in deviant, risky behavior. Weak peer bonds may contribute to increasing the influence of deviant peer influence as well.

Where young adolescents go for health information depends on the specific health issue. In a study of 210 high school students, researchers indicated that if the issue is purely medical (e.g., illness), adolescents preferred a medical information source first, and a parent second. When the issue was a risky health behavior, however (e.g., cigarette smoking, sex), they preferred information from peers.[15] Other studies support that parents and medical personnel are preferred sources, especially for the youngest adolescents[16] and that schools, media, and friends increase in importance with age and need for confidentiality associated with some behaviors.[17]

This discrepancy between information source choice, when differentiating between purely medical information and risky health behavior begs for examination of a largely unexplored question: When confidentiality and anonymity are important to adolescents, are they turning to Internet sources—both websites and social networks like Facebook and MySpace? While fast-access broadband Internet continues its meteoric rise in U.S. households—from 44% of households in 2000 to 71% in 2007[18]—there remains a digital divide. Yet, as children and adolescents are exposed to online information sources through schools, there is evidence that (at least for this young demographic) the divide may be lessening.

One study of urban adolescents found that fully 62% had Internet access at home; further, for people between 15-30 years of age, 55% of them had used the Internet to search for health information. Consistent with the notion that younger persons may be lessening the divide, this study also reported that while 54% of urban households used the Internet, when considering only the 9-17 year olds in those homes, usage reached 69%.[19]

Another study concluded that "for adolescents, the Internet is an accessed and valued information source on a range of sensitive health issues". Almost half (49%) of the 412 10th grade students surveyed reported they had used the Internet for health information.[20]

One more recent examination of school-based health websites found they had high usage, "significant promise," and were praised by teens.[21] However, the authors speculated that even though health information was accessed by adolescents fairly frequently, that its utility and value in many cases was limited. We want to explore, in a small group setting, health issues and information sources of these young people.

Through focus groups with 7th graders in two public districts (one rural and one urban), the purpose of this study is to explore their health concerns and examine which sources they rely on most for health information. We have particular interest in online sources. It is possible online social media and other online information sources may need to be incorporated into Primary Socialization Theory. Further, if we understand the health socialization processes among these under-served young adolescents, we may find more effective ways to deliver information to them using sources they trust and rely on. Our belief is supported by a recent empirical study that found eliminating education-associated health problems can save more people than medical advances.[22]

Research Methods

This study analyzes information obtained in focus groups that examined health concerns and information sources among poor- and near-poor student populations. One of the most-cited strengths of focus groups is their ability to rely on the researcher's focus and produce concentrated amounts of data on precisely the topics of interest.[23] This unique advantage allowed us to spotlight our issues while allowing the adolescents themselves to generate specific issues and agendas rather than ones imposed upon them.

School selection and recruitment of focus group participants

Two school districts were recruited: one urban and one rural, both have high percentages of students on federal meal plans, and high percentages of African American and other non-European American races and cultures. District recruitment occurred at a regional meeting of Superintendents of Schools attended by one of the researchers. The study's purpose, the IRB procedures, and the moderator's guide were presented and 4 superintendents expressed interest. Two were selected based on the

demographic compositions of their student bodies. Documented differences in health concerns and information sources cited in previous studies provided the rationale for the rural/urban distinction. The first is a large metropolitan district[24] with racial composition of 73% Black, 13% Hispanic, 6% White 4% Asian, and 4% Multi-racial. The second district is a small rural one[25] with racial composition of 57% White, 41% Black, and 1% each Hispanic and Multiracial; 66% of district students qualify for free/reduced meal programs. In each school district, two focus groups—one of boys and one of girls—were conducted. The rural boy's focus group consisted of 11 boys, purposively selected by school officials to represent the school's diversity; the rural girl's focus group consisted of 13 girls, likewise purposively selected for participation. The urban boy's focus group was comprised of 10 purposively selected participants. Eight girls were selected to participate in the urban girl's focus group.

Seventh grade students were selected as the population because a review of literature suggests that 7th grade is the lower end of the age spectrum for studies examining health issues and information sources.[26] Institutional Review Boards at both the University and the recruited school districts approved all materials and all human subjects' criteria for gathering information from children were followed. Each student received $5 for his/her participation, although this was a reward they did not know about in advance; it was not an incentive. The study was publicized within each school for several weeks prior to student selection, and parental consent forms were sent home with students, mailed directly to parents, and talked about at school activities in the weeks preceding the study.

Students were selected by principals, counselors and teachers at participating schools from the pool of those with signed parental informed consent forms to participate in each focus group. School officials were advised to not select student leaders, most outstanding students, students who would dominate the conversations, and students for the same group that were known to be good friends. They were requested to select a wide range of various characteristics of students for participation.

Development of Moderator's Guide

The moderator's guide was developed and pre-tested with local middle-school students and revised based on their input. The guide included warm-up questions followed by an overview of the topics: health issues that the students think about and where they go for health information. Card-sorting activities and matching cards (words) with pictures of information sources were tactics selected to help students relax and give them opportunity to think about the issues and information sources prior to discussing them.

Focus group procedure

A professional focus group moderator not associated with either school district or the researchers' University, with more than 10 years experience leading focus groups of minority adolescents, was employed. This trained female moderator was African American and conducted both the boys' and girls' discussions. One researcher observed and assisted the moderator with materials. Each session occurred during the school day, in a private room, was audio-recorded, and lasted from 90 minutes to two hours.

The focus group sessions were comprised of two parts. The first half of each session dealt with students' health concerns. Students were given 18 3 X 4 cards; on each card was a picture and the name of a potential health concern. They were also provided with as many blank cards as they wanted so they could name health concerns that were not on the provided cards. After writing down any additional health concerns, participants were asked to sort cards into three stacks: major concerns, minor concerns, or of no concern. The moderator then questioned participants as to why the cards were sorted as they were. Participants were asked to write on the back of each card they had labeled a "major concern" what they could do about that concern, if anything. These "solutions" were then probed and discussed. All cards were clipped together by category (major, minor, no concern) and collected for analysis.

The second half of each session was devoted to information sources. Participants were provided a large sheet of paper on which was listed information sources: mass media sources (television, radio, magazines), individual human sources (parent/s, grandparent/s, sibling, friend, teacher, counselor, coach, minister, doctor), traditional sources (school), and electronic sources (websites, online social media, instant-messaging, blogs). Participants were instructed to use a sheet of stick-on labels, each printed with a health concern, disease, or issue that had been discussed previously, and place each health issue or concern on the information source where

they most often hear about the condition. Following this activity, students participated in a moderator-led discussion of sources and their relative credibility.

Analysis

The transcribed data were analyzed utilizing a grounded theory approach to allow for the emergence of relevant themes.[27] Specifically, research team members independently read transcripts multiple times and used color-coded highlight pens to mark different topics then organize them by themes and categories.[28] Each independent analysis was merged and category labels were constructed based on the repeated readings of the independent coders. This process resulted in a remarkably similar set of independently derived categories and common major themes. Results were organized under each of these categories and/or themes and quotations were selected to illustrate them. This thematic organization provided for the logical and parsimonious reporting of results.

Results

Results for each of four groups—urban boys, rural boys, urban girls, rural girls—are presented in several figures. Reported findings for Figure 1 are derived from the card sorting and labeling exercises. This is important because sorting decisions were made independently of discussion. Focus group discussions and transcript analyses generated themes, categories and illustrative comments for each. In this manner we are able to (1) identify major and minor health concerns, (2) derive themes that provide insight into "why" some health issues are more important than others, (3) match health and risky behavior categories with information source categories, and (4) illustrate use of a particular medium for a specific health concern with verbatim comments.

Figure 1 displays results for each of the four groups' "greatest health concerns." In the card sorting exercise, urban boys were most concerned about illegal drug use and smoking marijuana. Among rural boys, the biggest health concern was smoking marijuana. Urban girls expressed most concern about smoking cigarettes followed equally by HIV/AIDS, drinking liquor, becoming a young parent, and being hurt in a fight. Rural girls were most concerned about cancer and diabetes and having a bad heart.

Figure 2 presents the five themes that emerged in response to probing questions about "why" they had ranked conditions as they did. Analysis of focus group transcripts led to identification of five over-arching themes that indicate why some health concerns were of greatest importance to this target group: desire to avoid dying at a young age; social stigma associated with certain health conditions; choices that have negative legal and health ramifications; choices that eliminate youth (becoming a parent); and staying healthy to avoid the "heredity is destiny" syndrome.

The realization that many health conditions and behaviors could result in death was apparent in all but the rural girls group. Comments across groups revealed that one reason young adolescents avoid certain health conditions or behaviors is due to the social stigma associated with the condition. AIDS, bad teeth, pregnancy, being drunk or high, and being in gangs were all offered as conditions that connote negative social repercussions. Their comments indicate fear of social stigmatization from friends, potential partners, relatives, and "people" in a general sense.

As with fear of death, rural girls were the only sub-group that offered no legal or health ramifications as a justification for not engaging in certain behaviors. The other three groups recognized and volunteered that certain behaviors could result in jail or prison, hospitalization, serious illness or injury. Sample health behaviors with adverse legal consequences included illegal drug use (jail, prison), smoking at school (detention, arrest), and drinking while driving. Some of these same issues, as well as some others, were discussed for their negative health consequences. Drinking liquor, getting hurt in a fight, and not exercising enough (leading to obesity and diabetes) were representative of those categories.

Avoiding choices that eliminate their youth was a prevalent reason for shunning certain behaviors in all groups, and widely voiced by multiple members within groups. Many of the students knew family members or classmates who had either gotten pregnant or fathered a baby at a young age. While drinking was mentioned as something that "ages" you, the overwhelming issue of concern here was early (teenage) pregnancy.

The "heredity is destiny" category included comments that indicate the students are aware, or believe, that certain health conditions and behaviors

are passed from one generation to another. Whether accurate or inaccurate, some of these issues include STDs, diabetes, obesity, cancer and heart disease. Only one group, urban boys, made no comments that fell within this theme.

Figure 3 provides a categorical scheme where we collapsed both health information sources and health issues derived from individual sorting activities into more parsimonious groupings.

The groupings of information sources (see Note A) were straightforward; all coders unanimously agreed, for example, that "peer," "classmate," and "partner" can be categorized as "friend." The categorization of health issues/conditions was also straightforward, but not as clearly as were sources (see Note B). There was unanimous agreement that the "serious illness" category included major diseases like cancer, diabetes, heart, and HIV/AIDS. Similarly, there was unanimous agreement on what comprised "risky behaviors where you have high personal control" (smoking, drinking, becoming a parent, obesity, etc.) and "risky conditions where you lack control" (getting the flu, being in an accident, gang violence, etc.) with the exception of two conditions. That is, students themselves disagreed over whether STDs and body weight were conditions the individual controls (see Note C).

Traditional information sources (e.g., medical personnel, parents/family and schools) are mentioned as trusted sources for some issues. Internet sources, both websites like WebMD and social media sites like MySpace, were included on students' source lists. But some differences surfaced as participants demonstrated sophistication in determining reliance on and credibility of social media over others. Health professionals were a preferred source for "serious illness" for three of four groups; only urban girls thought family and mass media were better sources for a serious illness. Family was also "of greatest value" as an information source for three of four groups. For risky behaviors that students perceive they can control, the findings are more mixed, but health professionals were not named by any group. School was a valued source in this category, as was the Internet (both websites and online social media), family, mass media, and friends. When these young adolescents think about information sources for at-risk conditions, mass media, school, friends and health professionals were all mentioned as important.

Figure 4 provides illustrative comments across groups (where available) that answer the question "what information sources do you rely on most for a specific health condition?" Presented here are only those media represented in PST (like friends, family, mass media) or online sources as a means of extending PST.

Internet and Online Social Media Sources

While rural boys were the least likely among the four groups to choose (in the sorting activities) online social media or websites as sources of health information, they ironically talked the most, and most positively, about these sources. Some of the rural boys talked about online social media as a source of reinforcement of negative health habits. Urban boys made more negative than positive comments about the Internet and online social media as health information sources in general. However, urban boys talked positively about ads on the Internet. They also clearly differentiated between reliability of websites and online social media, trusting the former and largely distrusting the latter.

Rural girls showed a high familiarity with and use of MySpace as a health information source. Yet these rural girls realized that Internet information can be unreliable. When urban girls were asked about the Internet and online social media as health information sources the discussion was dominated by the influence of pop-up advertisements and celebrity sites. The urban girls talked about pop-up ads offering cigarettes for sale online.

Some urban girls said their parents controlled these information sources through pop-up blocking systems. While most of the discussion about pop-up advertisements on the Internet was identified as content that promoted poor health habits, at least two urban girls talked about positive pop-up health information advertisements.

Traditional Mass Media Source

Rural boys noted television as a health information source. They talked about television news stories addressing teen obesity, use of non-prescription drugs, and underage drinking. No positive comments about traditional mass media sources were noted by urban boys.

There was less discussion about television as a source among rural girls compared to urban girls, but

the discussion that did occur focused on television advertisements as a health information source. Television was a dominant health information source within the category of traditional mass media sources for urban girls. They were very vocal and specific about naming specific shows (Oprah) and networks (Black Entertainment Television) where they believe they learn a lot of health information.

Friends and Family

Rural boys noted that friends can be unreliable sources of health information. Like urban boys, the rural boys cited their parents as trusted sources on health because they'd been through or observed the problem themselves. For urban boys, friends played a minor role as health information sources. But parents and other family members played a predictably major role. Parents and grandparents were trusted because of their experience.

The discussion among rural girls regarding peers and family as information sources focused primarily on family. Their parents advised them not to drink and drive, they talked to them about abstaining from early sexual intercourse, they told them not to take drugs. Friends were cited generally as a source of health information, but talk of family as trusted health information sources dominated for urban girls. Rural girls said health information sources at school, such as counselors, are a mixed bag. They are the only group that spoke positively at all about any school source.

Discussion

What we have learned is that at the young ages represented here, there is some serious thinking and expressed concern about a wide array of health issues. Students named issues that impacted other, primarily older persons in their lives—like cancer, diabetes, and heart disease. These health concerns differed from those found in earlier studies that discovered more teenage-specific concerns, such as acne.[29] Some participants demonstrated a perhaps primitive, yet insightful understanding that the illnesses of family members could become one's personal health concerns. Yet, there was also demonstrated in their comments an understanding that, particularly for these serious illnesses, personal behaviors play an important role; many of these young people realized that cancer is often linked with smoking, and that smoking is a behavior over which they have choice and control, even if an older relative had died of a smoking-related cancer.

Participants also named health conditions "of great concern" that are classified as high-risk behaviors over which they recognize they have much control. There was a thread, throughout the focus groups of recognized personal responsibility and decision-making regarding smoking cigarettes and marijuana, drinking beer and liquor, having unprotected sex, not exercising, and taking medicines prescribed for another person. Some of these risky behaviors that can affect health (e.g., drug use, unprotected sex, being overweight) were also found in previous studies,[30] while others (e.g., STDs, HIV/AIDS, lack of exercise) were not. These young people also talked about some health issues "of highest concern" that they perceived they have little-to-no control over, including being hurt or killed from gang or other violence, being hurt in an accident that is someone else's fault, contracting a contagious disease or illness.

When we asked the "why" questions—why did you list the health concerns you did? Why did you sort them into "major, minor or no" concern as you did? and "What, if anything, can you do about this health concern?" some of our most interesting findings were uncovered. It was in respond to these questions that we derived the five themes that were prevalent in their thinking that contributed to their selection of a most worrisome health concern and their subsequent ranking of its importance. A bit surprising, perhaps, was the strength of the "fear of death" theme. Some literature suggested that at these young ages, children often do not make a connection between a behavior today and its health consequences in their futures.[31] Participants in the current study did not support this pattern. In fact, students made strong connections between personal behaviors and consequences, whether death, injury or illness, jail or prison, or being socially ostracized. At some point and from some singular source or array of sources, messages that connect health behaviors with consequences were linked in the minds of these adolescents.

The second over-arching issue addressed through this research concerned information sources. Of special interest was whether, and if so how, online media were accessed as health information sources among this population. The theoretical foundation for this study, primary socialization theory (PST), posits that both positive and risky health behaviors are learned

through social interaction.[32] As anticipated and predicted by PST and previous studies,[33] parents and medical professionals were preferred sources in some cases. Based on these preferences and because online media and particularly online social media (MySpace, Facebook) provide a parasocial experience, there is potential that these media could become important variables in PST and invaluable tactics in health communication campaigns.

Online information sources may be formal websites, like WebMD, which was specifically mentioned by participants. There was, however, a recognized difference in knowledge and use of such medical websites. There was typically a person or two in a group who spoke knowledgably about such health information sources. This highlights sophistication among this age group regarding online media, as suggested by the literature.[34] The online social media, however, were more familiar and more talked about. Students were mixed in whether they trusted the information found there; they demonstrated a "healthy skepticism" about the veracity of health information they may encounter.

Data from these focus groups suggest that for the potential of online social media to be tapped, they must be perceived as trustworthy. Children in each group cited higher trust of established websites when compared to online social media. Yet there is tremendous potential in social media. From a PST perspective, online social media represent a blend of mass media and interpersonal friend; as these young people become increasingly sophisticated about the Internet and social media their potential as a powerful health information medium becomes profound. Primary Socialization Theory cannot, in its current evolution,[35] account for this blend of source "types." Given the preponderance of interest in online social media expressed, there is tremendous untapped power to positively influence health behaviors utilizing social networks.

Conclusion

These adolescents are more sophisticated than anticipated in the connections they make between current (particularly risky) health behaviors and how those behaviors now can have a negative impact on life in the future. Additionally, there are more similarities than differences between the rural and urban adolescents in their overall health concerns and health information sources. Adolescents in both environments are somewhat naïve when it comes to understanding the role of heredity in certain health conditions. Additionally, there appear to be broad distinctions among participants regarding sophistication of online websites and social media.

For those of us in education, there are several important implications from these findings. First, online social media should be taken into consideration in Primary Socialization Theory (PST)—they may not replace other, traditional sources, but they are definitely gaining influence as an information source for health issues. Second, ability to discriminate between a credible, trustworthy internet source and one that is not, should be taught across disciplines as early as Internet information is accessible to students.

Young adolescents *want* information about risky health behaviors; they want this information from credible information sources; and they want it anonymously. What better venue could offer such information than online media sources, traditional and social?

Limitations

As a qualitative focus group study, these findings are not generalizeable to a larger more general population. This study and others like it are designed to reveal deeply held, spoken and non-spoken, themes that are typically not apparent to the subjects themselves. It is not designed to be a representation of all adolescents' views, or even all views of adolescents in the two school districts where the studies were conducted.

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Figure 1 Health Issues "Of Greatest Concern"[a]

Order of Concern	Rural Boys	Urban Boys	Rural Girls	Urban Girls
1	Smoking marijuana	Illegal drug use Smoking marijuana	Getting cancer Getting diabetes	Smoking cigarettes
2	Getting cancer Smoking cigarettes Having a bad heart HIV/AIDS Illegal drug use	Smoking cigarettes Getting cancer STDs	Having a bad heart	Being hurt in a fight HIV/AIDS Drinking liquor Becoming a young parent
3	Drinking liquor Becoming a young parent STDs	Having a bad heart HIV/AIDS Becoming a young parent		Getting cancer Not exercising enough STDs
4	Getting diabetes Taking unprescribed Medicine Not exercising enough	Drinking liquor Taking unprescribed Medicine		Smoking marijuana Drinking beer

[a] A health issue is listed for a group if half or more than half of participants independently identified the issue as one "of greatest concern." They are listed in descending order of number of mentions within each group. An Order of Concern indicates that certain health issues are tied for place for number of mentions in that group.

Figure 2 "Why is that health issue important to you?"

Five Emergent Themes

Theme 1: To avoid dying at a young age

Rural boys:

"…sexually transmitted disease you can die, AIDS you can die; diabetes you can die…cancer you can die from that…smoking cigarettes you can get lung cancer and die…"

"…and drinking beer you can like die in a car accident, drunk driving and stuff"

Urban boys:

"…because they can also kill you like taking medicine that is not prescribed for you it can kill you because you might not need that kind of medicine.."

"Cause if you get in a fight you can get killed and on cancer you can die"

Rural girls: No comments

Urban girls:

"Because like my great grandmother died of having cancer a week ago…"

"…if you do smoking you get bad lung and bad heart and you could die like that"

Theme 2: To avoid social stigma associated with certain health conditions

Rural boys:

"You start get these addictions and then your friends will think you have become somebody else and they just won't talk to you anymore and they will treat you differently"

"And you can lose interest. It's like who would want to go out with somebody that is drunk or high? People stop talking to you and begin kind of avoiding you"

Urban boys:

"…problems with teeth, that just goes with people picking on you because like not having straight teeth and being chipped teeth"

Rural girls:

"…if you got AIDS, most people don't want to hang around you…"

"…some of my cousins…they got on drugs bad and they started having children…and they drink beer and like [name deleted] said if people have AIDS then they are not like going to hang around you…And people

don't hang around where they used to and talk to them the way they used to"
"…every child that has AIDS really kind of misses the life because most of the parents don't want you to hang around kids that has AIDS."

Urban girls:
"…if you are in a gang you get caught by those people…like they fight really bad and all that stuff and it causes blood"

Theme 3: To avoid choices that have negative legal and health ramifications

Rural boys:
"Drinking liquor (is a major concern) because you can get put in jail for doing something stupid."
"Illegal drug use, you can go to jail…"

Urban boys:
"…drinking you can go out of control and you can get up in a car accident or you can end up doing something stupid that you didn't mean to do."
"My cousin was in a fight and he got jumped and they put him in the hospital"

Rural girls: No comments

Urban girls:
"I think last year we had somebody get arrested on campus for smoking cigarettes."
"…if you don't get enough exercise you can become overweight and you can, like you can, I think, get…diabetes for that"

Theme 4: To avoid choices that eliminate your youth

Rural boys:

"I know at this school we have a bunch of football players, basketball players, becoming a parent too young that just takes away your time of being able to be a kid and just have fun."

"…drinking beer you will age really fast…"

Urban boys:

"…being a parent too young, you're not going to be able to have the same freedom you had not being a parent"

Rural girls:

"…becoming a parent too young because my aunt [name deleted] had a child when she was 16…"

Urban girls:

"My cousin she had two kids…and she's trying to tell me stay a kid and don't grow up too fast cause I will miss out on education…"

Theme 5: To avoid the "heredity is destiny" syndrome

Rural boys:

"STDs, because that's just showing you had some kind of problem having sex at a young age and then you grow up to live with it and pass it down to your family members and stuff like your children and grand children…"

Urban boys: No comments

Rural girls:

"Well, my Mom had diabetes and she got it through genetic so she's not really fat but it might run through me, but I don't have it. …My aunt had cancer but I don't think it would pass through me."

"I (said) cancer because like a couple of my family members have cancer and (said) heart attack because I know both my grandparents have had…a heart attack"

Urban girls:

"Because, with a bad heart and in my family…you have some family who had a heart attack, who died of a heart attack…"

"Because like some of my cousins stuff like that has diabetes and stuff like that…"

Figure 3 Preferred Information Sources for 3 Health Issue Categories [A, B, C]

	Order of preference	Serious Illness	Risky Behaviors/Personal Control	At-risk Conditions/ Lack of Control
Rural Boys	1st	health professional	family	school
	2nd	family	school	friends
Urban Boys	1st	health professional	school	mass media
	2nd		mass media	
	3rd		online media	
Rural Girls	1st	family	online media	school
	2nd	health professional	mass media	health professional
	3rd	school		friends
Urban Girls	1st	family	family	health professional
	2nd	mass media	school	mass media
	3rd		friends	

[A] For parsimony in this figure, health information sources mentioned by students are grouped:

family: parent, sibling, grandparent, other relative.

school: coach, teacher, counselor, poster, class.

friends: peer, classmate, partner.

mass media: tv, raido, magazine, newspaper.

online media: web site, social media, blog, email.

health professional: nurse, doctor, technician.

*Church was asked about as a source and not included as a health information source by any participant.

[B] For parsimony in this figure, health issues/conditions mentioned by students are groups:
serious illness: cancer, diabetes, heart disease, HIV/AIDS.
risky behaviors/perceived high personal control: smoking cigarettes, smoking marijuana, drinking liquor, illegal drug use, drinking beer, taking medicines not prescribed for you, becoming a young parent, not exercising enough, *being too fat/too skinny, *STDs.
at-risk conditions/perceived low-no personal control: getting the flu, being hurt in an accident, getting hurt from violence, gang, problems with teethe, *being too fat/too skinny, *STDs.

[C] From discussions in focus groups only body weight and sexually transmitted diseases were divided on the controllability/prevention issue. Some students think fat/skinny people are fat/skinny because of how they eat/exercise. Others thought some "can't help it." Similarly, students were somewhat divided on STDs. Some believe "if you protect yourself" you will be safe; others think you can be victimized.

Figure 4 "What information sources do you rely on most for health information and for specific health conditions?"*

Representative Comments

Internet and Online Social Media

Rural boys: "Oh, I looked on the Internet. I pulled up a webpage about medicine. Online community. I just put teeth"

"Webmd…[online sources are useful]… because you just don't want to come out and ask your parent or a friend about it so you just type on the Internet"

[the Internet and social media are a good information source]…"because the teens and the patents got different mind an sometimes the parents say stuff that you don't want to hear"

[online social media as negative source] "Because most people they will sit there [online] and they will be a bunch of people that will have their own web sites or like MySpace and stuff, they will talk…and they will be drinking and just having a big party…"

Urban boys: [about ads on the Internet] "…trying to prevent you from using illegal drugs…"

[difference between Internet web sites and social media] "You can get information from the Internet, but not online communication…because they might be lying"

"…because people actually talk on MySpace and tell you try new things about drugs…"

"I would rather trust somebody than the Internet"

***Rural girls*:** "There's a lot of talk on MySpace about becoming a parent too young"

"…a lot of people talk about it [STDs], I don't talk about it on the Internet, but a lot of people do."

"It's like bragging…I was with [name] yesterday and I did this and that and…"

[on not trusting the Internet] "…because the Internet, it involves a whole bunch of different people and you don't know these people."

***Urban girls*:** "Like…on the Internet…stuff be popping up like they be trying to make you take pills and stuff for them and like they be tying to make you get all skinny just like the celebrities so they make you take pills and like that what do you call that stuff that you put on your face…? They are trying to make you buy that just wasting you money you still have red bumps and stuff like that."

"…I was on a computer I was playing a game like on Disney Channel or something and it was like a game and something had popped up and it was some kind of ad and it said if you have a heart attach or something go the hospital, don't do drugs, it said all that stuff on there"

"Like stuff will pop up and certain people they will be talking about [not taking non-prescribed drugs] and stuff like you know how some celebrities take stuff that's not really prescribed to them…"

Traditional Mass Media

Rural boys: "…like this morning on the [television] news I heard it say the cancer rate in southwest Georgia is gone down…"

"…for the parents, illegal drug use and drinking liquor and stuff and they will tell you it's bad, but they don't actually show you, show you a picture on TV or something…"

Urban boys: "On television you have cigarettes, smoking cigarettes, smoking marijuana, and drinking beer because they have commercials and they try to show like it's good for you and all that stuff…"

Rural girls: "…for television I just hear things tell, you know, to do this or not to do that…telling you that you don't need to become a parent too young because you might not be able to support your baby and it might get take away and things like that…"

"Like we watch Channel One in the morning and it's a commercial that comes on and this girl she's talking about her friends in front of everybody because she's on drugs or something and it

will hurt her if she was really knowing what she was saying."

Urban girls: "Cause I watch a lot of TV, I'll get all my answers for my questions from TV ana not usually from my parents."

"learned about AIDS and HIV in Africa from a program on Black Entertainment Television (BET) and Oprah"

Friends and Family

Rural boys: Boy 1: "That's what they say. I mean people get on my bus saying [that they've been smoking pot] every morning.
Boy 2: "Yeah, but sometimes they be lying."
Boy 1: "Yeah, sometimes, almost all my friend be lying about that junk"
Boy 2: "They just say it to be big after that they will say 'I'm just playing"
Boy 3: "They say how they be smoking', [but you can tell] if they smoke because their eyes are like bloodshot red and you can smell it."

Urban boys: "…friends can help you out and let you know if you can trust someone"

"Some parents…they might say 'don't drink beer' or 'don't drink liquor' because they might gave already done it before and they are experienced and they know that it is bad for you"

Rural girls**:** "You can come to [parents] with anything…"

"Parents [are most trusted] because you rely on them so much morning, noon, and night."

Urban girls**:** [friends] "…they like talk about this kind of stuff all the time"

[family] "…I don't want to use this word, but they are old so they have like experience in life and they're like when I go over to their [my grandparent's house] since they are aging they like to tell stories about their childhood…"

[on why her mom is a good health information source] "because she's a nurse"

[my mom] "…has a thousand of books and stuff like that on [health issues]"

School Sources

Rural boys: No Comments

***Urban boys*:** No Comments

***Rural girls*:** "They actually want what's best for you."

[counselors] "…are kind of in the middle, a mixed bag…sometimes you can trust them and somet

"…It's hard because you tell them some of your deepest things and you wonder are they going to

it's like one of your deepest things you don't want to get out. I mean that's the reason you came

***Urban girls*:** No Comments

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* Categories represented in Primary Socialization Theory or Internet are illustrated.