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The Conceptualization and Communication of Risk Among Rural Appalachian Adolescents

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Abstract

This study employs a meta-theoretical perspective for examining risk perceptions and behavior in the rural, Appalachian cultural context, an area that remains largely unexplored. In-depth interviews were conducted with 113 rural adolescents to describe how youth conceptualize risk and how risk is communicated in the rural environment. Analyses revealed adolescents viewed behavior as risky when they had personal or vicarious experiences resulting in a loss of control or physical harm. Elements of the rural Appalachian culture including activities, familism, and community ties can both prevent and promote adolescent risk-taking in various forms. This study demonstrates the conceptualization of risk and messages about risk are culturally-situated and communicatively devised and enacted. The implications of these findings for adolescent risk prevention programs are discussed.

Keywords

adolescent risk; risk behavior; risk messages; Appalachian health

Conceptualizing, explaining, and preventing adolescent risk behavior poses an impressive challenge. Many scholars approach this task by focusing on the developmental and psychological aspects of risk (Cicchetti & Rogosch, 2002; Herrenkohl et al., 2000; Kahneman & Lovallo, 1993). For this reason, the associations between the cultural environment, culturally-situated risk messages, and individual conceptualizations of risk behavior have remained largely unexplored. Understanding this relationship is especially important for achieving public health goals and advancing communication theory. Rural adolescents engage in a number of risk behaviors at higher rates than suburban and urban youth, suggesting the rural cultural context has a unique influence on adolescent risk-taking (Atav & Spenser, 2002; Nansel, et al., 2001). Using probabilistic, contextual, and social ecological approaches as a theoretical framework, this study explores the ways in which the rural cultural environment influences adolescent risk behavior. Cultural meanings of risk

and risk messages are investigated to better understand the unique needs of rural Appalachian adolescents.

Literature Review

Adolescent risk-taking, defined as engaging in maladaptive behaviors, is shown to have considerable regional variability. Adolescents living in rural counties report higher tobacco (cigarette or smokeless) and alcohol use compared to both youth in suburban and urban areas (Gfroerer et al., 2007; Lambert, Gale, & Hartley, 2008). Rural youth also report a higher incidence of carrying a gun at school (Atav & Spencer, 2002), bullying behavior (Nansel et al., 2001), and dropping out of school (Balfanz & Legters, 2004). Although previous studies demonstrate rural residence is associated with greater participation in these risk behaviors, there is little theory and research that speaks to *why* adolescents in rural communities are more likely to engage in such behaviors.

One possible explanation is that youth in rural communities, such as those in the Appalachian regions of the U.S., reside within a unique cultural context placing them at higher risk for certain unhealthy behaviors (Perkins, 2000). Some scholars have emphasized the importance of exploring how rural residency may affect adolescent risk behavior (e.g., Lutfiyya et al., 2008). To begin, youth residing in rural areas have more positive attitudes toward alcohol and perceive use as less risky than adolescents living in nonrural areas (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004). Compared to youth in nonrural areas, rural adolescents perceive less parental disapproval of youth alcohol use (SAMHSA, 2004). Rural youth regularly smoke (i.e., smoking almost daily) at higher rates than their urban and suburban counterparts (Lutfiyya et al., 2008). In addition, some research suggests the rural physical environment itself may also contribute to risk behaviors because the remoteness of rural communities allows for unsupervised interaction with peers and provides a place to use drugs unobserved (e.g., Wagenaar, et al., 1993). Rural adolescents frequently report engaging in substance use due to boredom (Kelly, Comello, & Edwards, 2004).

Extant literature demonstrates the usefulness of emphasizing how rural cultural values affect the decision-making habits of rural adults and adolescents (e.g., Krieger, Parrot, & Nussbaum, 2011; Williams, Taylor, Wolf, Lawson, & Crespo, 2008). Thus, investigating such unique cultural features (activities, familism, and community ties) will aid in understanding the context within which rural Appalachian youth make decisions for risk behavior. Adolescents are situated in a unique cultural environment and this is discussed in the following section.

Appalachian Rurality and Risk Behavior

Communities located within rural areas of the Appalachian mountain range face a unique set of societal, economic, and educational challenges in bringing up their youth (Ali & Saunders, 2006; Appalachian Regional Commission [ARC], 2011; Atkin, 2003; Heller & Quesada, 1977). Members of the Appalachian area struggle with poverty, unemployment, and health and educational disparities (Billings & Blee, 2000; Lewis & Billings, 1997). ARC (2011b) recently (as of the second quarter of 2010) reported the Appalachian region's poverty rate is 18% and while poverty in some counties is much lower, other counties battle to develop basic infrastructure and education. Furthermore, Appalachian areas of Pennsylvania and Ohio—of interest in this study—endure unemployment rates as high as 16.3% in Ohio and 15.3% in Pennsylvania (ARC, 2011a), compared to the U.S.' unemployment rate of 9.5%. Billings & Blee (2000) note this Northern Appalachian region suffers from economic distress due to deindustrialization. Despite, or perhaps because of

these economic hardships, the Appalachian region is characterized by culturally-embedded rural activities, a strong sense of kinship, and community ties (Ali & McWhirter, 2006).

Activities—Structured leisure time activities for youth include extracurricular and/or school activities, whereas unstructured activities are generally unplanned and/or less formal (i.e., “hang-out” times with friends and/or family, TV watching, etc.) (Sharp, Caldwell, Graham, & Ridenour, 2006). Quine and colleagues (2003) found rural adolescents, over urban adolescents, were more apt to report a lack of recreational opportunities available to them and this often led to boredom. The culmination of their involvement in unstructured and unsupervised leisure time, boredom, and situation in the rural context (wherein rural individuals often participate in risky activities such as hunting, and riding all-terrain vehicles [ATVs]), will likely provide more opportunities for rural Appalachian adolescents to engage in risk behaviors. What activities adolescents choose to participate in is often linked to family preferences and a desire to please the family.

Familism—Familism, particularly extended-kin oriented familism, is a cultural facet of rural communities (Coleman, Ganong, Clark, & Madsen, 1989). Familism refers to a family structure wherein family leaders emphasize the importance of subordinated interests to benefit the family over the individual, possess a strong sense of loyalty and family identification, and encourage a general reliance on others in the family (Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987; Theordson & Theordson, 1969). Unlike primary-kin familism, which typifies more urbanized family structures, extended-kin oriented familism refers to social organization valuing interaction and strong feelings of relational closeness within the nuclear family and extended family (Heller et al., 1981). The family, both nuclear and extended, provides cues to adolescents regarding which forms of risk behavior and substance are acceptable versus unacceptable through modeling and overt communication (Adalbjarnardottir & Hafsteinsson, 2001). In Appalachian communities, both the family and community serve to socialize and teach adolescents (Templeton, Bush, Lash, Robinson, & Gale, 2008).

Community ties—Close relationships with an extended family often living in close physical proximity (i.e., extended-kin oriented familism) translate into strong community ties (Coleman et al., 1989). Appalachian individuals value their shared history and “rootedness and community” with one another and strive to maintain close ties with members of their community (Beaver, 1986; Howley, Harmon, Leopold, 1996, p. 150). Research demonstrates these Appalachian community values and ties influence the health decisions individual community members make (see Behringer & Friedell, 2006; Schoenberg, Hatcher, & Dignan, 2008).

Although previous research has examined specific types of risk behaviors in the rural cultural context (i.e., substance use, weapons, bullying), it has not considered the extent to which rural adolescents *perceive* these behaviors as risky or the Appalachian cultural factors contributing to the degree of perceived risk associated with a particular activity. The literature does, however, offer a number of theories aiding in the understanding of adolescent risk taking in the cultural context. Thus, the following section describes the advantages of adopting a social ecological approach for understanding risk in the rural cultural environment.

Theoretical Approaches to Adolescent Risk Behavior

How risk behavior should be conceptualized rests on a continuum between probabilist/rational choice perspectives and contextual/cultural approaches. The probabilist perspective conceptualizes risk as a product of an individual’s personality and agency. Probabilistic

models assume individuals possess a set of behavior alternatives from which they perceive their set of action options (Simon, 1955). Along with the identification of such options comes recognition of potential behavioral outcomes and assignment of probabilities to the likelihood of those outcomes. Probabilistic approaches posit the individual is an independent agent capable of rational choices for or against an action based on outcome odds (Dowling, 1986). Thus, from a probabilistic perspective, risk behavior is explained as an adolescent making a rational judgment that a particular risky activity has a high probability of producing a desirable outcome, such as stimulation.

The contextual or cultural approach conceptualizes risk behavior as a result of the cultural confines of an individual's situation (e.g., Jessor, 1987). Contextualists argue, "Competing factors represent a reciprocal web of causality that influences adolescents' risk taking" (DiClemente, Wingood, & Crosby, 2003, p. 367). These causally-linked influencers, including economic, social, and interpersonal factors, converge at one or more risky behavioral endpoints (DiClemente et al., 2003). Problem behavior theory (Jessor, 1987), for example, posits the social environment shapes adolescents' individual values, expectations, and beliefs leading them to either take or avoid risky behavior (Costa et al., 2005). In particular, protective (those guarding against risk) and risk factors (which increase the likelihood of engaging in risk) within the social environment are influential in shaping the determinants of risk behaviors (Hawkins, Catalano, & Miller, 1992; Jessor, Turbin, & Costa, 1998; Jessor et al., 2003; Turbin et al., 2006). A contextualist approach thus explains adolescent risk behavior as a reflection of the salient risk and protective factors within the social environment.

Bridging the probabilistic and contextualist theoretical perspectives is the social ecological approach (i.e., Stokols, 1992, 2000; Taylor & Shimp, 2010). This approach articulates the importance of the dynamic relationships individuals have with one another and their surroundings and how these relationships may promote or prohibit healthy actions in an environment. Applied to the context of risk behavior, a social ecological perspective requires consideration of individual and social factors embedded in a cultural context (Stokols, 1996). Therefore, a social ecological perspective emphasizes both psychosocial and relational aspects of an individual's development (Bronfenbrenner, 1979, 1989). Kloep and colleagues (2010) qualitatively demonstrated the appropriateness of using a social ecological perspective for exploring adolescent development. They discovered macro- and micro-level influencers affect how students view and interact with their environment to make choices.

To capture the essence of this simultaneous occurrence of risk being both individually and culturally constructed, this study adopts a social ecological perspective of risk behavior. This multi-layered perspective integrates the probabilistic viewpoint regarding how rural adolescents think about and define risk behaviors, while the contextualist perspective leads to an examination of the perceptions of relationships inside the social context. Taking a social ecological approach to exploring risk behavior in this unique context will enable analysis of individual, social, and environmental risk dimensions. Thus, the following research questions are considered:

RQ₁: How do rural, Appalachian adolescents conceptualize risk?

RQ₂: What roles do the following social contexts play in rural Appalachian adolescents' risk assessments: (a) activities, (b) familism, and (c) the community?

Method

Recruitment

Adolescent participants in this study were recruited through rural Appalachian public schools. Schools were chosen to participate in this study based on meeting two main criteria: (a) the school's district being located in a rural region as determined by the National Center for Education Statistics (NCES, 2006), and (b) the school's location in a county being considered Appalachian according to the ARC (2010). Teachers invited students of all races and backgrounds that they perceived as average to at-risk adolescents to participate in the study. Students were eligible to participate after returning, via standard, postage-paid mail, a parental consent form, a student assent form, and a scale unrelated to the current study. The IRB consent letter informed students and their parents students' participation would in no way affect their class and/or grade standing and their specific results would not be given to school authorities.

A total of 13 public schools participated (four from Ohio and nine from Pennsylvania). One school housed both elementary and middle school students. Three schools were comprised of students between sixth and eighth grade. In the majority of the schools ($n = 8$), middle school students were in the same facility as high school students. Seven participants were recruited from and interviewed at a probation service organization in Pennsylvania to include higher-risk youths. Of importance, the interviews with the high-risk youths focused on a restricted range of risk behaviors.

Participants

Participating schools served a large population of economically disadvantaged students. According to the National School Lunch Program, students are economically disadvantaged, and thus eligible to receive a free or reduced cost lunch, if they have a family income equal to or less than 180% of the United States Department of Agricultural federal poverty guidelines (Ohio Department of Education, 2008). Students receiving free or reduced-cost lunch ranged between 53% and 61% in the Ohio schools and between 20% and 65% in Pennsylvania schools.

Participants in this study include 113 adolescents between the ages of 12 and 19 ($M = 13.68$, $SD = 1.37$). Among the participants, 62 (55%) male and 51 (45%) were female. The racial composition of the sample was mostly Caucasian (86%), followed by "mixed-race" (6%), Latino/a (5%), African American (1%), and Asian American (1%). One student did not identify ethnicity.

Procedures

Interviews were conducted in private school locations and a teacher or counselor escorted students to the interview location so the interviewer was blind to the participants' real names. Researchers assured all students their responses would remain confidential, in accordance with Institutional Review Board standards, and should the interviewee desire, he/she was permitted to withdrawal from the study at any time. Additionally, language included in the information letter to parents assured parents and participants information collected from each child would not be reported to parents or school officials, that the interview was not a test, and anything said in the interview would in no way affect student grades. Each interviewee was paid \$5 for his or her participation.

A semi-structured interview guide (see Appendix A) prompted students to describe what life is like in their community, their leisure activities, whether they had ever done something they consider risky, their involvement in substance use, and goals for future. Interviewers

asked (when appropriate) for the details about behaviors adolescents described as risky and why the behavior was perceived as risky. Following the interviews, a research team member downloaded the audio files to a security encrypted laptop. The audio-recorded interviews lasted between 18 and 91 minutes and the interview transcript files (professionally transcribed) ranged from 10 to 37 double-spaced pages,

Data Analysis

In the tradition of qualitative research inquiry, data analysis began with open-coding (see Glaser & Strauss, 1967; Lincoln & Guba, 1985; Strauss, 1987) to find emergent themes. Theme development led to the creation of more detailed data codes (Table 1) (Horner et al., 2008). With the codes, the authors sought to fully consider adolescents as situated in a cultural context and aimed to receive as much information about the adolescents' personal narratives as possible. In line with recent qualitative work exploring risk through a social ecological lenses (i.e., Bull & Shlay, 2005; Mason & Korpela, 2008), codes were created inductively to maintain a baseline sense of context surrounding the adolescents. In other words, the examination of individual, interpersonal, and cultural influencers in the adolescent narratives were used to analyze adolescents' experiences. Overall, data were treated as a culturally situated event (Author, 2011). NVIVO, a qualitative analysis software program, was employed for data analysis. The analysis team read all transcripts line by line. The first author and another member of the research team independently open-coded and then discussed the first 10 interviews. Discrepancies were noted and discussed until consensus was achieved. This ensured a coherent codebook and consistent use of code descriptions. The first author then coded the remaining interviews. Codes related to descriptions of what activities adolescents' perceived as risky, as well as environmental features promoting or discouraging risk-taking behavior (see Table 1).

Results and Interpretations

Rural Appalachian Adolescent Risk Conceptualizations (RQ₁)

The first research question asked how rural Appalachian adolescents conceptualize risk. Two themes emerged from the participant narratives as factors influencing the perceived degree of risk associated with a given activity. The first theme related to adolescents perceiving a potentially negative outcome being tied to an action. The second feature centered on the adolescents' perceived personal agency in controlling risk and risk behavior consequences.

Perceived possibility of negative outcomes—Some adolescents interviewed considered a behavior risky when they or someone they knew had a negative past experience enacting the behavior. Two themes surrounding these negative past experiences include (a) a loss of control or (b) physical pain or discomfort. For dangerous outdoor behaviors, like riding an ATV without a helmet, the adolescents viewed a loss of control as being associated with outcomes of a behavior attributed to luck or coincidence. One adolescent spoke of a near head injury due to unsupervised use of a four wheeler while not wearing helmet: "...I flipped from the road to the gravel...I wasn't wearin' a helmet or nothin' so I was afraid I'd bust my head open, but got lucky." With regard to substance use, adolescents viewed themselves or others as losing control when they increased frequency or amount of substance use. For example, one female student explained how she came to see her drinking behavior as risky, "We didn't drink that much at first, but like after it went along for a while, we started to lose control of our drinking habit." Students also seemed to conceptualize behaviors that brought on uncomfortable or painful physical sensations as risky, like becoming drunk and losing awareness.

Although most adolescents reported behaviors were risky as a result of their personal experiences, there were instances where the adolescents were able to recall the experiences of others in their social network who performed an action leading to a negative feeling and/or physical harm. For example, students who perceived ATOD (alcohol, tobacco, or drug) use as being risky typically provided examples of parents' or friends' ATOD use. One student gave the following explanation for why he has chosen not to use tobacco, "My grandpa smoked really bad and parts of him dying was because for he smoked so bad. His lungs were really bad so I just don't smoke."

Perceived personal agency in controlling risk—Two subthemes emerged as important to understanding how the adolescents' perceived personal agency in controlling risk and the consequences of risky behavior. First, the degree of risk associated with a particular behavior was often tied to the extent to which adolescents' perceived personal characteristics (i.e., physical ability, strength) as possibly capable of overcoming outcomes of risk behavior. Participants relayed stories regarding situations wherein they were engaged in physically dangerous behaviors (i.e., jumping off bridges into water, ATV jumps), but adolescents did not view these behaviors as risky when they perceived themselves as having the physical prowess to perform the behavior without physical harm. To illustrate, one male participant described engaging in play involving pushing a wheelchair across a frozen pond. In this example, the adolescent labels the behavior risky because he lacked the skill to control the wheelchair and was injured:

R: We [friends] always try to make stupid videos and put them on YouTube.

I: What are the videos about?

R: Like, uh, I know that we, um, did a video last month. We had a paintball tournament and after that the pond was frozen so we got a wheelchair and put it on and we pushed everyone on a huge hill and everything and just messed around a lot.

I: So what made this a risk to you?

R: Going down the hill that I flipped it [the wheelchair] and I hurt my neck.

The second subtheme included perceptions that personal risk could be managed with the use of proper safety equipment (e.g., helmets). For example, a male adolescent student mentioned his habit of playing paintball without a helmet was risky, "Because you could get shot in the head and it really hurts." In some cases, the use of safety equipment was an appropriate means for reducing the perceived risk associated with an activity (e.g., helmets for paintball, wearing orange for hunting). In other cases, the use of safety equipment simply reinforced an illusion of invulnerability (e.g., wearing a helmet to drive an ATV into a lake).

The Influence of the Rural Appalachian Environment on Risk Perceptions (RQ_{2a-c})

The second research question examined the role social context plays in influencing the risk assessments of rural Appalachian adolescents with respect their (a) activities, (b) familism, and (c) community. These assessments are based on information received from members of the adolescents' social groups, as well as their own evaluations and experiences. Each of the three dimensions with regard to these risk assessments is explored in turn.

Activities and risk assessment (RQ_{2a})—Participants reported spending their leisure time with members of their family, peer groups, and community and engaged in a myriad of in- and outdoor activities, including ice skating, volleyball, and attending school dances. The adolescents spoke of these activities as being helpful for reducing boredom and perceived such functions as promoting relationship-building with peers and family. However, some

adolescents were bothered by the lack of structured community activities and reported participating in dangerous outdoor stunts and unsupervised parties they perceived as risky to overcome boredom. Many of the male participants described outdoor play with friends as frequently involving dangerous stunts using all-terrain vehicles (ATVs), guns, etc. In some cases, adolescents reported using substances while engaging in these risk behaviors, multiplying the possibility of harmful outcomes. Some of these behavioral stunts were inspired by media use. One male adolescent watched an episode of MTV's "Jackass" and decided to reenact some of the show's behaviors with his friends. He watched his friends light their underwear on fire and burned his brother's leg with hot metal.

The rural, Appalachian adolescents also relayed stories of unsupervised parties. These outdoor gatherings provided opportunities for both social and risk activity. Students mentioned driving four wheelers to hideouts in the woods, old rock quarries, and bridges where they partied and consumed ATOD. A female participant from Pennsylvania describes how boredom led her to attend a party with someone she met online. She viewed this activity as dangerous and "crazy":

Me and my friend were, like, bored to death and we were talking to this kid online, well...we were talking; he's like, "Why don't you come to a party with me." I'm like, "Okay" and we thought maybe to be a little party, here it was a beer party...in the middle of the woods...we went up and like he handed me a beer and like they kept, like, handin' us beers and I was smashed that night. It was crazy.

Rural Appalachian familism and adolescent risk assessment (RQ_{2b})—Familism plays a role in the formation of rural Appalachian adolescents' risk narratives, just as specific cultural activities do. Overall, students' strong desire to maintain close family ties was expressed by frequent mention of the importance of spending time with relatives. The emphasis placed on close family relationships encouraged these adolescents to maintain their relationships by both avoiding and enacting risk behaviors both directly and indirectly. Participants noted numerous conversations with parents and grandparents wherein a family member advised them to avoid areas of town or even certain individuals they deemed could be a threat to or impose a negative influence on them. These anti-risk behavior messages served to remind the adolescents of negative consequences often associated with engaging in risk behavior. Consequently, adolescents frequently reported avoiding behaviors they perceived as risky or harmful, such as substance use, in order to please their family and preserve harmonious relationships. For example, one male participant said he avoids substance use to please his mom, "My mom doesn't want me to smoke...or become an alcoholic or a druggie...So, I try to make her happy."

Adolescents also recounted examples of situations where they felt family members indirectly discouraged risk. The most frequent example was witnessing a parent or grandparent attempt to quit smoking. Likewise, adolescents avoided certain risk behaviors in order to be a positive role model for younger relatives. One female adolescent in the study provided an example of how the outcomes associated with her older brother's drinking and driving inspired her:

...people who have little brothers and sisters, your little brothers and sisters look up to ya... With my little sister, she's, she always was telling me how she admires me and everything and how she wants to be like me when she grows up...I gotta do the best I can...I don't want her growin' up, messin' up. And my older brother, he did a lot of things when he was in high school. Like, he got drunk one night and ended up killin' one my cousins because they were in a car accident and everything. And he found out the hard way that, if somethin' does happen, you're never gonna live it down: that it's somethin' that's gonna stay with you for the rest of your life.

Conversely, simply spending time with family members, in church, in the home, or community location, was a deterrent to adolescents engaging in risk behavior. Family members modeled pro-social, risk avoiding behaviors by attending the adolescents' sporting events, demonstrating proper outdoor sporting technique (i.e., wearing hunting gear), and helping the adolescent with homework. One male student proudly relayed a story about a hunting trip with his father: "Well me and my dad went turkey hunting...and I got a big turkey...I shot it all by myself...Well we had to track [the turkey] a long ways...and [my dad] was happy after we finally caught up to it." Engaging in joint activities, and particularly culturally-specific activities (e.g., hunting, fishing), provided an opportunity for adolescents to spend time and converse with their parents and helped them avoid risky situations.

Although family members clearly played an important role in helping some adolescents avoid high risk behaviors, attachment to family had the opposite outcome for others. Numerous participants mentioned their parents and grandparents smoked cigarettes, chewed tobacco, and consumed excessive amounts of alcohol and were offered substances by relatives. Some students were able to resist pressure from family members to engage in risk behavior, others were not. In some cases, this lack of resistance led to a risk habit associated with being in the presence of certain family members. A male adolescent explained, "and sometimes with my family, uh, we drink – not my mom and dad but like my uncle and aunt, we drink, they like their wine coolers and stuff." Although family members conveyed the cultural importance of creating and maintaining family ties through these activities, they were also implicitly conveying substance use is not risky.

The rural Appalachian community and adolescent risk assessment (RQ_{2c})—

The goal of this research question was to explore what role the community plays in the rural Appalachian adolescents' risk perceptions. Community members, such as school teachers, coaches, and police officers (specifically D.A.R.E. officers) were all explicitly mentioned as important individuals communicating to adolescents the harms of risk behavior. One student remarked, "Yeah...um, [teachers] definitely have lot of influence on that kind of stuff. They're kinda like the second parents..." Additionally, these community and school leaders functioned as positive role models by engaging in actions supporting their students and community, such as leading after school events and/or being a member of a local community group. Similarly, neighbors emerged as an important, positive set of role models. Spending time with adult neighbors often occurred in the context of the adolescent providing help of some sort (e.g., mowing an elderly neighbor's lawn) or receiving assistance (e.g., having a neighbor help with math homework).

Many adolescents felt highly connected to the community. For these adolescents, living in a small, somewhat isolated community helped protect them from certain risk behaviors because the people around them all knew them and wanted to safeguard them. However, this sense of community connectedness was not always a positive influence in students' lives, as others reported attending neighborhood parties along with peers and other adults, wherein adults offered minors substances. For example, one student relayed the story of being at a house party at which her peers and an adult from the community offered her marijuana: "They asked me if I want a hit 'o this, 'do you wanna smoke this with me' and I told 'em 'no' because I'm not into that kinda stuff." This adolescent resisted the offer and reported, "They don't ask me no more."

Discussion

Theories of adolescent risk generally approach risk-taking behavior as either a function of either individual- or cultural-level factors. The purpose of this study was to consider how a social ecological approach, compared to solely probabilistic or contextualist approaches,

more accurately and appropriately captures the communication context in which risk behavior occur and how adolescents perceive risk themselves. Findings support communication about risk behavior, the development of risk conceptualizations, and risk behavior itself occur at the individual level and are influenced by interpersonal dynamics found within the rural Appalachian family and community. Importantly, these factors are interdependent and considering them in isolation would provide an incomplete perspective on adolescent risk.

Analyses revealed adolescents' did not perceive behaviors as inherently risky; instead, they relied on past experiences and personal characteristics to determine the amount of risk inherent in a behavior. This finding coincides with data supporting individuals may take certain precautions to reduce risk, but still often underestimate the amount of control they have over activities and occurrences (see Greene, Rubin, Hale, & Walters, 1996; Weinstein, 1980). In this way, personal agency both promoted and prohibited risk-taking behavior and the adolescents' past experiences (albeit through family or community ties or rural activities) are tied to the rural cultural context. Adolescents conceptualizations of risk therefore differ from either strictly probabilistic or contextualist perspectives as they represent the complex interplay of personal, environmental, and social attributes (Stokols, 1992).

The convergence of personal, environmental, and social features was particularly evident in the ways activities, families, and the communities influenced risk behaviors. Thus, the results of this study shed light on the ecological facets of the rural Appalachian environment which make this underserved population particularly susceptible to the harms of risk behavior and substance use. The physical isolation of rural communities was apparent in student comments about the lack of leisure activities available locally. The lack of pro-social recreational opportunities frequently led to students feeling bored and thus, adolescents' location in geographically isolated areas sometimes served as a risk-enabling ecological factor. Similarly, the small size of rural communities and frequent contact with family and community members made risk-promoting and -prohibiting messages from these groups highly salient. A pervasive sense of familism in this context both encourages and protects adolescents from risk and this is a unique finding.

Additionally, living in a small community often enabled adolescents to develop strong relationships with community members (e.g., teachers, coaches) which served to protect some adolescents from risky behaviors. For example, students often mentioned in-school programs regarding substance use prevention, but communication regarding other types of risk behavior (i.e., dangerous driving or hunting safety) was not mentioned. However, the tight-knit rural, Appalachian community is also a double-edge sword: some adolescents may feel connected and safe in their isolated community, while others know exactly to who to turn to for obtaining substances and developing risk-related relationships. The links between rural family and community structure and rural adolescent risk behavior warrant further study. The results of this study not only add to literature on adolescent risk behavior and substance use, but provide a picture of the risk conceptualizations and behaviors of specifically rural, Appalachian adolescents. The risk narratives of these rural, Appalachian adolescents vary from those of other adolescent populations.

To begin, school was not a risk factor as it was in the urban youth context explored qualitatively by Mason and Korpela (2008). Furthermore, adolescents in urban locations often report their home as a refuge from risk factors; but, in the case of the Appalachian adolescents in this study, the home served as quite a risk factor (Mason & Korpela, 2008). It was oftentimes in the "safety" of the adolescent's home where he or she first experimented with or was offered a substance by a family member or relative. Nature-type places (e.g.,

rivers, woody areas, etc.) emerge as prime locations for risk behavior for both urban youth and rural, Appalachian youth. It may be youth have a sense of privacy in these locations to enact substance use and other risk behaviors. Finally, the current findings coincide with recent qualitative work by Rothwell and Lamarque (2010), as non-Appalachian, rural and urban youth are concerned about what influence their risk behavior may have on younger siblings and friends. Perhaps this emphasis on wanting to protect those younger than the adolescents may be a mechanism through which risk behavior can be identified and prevented. On the whole, more social-ecologically-based research into rural, Appalachian adolescents risk behavior is needed.

Strengths & Limitations

The current study presents three key methodological strengths. First, the sample size of 113 adolescents from rural, Appalachian public schools provided a rich interview dataset representing the varied socioeconomic statuses of individuals residing in this area of the country. Second, the qualitative nature of this exploration gave way to hearing 113 unique, adolescent voices to speak about their interests, habits, risk-taking behavior, and cultural nuances. Alternative methodological approaches would not have allowed for this grounded, cultural understanding of rural Appalachian adolescent risk behavior. The interview process allowed researchers to uncover links between culture and agency in the adolescents' lives. Third, and most importantly, this study sought understanding of a culture underrepresented in current literature, as most literature about risk behavior, in general, pertains to urban and suburban youth populations.

In addition to these strengths, some limitations must be noted. Even with recruitment protocol and the backing of two large universities, some school administrators chose not to allow their students to participate in the interview process and this may have inhibited researchers from gaining various and even dire perspectives regarding ATOD use and risk behavior. It may be the backing of these universities actually hindered recruitment of some schools, as researchers may have been seen as outsiders seeking information from tight-knit community members (Author, 2009). Also, the current study examines rural adolescents in only the northern regions of Appalachia; therefore these results cannot necessarily speak to the cultural risk concerns of adolescents in the southern, or even central, regions of Appalachia. Further research should address such issues and regional variances in Appalachia.

Conclusion

This study explored, through in-depth interviews, rural, Appalachian adolescents' lay conceptualizations of risk and how aspects of this unique culture work to encourage and prohibit adolescent risk behavior. Additionally, key dimensions in the rural Appalachian context which shape adolescent risk-taking were identified, such as the conceptualization of risk through communicative acts, and individual and cultural factors either aiding in or prohibiting risk. This research has important implications for understanding the reasons why rural Appalachian adolescents are at higher risk for enacting unhealthy behaviors such as substance use. Overall, results speak to a need to extend communication theory and further measurement design through use of the social ecological framework. This will enable researchers and practitioners to design culturally-grounded risk behavior prevention and intervention programs to reduce risky behaviors among rural Appalachian adolescents. Regarding prevention, effective risk-reduction campaigns will be those sensitive to the unique cultural context, wherein message designers use language and scenes with which this population is familiar. Such campaign designers should pay special attention to the dual-functioning of the social ecological aspects of rural Appalachian familism, culture, and activity and risk preferences.

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Appendix A: Brief Interview Guide

Warm-up

Tell me a story about something that happened to you lately. It can be something that was funny, or interesting, or sad, or even something that made you mad.

1. **“I AM” activity.** Tell me more about ____ . What are you most proud of?
2. **How long have you lived in this area?** What is it like? What are the people like? What do students your age do here for fun? Compared to living somewhere else/out in the city?

3. **Tell me about a time when you took a big chance/did something that was risky.** What types of risky things do other students do? What about alcohol, chew/smoke tobacco, marijuana?
4. **Has there ever been a time when you had to make a choice about whether to drink alcohol, smoke/chew tobacco, smoke marijuana?** Who, what, where, why, how?
5. **Has there ever been a time when you wanted to say no, but didn't? Why?**
6. **What kind of person would you like to be or what kinds of things would you like to do next year/when you get out of school?** Do you plan to live here when you are older? Why or why not?
7. **Who lives with you in your household?** Relationship?
8. **What kinds of things do your parents/older siblings say/do about drinking alcohol, smoking/chewing tobacco, smoking marijuana?** How do you know what is and isn't okay?
9. **If we were to make the video representing rural schools/ kids in the country, what footage would we shoot?** What would be a "typical" scene where kids your age are faced with choices to drink alcohol? Smoke? Chew?

CLOSE

All the time we have for today. Do you have any questions for me? Thank you for talking with me.

In substance use stories, probe for the following:

- Where the parties take place for kids their age
- Where parties take place for the kids who are the partiers
- How and where do kids gain access to alcohol?
- How and where do kids gain access to tobacco?
- How and where do kids gain access to marijuana or other drugs?
- Gangs in the area.
- The role of gangs in the area and access to substances, parties.

Table 1**Rural Adolescent Risk Behavior Codes and Descriptions**

I.	PURPOSE OF RISKY BEHAVIOR
	The motivators behind and reasons for enacting risky behaviors.
II.	RISKY BEHAVIOR TYPES
	Types of risky behavior that may include “risky outdoor activities,” a “substance possession,” and/or “substance use.” If no specific type of risk was mentioned, the utterance was coded into this broad category.
A.	Risky outdoor activities
	Activities conducted outdoors, wherein the adolescent does not take the proper precautions in ensuring his/her safety and the safety of those around him/her. Such activities may include hunting while unsupervised, dirt biking without a helmet, four-wheeling in the dark, etc. These risky outdoor activities may not become “risky” until substances or other actions are introduced to the scene.
B.	Substance use
	Including alcohol, tobacco, marijuana, or other substance use.
III.	RISKY BEHAVIOR—WHEN
	Utterance of the temporal sense, time of day, portion of the day (i.e. afternoon), day of the week, portion of the week (i.e. weekend) when a risky behavior occurred.
IV.	RISKY BEHAVIOR—WHERE
	Utterance of where any risky behaviors occurred. Examples may include: outdoors; school property; a peer, friend, family member, or the adolescent’s home; party; etc.
V.	RISKY BEHAVIOR—WHO
	Utterance of who acted out the risky behavior, i.e. the interviewee himself/herself, the interviewee’s peer, the interviewee’s adolescent friend, a family member, etc.
	Category was broadened to provide a conceptual understanding of the types of risky behaviors which adolescents witnessed or enacted.
VI.	IDENTIFICATION THROUGH RISK
	Utterance of seeing oneself as being risky and or attaching risk to one’s identity.
VII.	LAY CONCEPTUALIZATIONS OF RISK
	Utterances relating to the adolescent’s view of what actions are risky and what exactly makes an activity risky or dangerous.
VIII.	PROTECTIVE FACTORS
	Factors that perhaps prevent or protect the adolescent from certain risky situations.
IX.	CONCEPT MEMO
	Time- and date-stamped annotations related to furthering conceptual understanding of any topics, difficulties in coding a specific utterance, and arguments for coding an utterance in one way versus another.
X.	PROCESS MEMO
	Time- and date-stamped annotations related to the progress of the coding work, in general.
