

Risk and Protective Factors: Linkages to Youth's Perception of Vulnerability to HIV/AIDS

Infection

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Abstract

Although the 2001 U.S. Surgeon General Report argued that identifying and understanding how protective factors operate is potentially as critical as identifying and understanding how risk factors operate, few studies have examined risk and protective factor models in the HIV/AIDS research arena. The current study will fill this research gap by examining how risk and protective factors are linked and how they are associated with the likelihood of Nigerian youth perceiving vulnerability to HIV/AIDS infection. Cumulative and Additive Risk models will be specified and AMOS software will be used for structural equation modeling analysis. Competing models with the cumulative protective risk score as a mediator and also as a correlate, together with the cumulative risk score, will be explored. Additive Risk Models with risk and protective factors as joint but independent correlates also will be explored. Findings from this study will have critical implications for HIV/AIDS prevention and intervention programs.

Risk and Protective Factors: Linkages to Youth's Perception of Vulnerability to HIV/AIDS

Infection

HIV/AIDS continues to be a devastating plague in today's society. Sub-Saharan Africa has less than 15% of the world's population (Population Reference Bureau (PRB), 2004) but is home to 60% of the world's HIV-positive persons (The Joint United Nations Program on HIV/AIDS (UNAIDS), 2004). Further, half of all new HIV infections are seen in youth (International Center for Research on Women (ICRW), 2001; Merson, 1993; Summers, 2002) because youth are generally over-represented in their indulgence of every form of risk taking and most of the sexual activities of African youth are unprotected (Call et al., 2002). In Nigeria, the country of focus in this study, HIV prevalence increased from 1.8% in 1991 to 4.4% in 2005 (Federal Ministry of Health [FMOH]/National AIDS/STDs Control Programme (NASCP), 2005). At the end of 2005, Nigeria had the third-highest estimated number of HIV-positive persons in the world - approximately 2.86 million persons, most of who are youth (FMOH/NASCP, 2005). Although Nigeria's current HIV/AIDS prevalence rate is lower than most sub-Saharan Africa countries, Nigeria is considered to be a "next wave" country because of its large HIV positive population. Nonetheless, Nigeria stands at a critical point in its epidemic where intensified effective prevention and treatment efforts could help stem the tide of a much more significant future epidemic (Kaiser Family Foundation, 2005). Because African youth are key players in the HIV/AIDS epidemics, understanding how their risk and protective factors are linked to their perception of vulnerability to HIV/AIDS infection may be key to stemming the tide of the epidemic.

Research suggests that vulnerability and perception of vulnerability to harm is largely determined by one's experience of risk and protective factors (U.S. Surgeon General, 2001) and that individuals implement behavior changes based on their perception of vulnerability (Ulleberg & Rundmo, 2003). Therefore, understanding risk and protective factors and their linkage to perception of vulnerability to HIV/AIDS is integral to having effective HIV/AIDS prevention and treatment strategies. Protective factors are those "factors that mediate or moderate the effect of exposure to risk factors, resulting in reduced incidence of problem behavior" (Pollard, Hawkins, and Arthur, 1999, p. 146) whereas risk factor are "anything that increases the probability that a person will suffer harm" (U.S. Surgeon General, 2001, p. 47). Although

models of protective factors are just gaining popularity (Pollard, Hawkins, & Arthur, 1999), risk models have been successfully employed in understanding youth risky behavior in several domains ((Ackerman et al., 1999; Garnezy, 1985; Rutter, 1978; Sameroff et al., 1998; Shobo, 2007). However, these models are rarely applied to understanding HIV/AIDS and HIV/AIDS risk perception.

Shobo (2007), one of the few studies that employed risk models in HIV/AIDS research, found that both the additive and cumulative risk models contribute immensely to understanding adolescent risk perception among Nigerian youth. The Cumulative Risk Model suggests that it is the number, not the type, of risk factors experienced that is the most important determinant of perception of vulnerability to HIV infection (Rutter, 1978; Garnezy, 1985) whereas the Additive Risk Model assumes that qualitative differences in the types of risk factors experienced will influence youth's likelihood of perceiving vulnerability to HIV infection (Ackerman et al., 1999). Thus, the model allows an examination of the unique effect of different types of risk factors, and it tests whether knowing the individual risk factors experienced (likewise, a set of risk factors) can uniquely and independently predict youth's perception of vulnerability. Shobo (2007) found that the higher the number of risk experienced, the higher the vulnerability to HIV/AIDS infection perceived by youth. Further, different risk factors sensitized male and female youth to vulnerability to HIV/AIDS infection. However, Shobo (2007) focused only on risk factors and neglected to examine protective factors even though the 2001 U.S. Surgeon General Report argued that identifying and understanding how protective factors operate is potentially as critical and integral as identifying and understanding how risk factors operate. This study seeks to address this research gap by exploring how risk and protective factors are linked and how they are associated to the likelihood of Nigerian youth perceiving vulnerability to HIV/AIDS infection. The following research questions will be explored:

Research Questions

1. Are risk and protective factors both linked to youth's HIV/AIDS risk perception?
2. Do protective factors mediate or moderate the linkage between risk factors and HIV/AIDS risk perception?
3. Are these findings similar for males and females?

Data

This study is based on the 2003 Nigeria Demographic and Health Survey. Youth's risk perception is the dependent variable in this study. 79% or 2,149 females and 89% or 762 males aged 15–24 responded to the question on risk perception. Full-Information Maximum Likelihood for Structural Equation Models method in AMOS software will be used for dealing with the missing data problem.

Measures

The dependent variable, respondents' perception of vulnerability to HIV/AIDS infection, will be obtained from a question asking respondents whether they thought their chances of contracting AIDS were low, moderate, high, or if they felt they had no risk. The current study is concerned about whether youth reported any perception of vulnerability to HIV/AIDS. Hence, a binary variable with 1 indicating respondents with low, moderate, and high-risk responses will be constructed. To capture risk factors, three binary variables, with values of one if the characteristic of interest is present, will be constructed for having had sex, multiple sexual partners, and sexually transmitted diseases or genital sores in the past year. Four measures of protective factors will be used in this study – knowing about condoms, having positive attitude to condom use, knowledge of where to get condoms, and access to information on condoms. Ethnicity and age, which have been linked to risk perception (Shobo, 2007), will also be included as control variables.

Analysis Plan

AMOS software will be used for structural equation modeling analysis in the study. Confirmatory factor analysis will be conducted on the eight condom attitude questions. Confirmatory factor analysis will also be used to verify the presence of 2 scales – risk and protective factors. To explore the listed research questions, several competing models will be explored. Figures 1 to 3 show some of these models.

Conclusion and Policy Significance

If any success is to be made in combating Africa's HIV/AIDS epidemic, a thorough understanding of risk, but also, protective factors and how they are linked to youth's perception of vulnerability to HIV/AIDS is key. This study will allow us to know whether, at a particular point, it might be more effective to increase exposure to protective factors than to reduce exposure to risk factors and what combination of both sensitize

youth to vulnerability to infection. This understanding will result in more focused and cost-effective prevention and intervention programs. Findings from this study will have critical implications for HIV/AIDS prevention and intervention policies for African youth.

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Figures

Figure 1

Cumulative Risk Factor Model of Youth's Perception of Vulnerability to HIV/AIDS: Cumulative Protective Factor Score as a Mediator

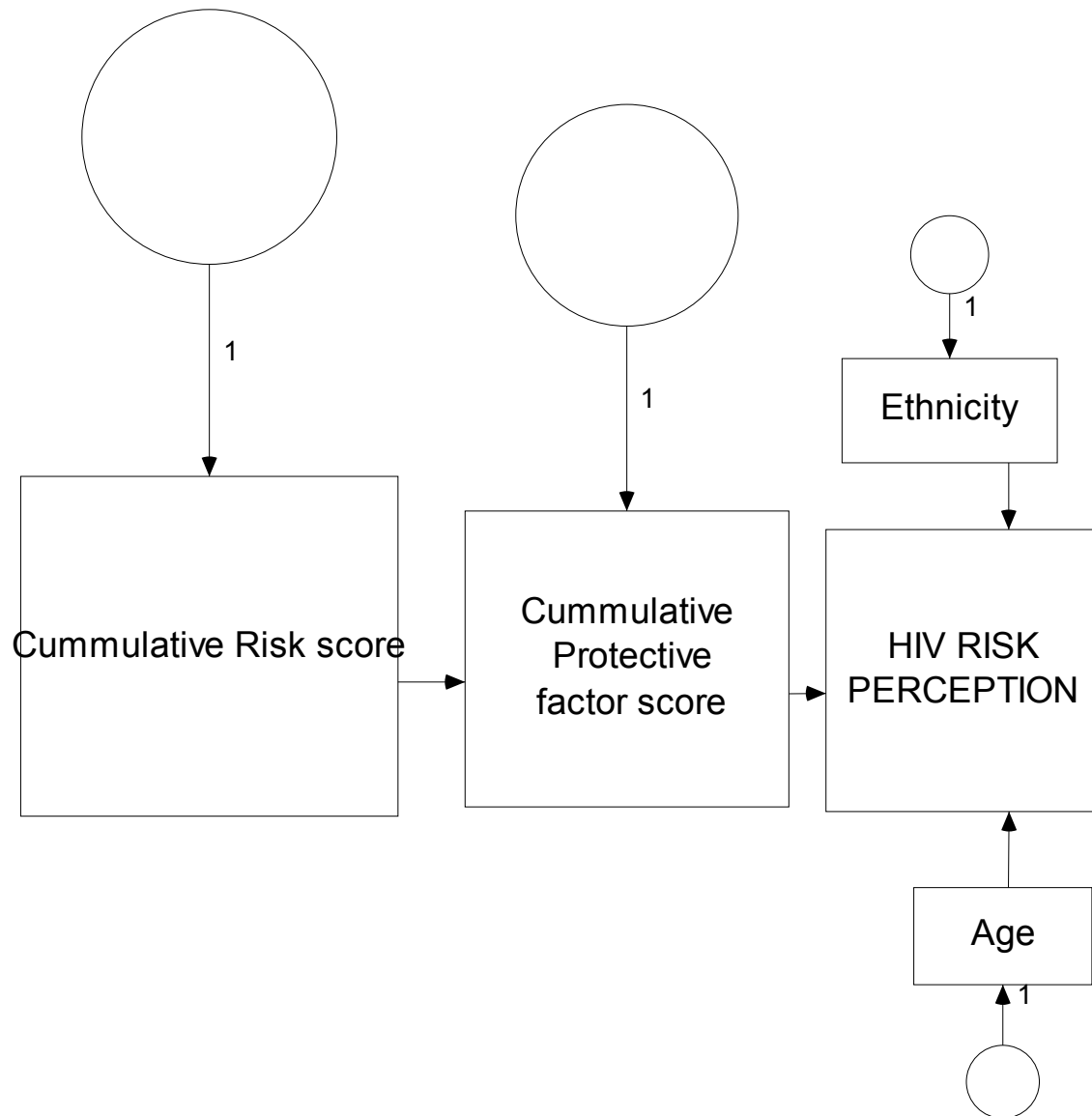


Figure 2

Cumulative Risk and Protective Factors Model of Youth's Perception of Vulnerability to HIV/AIDS

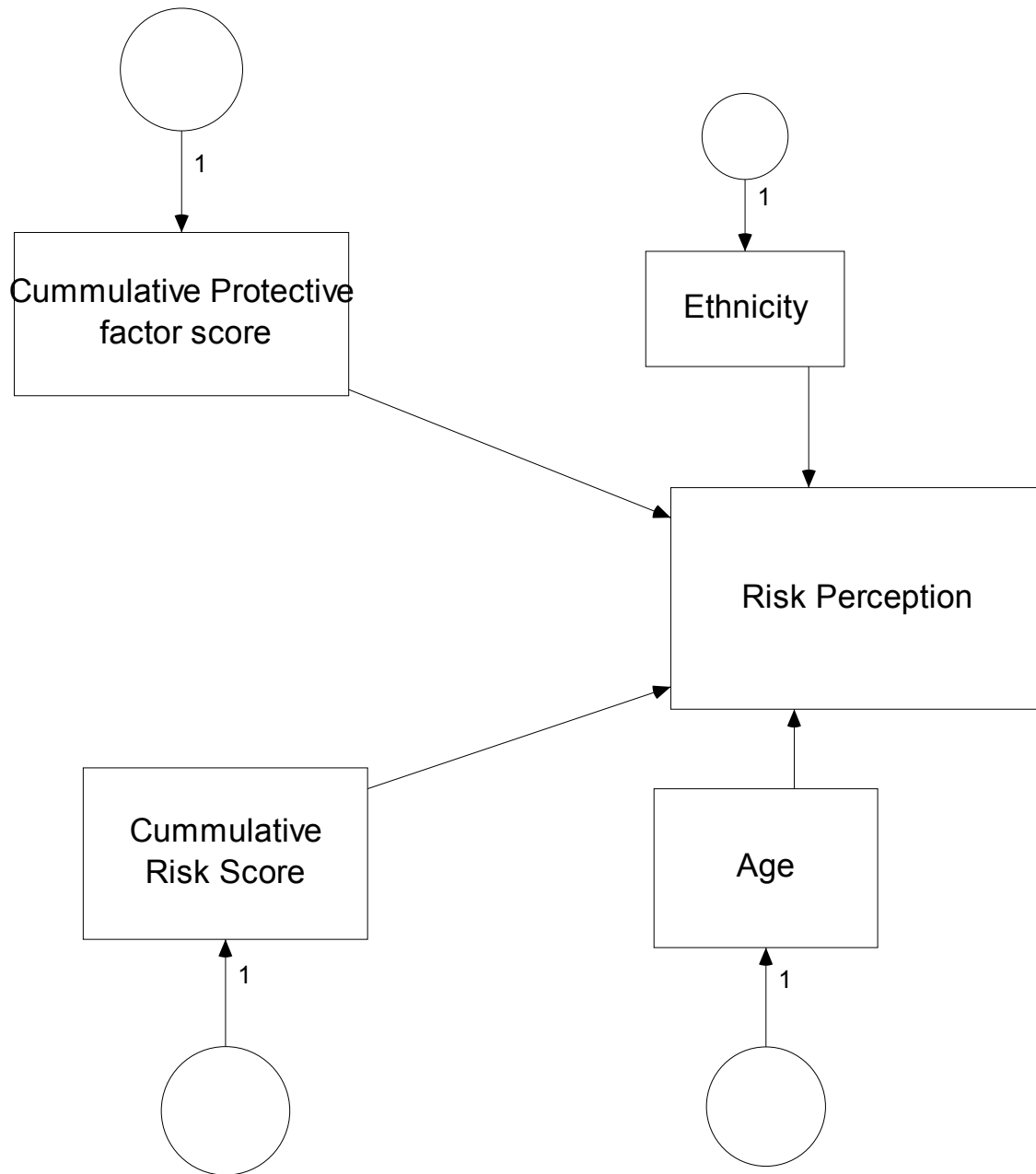


Figure 3

Additive Risk and Protective Factors Model of Youth's Perception of Vulnerability to HIV/AIDS

