An integrated theory of young peoples’ condom use in Sub-Saharan Africa: A meta-analysis

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The present meta-analysis aimed to:

1. Develop the first integrated theory of core social cognitive constructs expected to be linked to condom use in Sub-Saharan African (SAA) youth

2. Test the impact of moderators (demographic, methodological) on the relations among the social cognitive constructs, and on intended and actual condom use
Variables in the integrated theory
Core health cognitions (McMillan & Conner, 2007)

Theories
1. Attribution Theory (e.g., Weiner, 1985, 1986)
2. Health Action Process Approach (Schwarzer et al., 2002)
3. Health Locus of Control (Wallston et al., 1978)
6. Health Belief Model (Rosenstock et al., 1993)
7. Transtheoretical Model (Velicer et al., 1999)
8. Protection Motivation Theory (Maddux & Rogers, 1983)

Relevant studies
10. Sutton et al. (2005)
Methods: Data preparation

Eligible studies included
- Young people (up to age 35) from educational or non-educational settings
- Cross-sectional, prospective, or intervention-type designs
- Outcome measures of intended or actual condom use frequency
- Bivariate correlations between core social-cognitive constructs and condom use
- English articles & theses

Search Strategy
- Web of Science, PubMed, PsycINFO, Google Scholar (up to August 2016); Evidence Syntheses; Reference lists; Author contact
Methods: Data Analyses

- **Effect size measure:** Averaged sample-weighted correlations \((r^+)\) among model constructs estimated using Hedges and Vevea’s (1998) methods & Field and Gillett’s (2010) SPSS macros

- **Random-effects** meta-analytic structural equation modelling with MASEM (Cheung, 2015) on R

- **Heterogeneity:** \(I^2\) & \(Q\) values

- **Publication bias:** Begg & Mazumdar’s test

- **Quality Assessment:** (EBL critical appraisal checklist: Glynn, 2006)

- **Moderator analyses:** Categorical & meta-regression
Results: Descriptive Statistics

- **55 studies;** 72 independent data sets; N = 55,069
- **Mean age** = 19, SD = 3.43
- **More males:** 23 studies (42%) had predominately-male samples; 13 studies (24%) had male-only samples
- About half studies were conducted in **urban** (k = 30, 54%) and **school settings** (k = 27, 49%)

**13 SSA nations:**
Botswana, Cameroon, Ethiopia, Ghana, Guinea, Kenya, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zimbabwe
Results: Path diagram of the integrated condom-use model

Figure 1. Path diagram of the integrated condom-use model. Coefficients are standardized parameter estimates ($\beta$) with likelihood-based 95% confidence intervals in parentheses. Effects omitted from model for clarity: total effect, control – condom use, $\beta = .246$ [.096, .304]; total effect, barriers – condom use, $\beta = -.144$ [-.192, -.090]. *** $p < .001$ ** $p < .01$ * $p < .05$
Results: Moderator effects

- Little evidence of moderation
- Heterogeneity in effect sizes was low in most cases
- Six of the 25 effects were stronger in studies that included a formative research component (e.g., pilot, qualitative study)

Implications for research & practice

We propose that investigators:

1. Opt for an integrated social-cognitive theory over an individual one
2. Include formative research
3. Develop interventions that target habits, attitudes, norms, control, and barriers to condom use – equally

Thank you for attending!
Cleo Protogerou, PhD

Study citation:

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References


