

A Behavior-Based Intervention That Prevents Sexual Assault: the Results of a Matched-Pairs, Cluster-Randomized Study in Nairobi, Kenya

Prevention Science

pp 1–10

Michael Baiocchi, Benjamin Omondi, Nickson Langat, Derek B. Boothroyd, Jake Sinclair, Lee Pavia, Munyae Mulinge, Oscar Githua, Neville H. Golden, Clea Sarnquist

Article

First Online: 25 August 2016

DOI (Digital Object Identifier): [10.1007/s11121-016-0701-0](https://doi.org/10.1007/s11121-016-0701-0)

Cite this article as:

Baiocchi, M., Omondi, B., Langat, N. et al. Prev Sci (2016). doi:10.1007/s11121-016-0701-0



Shares



Views

Abstract

Design

The study's design was a cluster-randomized, matched-pairs, parallel trial of a behavior-based sexual assault prevention intervention in the informal settlements.

Methods

The participants were primary school girls aged 10–16. Classroom-based interventions for girls and boys were delivered by instructors from the same settlements, at the same time, over six 2-h sessions. The girls' program had components of empowerment, gender relations, and self-defense. The boys' program promotes healthy gender norms. The control arm of the study received a health and hygiene curriculum. The primary outcome was the rate of sexual assault in the prior 12 months at the cluster level (school level). Secondary outcomes

included the generalized self-efficacy scale, the distribution of number of times victims were sexually assaulted in the prior period, skills used, disclosure rates, and distribution of perpetrators. Difference-in-differences estimates are reported with bootstrapped confidence intervals.

Results

Fourteen schools with 3147 girls from the intervention group and 14 schools with 2539 girls from the control group were included in the analysis. We estimate a 3.7 % decrease, $p = 0.03$ and 95 % CI = (0.4, 8.0), in risk of sexual assault in the intervention group due to the intervention (initially 7.3 % at baseline). We estimate an increase in mean generalized self-efficacy score of 0.19 (baseline average 3.1, on a 1–4 scale), $p = 0.0004$ and 95 % CI = (0.08, 0.39).

Interpretation

This innovative intervention that combined parallel training for young adolescent girls and boys in school settings showed significant reduction in the rate of sexual assault among girls in this population.

Keywords

Adolescent Rape/prevention and control Gender-based violence Rape/statistics and numerical data Prospective study Randomized controlled trial School-based Sub-Saharan Africa

Neville H. Golden and Clea Sarnquist co-senior authors.

Electronic supplementary material

The online version of this article ([doi:10.1007/s11121-016-0701-0](https://doi.org/10.1007/s11121-016-0701-0) (<http://dx.doi.org/10.1007/s11121-016-0701-0>)) contains supplementary material, which is available to authorized users.

Supplementary material

[11121_2016_701_MOESM1_ESM.docx](#) (37 kb)
ESM 1(DOCX 34 kb)

References

Abramsky, T., Devries, K., Kiss, L., Nakuti, J., Kyegombe, N., Starmann, E., ... Watts, C. (2014). Findings from the SASA! Study: a cluster randomized controlled trial to assess the impact of a community mobilization intervention to prevent violence against women and

reduce HIV risk in Kampala, Uganda. *BMC Medicine*, 12, 122. doi:[10.1186/s12916-014-0122-5](https://doi.org/10.1186/s12916-014-0122-5) (<http://dx.doi.org/10.1186/s12916-014-0122-5>)

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review*, 84, 191–215.

[CrossRef](http://dx.doi.org/10.1037/0033-295X.84.2.191) (<http://dx.doi.org/10.1037/0033-295X.84.2.191>)

Devries, K. M., Mak, J. Y., Garcia-Moreno, C., Petzold, M., Child, J. C., Falder, G., ... Watts, C. H. (2013). Global health. The global prevalence of intimate partner violence against women. *Science*, 340, 1527–1528. doi:[10.1126/science.1240937](https://doi.org/10.1126/science.1240937)

(<http://dx.doi.org/10.1126/science.1240937>)

Ellsberg, M., Arango, D. J., Morton, M., Gennari, F., Kiplesund, S., Contreras, M., & Watts, C. (2014a). Prevention of violence against women and girls: What does the evidence say? *The Lancet*, 385(9977), 1555–1566. doi:[10.1016/S0140-6736\(14\)61703-7](https://doi.org/10.1016/S0140-6736(14)61703-7)

([http://dx.doi.org/10.1016/S0140-6736\(14\)61703-7](http://dx.doi.org/10.1016/S0140-6736(14)61703-7)).

[CrossRef](http://dx.doi.org/10.1016/S0140-6736(14)61703-7) ([http://dx.doi.org/10.1016/S0140-6736\(14\)61703-7](http://dx.doi.org/10.1016/S0140-6736(14)61703-7))

Ellsberg, M., Arango, D. J., Morton, M., Gennari, F., Kiplesund, S., Contreras, M., & Watts, C. (2014b). Prevention of violence against women and girls: What does the evidence say?

Lancet. doi:[10.1016/S0140-6736\(14\)61703-7](https://doi.org/10.1016/S0140-6736(14)61703-7) ([http://dx.doi.org/10.1016/S0140-6736\(14\)61703-7](http://dx.doi.org/10.1016/S0140-6736(14)61703-7)).

[PubMed](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?) (<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?>

[cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=25467575](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=25467575))

Garcia-Moreno, C., Jansen, H. A. F. M., Ellsberg, M., Heise, L., & Watts, C. (2005). *Multi-Country Study on Women's Health and Domestic Violence Against Women: Summary Report of Initial Results on Prevalence, Health Outcomes and Women's Responses*

Gregson, S., Zhuwau, T., Ndlovu, J., & Nyamukapa, C. (2002). Methods to reduce social desirability bias in sex surveys in low-development settings: Experience in Zimbabwe. *Sexually Transmitted Diseases*, 29(10), 568–575.

[CrossRef](http://dx.doi.org/10.1097/00007435-200210000-00002) (<http://dx.doi.org/10.1097/00007435-200210000-00002>)

[PubMed](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?) (<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?>

[cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=12370523](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=12370523))

Jewkes, R., Gibbs, A., Jama-Shai, N., Willan, S., Misselhorn, A., Mushinga, M., ... Skiweyiya, Y. (2014). Stepping Stones and Creating Futures intervention: shortened interrupted time series evaluation of a behavioural and structural health promotion and violence prevention intervention for young people in informal settlements in Durban, South Africa. *BMC public health*, 14, 1. doi: [10.1186/1471-2458-14-1325](https://doi.org/10.1186/1471-2458-14-1325) (<http://dx.doi.org/10.1186/1471-2458-14-1325>)

Keller, J., Mboya, B. O., Sinclair, J., Githua, O. W., Mulinge, M., Bergholz, L., ... Kapphahn, C. (2015). A 6-week school curriculum improves boys' attitudes and behaviors related to gender-based violence in Kenya. *Journal of Interpersonal Violence*.

doi:[10.1177/0886260515586367](https://doi.org/10.1177/0886260515586367) (<http://dx.doi.org/10.1177/0886260515586367>)

Lundgren, R., & Amin, A. (2015). Addressing intimate partner violence and sexual violence among adolescents: Emerging evidence of effectiveness. *Journal of Adolescent Health*, 56, S42–S50. doi:[10.1016/j.jadohealth.2014.08.012](https://doi.org/10.1016/j.jadohealth.2014.08.012)

(<http://dx.doi.org/10.1016/j.jadohealth.2014.08.012>).

Michau, L., Horn, J., Bank, A., Dutt, M., & Zimmerman, C. (2015). Prevention of violence against women and girls: Lessons from practice. *The Lancet*, *385*, 1672–1684.
doi:[10.1016/S0140-6736\(14\)61797-9](https://doi.org/10.1016/S0140-6736(14)61797-9) ([http://dx.doi.org/10.1016/S0140-6736\(14\)61797-9](http://dx.doi.org/10.1016/S0140-6736(14)61797-9)).

Mulawa, M., Kajula, L. J., Yamanis, T. J., Balvanz, P., Kilonzo, M. N., & Maman, S., 2016. Perpetration and victimization of intimate partner violence among young men and women in Dar es Salaam, Tanzania. *Journal of interpersonal violence*, p.
doi:[10.1177/0886260515625910](https://doi.org/10.1177/0886260515625910) (<http://dx.doi.org/10.1177/0886260515625910>).

Pronyk, P. M., Hargreaves, J. R., Kim, J. C., Morison, L. A., Phetla, G., Watts, C., ... Porter, J. D. (2006). Effect of a structural intervention for the prevention of intimate-partner violence and HIV in rural South Africa: A cluster randomised trial. *The Lancet*, *368*, 1973-1983

Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education & Behavior*, *15*(2), 175–183.
doi:[10.1177/109019818801500203](https://doi.org/10.1177/109019818801500203) (<http://dx.doi.org/10.1177/109019818801500203>).
CrossRef (<http://dx.doi.org/10.1177/109019818801500203>)

Sarnquist, C., Omondi, B., Sinclair, J., Gitau, C., Paiva, L., Mulinge, M., ... Maldonado, Y. (2014). Rape prevention through empowerment of adolescent girls. *Pediatrics*, *133*, e1226-1232. doi:[10.1542/peds.2013-3414](https://doi.org/10.1542/peds.2013-3414) (<http://dx.doi.org/10.1542/peds.2013-3414>)

Sarnquist, C., Sinclair, J., Omondi, B., Langat, N., Paiva, L., Halpern-Felsher, B., Golden, N., Maldonado, Y., & Baiocchi, M. (2016). Evidence that classroom-based behavioral interventions reduce pregnancy-related school dropout among Nairobi adolescents. *Health Education & Behavior*. doi:[10.1177/1090198116657777](https://doi.org/10.1177/1090198116657777)
(<http://dx.doi.org/10.1177/1090198116657777>).

Schwarzer, R. (2014). *Everything you wanted to know about the General Self-Efficacy Scale but were afraid to ask*. http://userpage.fu-berlin.de/~health/faq_gse.pdf Retrieved (http://userpage.fu-berlin.de/~health/faq_gse.pdf) from http://userpage.fu-berlin.de/~health/faq_gse.pdf (http://userpage.fu-berlin.de/~health/faq_gse.pdf).

Senn, C. Y., Eliasziw, M., Barata, P. C., Thurston, W. E., Newby-Clark, I. R., Radtke, H. L., & Hobden, K. L. (2015). Efficacy of a sexual assault resistance program for university women. *New England Journal of Medicine*, *372*(24), 2326–2335.
CrossRef (<http://dx.doi.org/10.1056/NEJMs1411131>)
PubMed (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=26061837)

Sinclair, J., Sinclair, L., Otieno, E., Mulinge, M., Kapphahn, C., & Golden, N. (2013). A self-defense program reduces the incidence of sexual assault in Kenyan adolescent girls. *Journal of Adolescent Health*, *53*(3), 374–380.
CrossRef (<http://dx.doi.org/10.1016/j.jadohealth.2013.04.008>)
PubMed (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=23727500)

Vuchinich, S., Flay, B. R., Aber, L., & Bickman, L. (2012). Person mobility in the design and analysis of cluster-randomized cohort prevention trials. *Prevention Science*, *13*(3), 300–313.
CrossRef (<http://dx.doi.org/10.1007/s11121-011-0265-y>)
PubMed (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=22249907)

Wagman, J. A., Gray, R. H., Campbell, J. C., Thoma, M., Ndyanabo, A., Ssekasanvu, J., ...
Brahmbhatt, H. (2015). Effectiveness of an integrated intimate partner violence and HIV
prevention intervention in Rakai, Uganda: Analysis of an intervention in an existing cluster
randomised cohort. *The Lancet Global Health*, 3(1), e23-e33.
doi:[http://dx.doi.org/10.1016/S2214-109X\(14\)70344-4](http://dx.doi.org/10.1016/S2214-109X(14)70344-4) ([http://dx.doi.org/10.1016/S2214-109X\(14\)70344-4](http://dx.doi.org/10.1016/S2214-109X(14)70344-4))

Copyright information

© Society for Prevention Research 2016

About this article



Print ISSN

1389-4986

Online ISSN

1573-6695

Publisher Name

Springer US

[About this journal](#)

[Reprints and Permissions](#)

SPRINGER NATURE

© 2016 Springer International Publishing. Part of [Springer Nature](#).

Not logged in · INASP - Kenya (2000510122) - United States International University (3000184992) - Kenya
Library & Information Service Consortium (KLISC) (3000673093) · 41.89.4.20