

Can we measure one's potential for violent behaviour?

Development and validation of the Violence-Propensity Scorecard for youth violence-reduction practitioners.

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overview

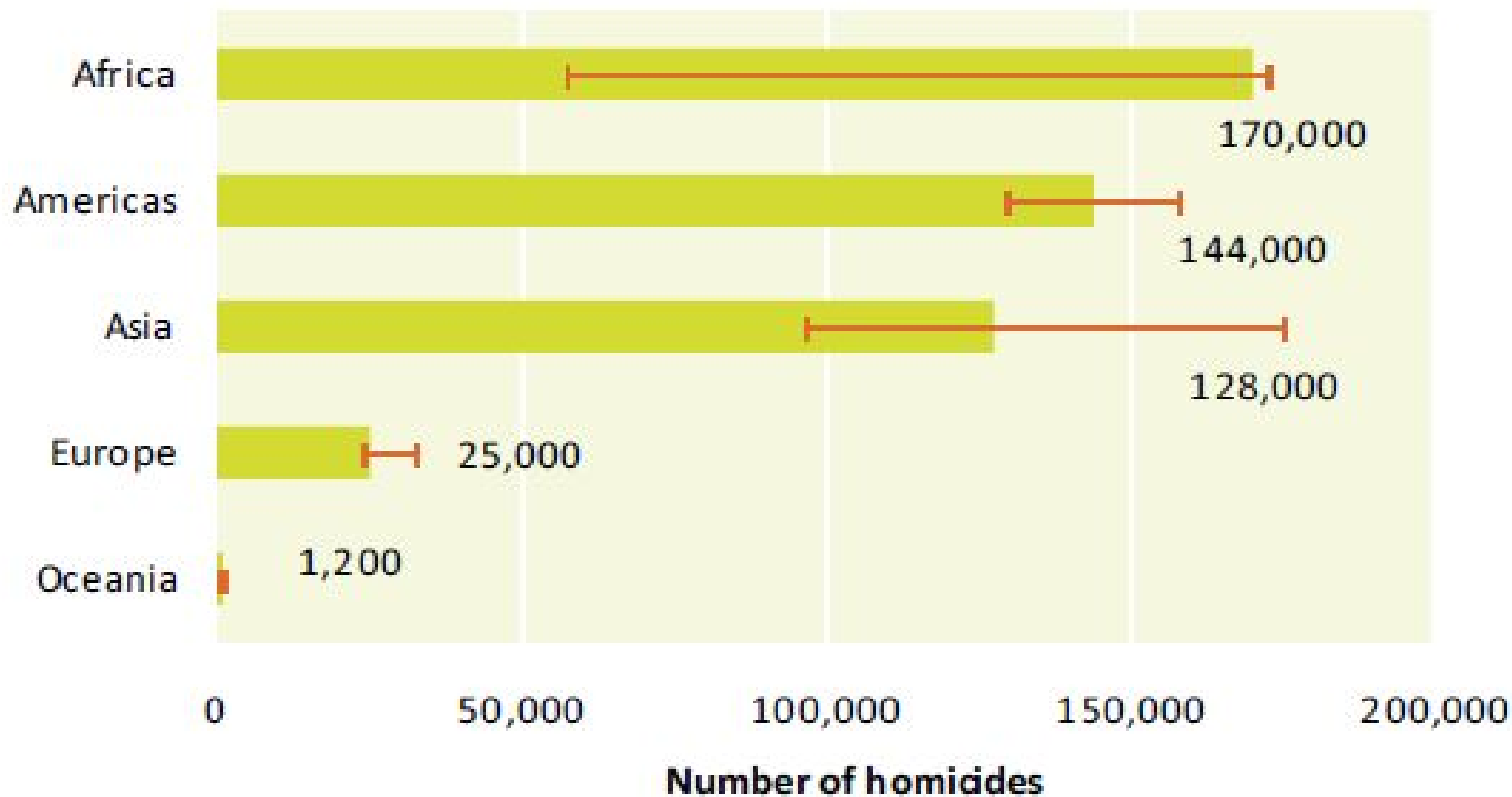
- The violence/the problem
- The data (challenge)
- The need (for solutions-interventions and evidence)
- The Violence Propensity Scorecard
- Way(s) forward

The Problem: young people (12-21 year-olds) in S. Africa:

- are assaulted at 8 times the adult rate, theft at 5 times and robbery at 4 times the adult rate.
- 76% of all young offenders have been victims of violent crime.
- While SA murder rate dropped from 66/100,000 in 1994/5 to 40 in 2006, violent crime against children increased from 2002 to 2005: rape up by 55%, murder by 45%, and serious assault by 50%
- The total number of murders in Khayelitsha (3 police precincts) is consistently 325-360/year
- overall: 9 male homicides for every one female victim (Centre for Justice and Crime Prevention)

Imprecise homicide estimates, esp. for Africa

Fig. 1.1: Total number of homicides by region (2010 or latest available year)



The 'measurement challenge'

- Crime stat 'fudge', size of the 'real problem'?
- Eg. Khayelitsha Commission: breakdown betw. Community/police, youth 'unconvinced' about reporting crime to police. Only approx. 1% of homicides in Khayelitsha seem to result in successful investigation and conviction, what about less serious, more common crimes?
- Uneven and under-reporting of youth offending (incidence of youth deviance and offending at provincially-representative level differs wildly across 2 measurements.
- Tenuous/temporal connection between attitudes and behaviours

Most violent cities in the world-2011

(2011 data)	City	Country	total	Population	Homicide per 100,000
1	San Pedro Sula	Honduras	1,143	719,447	158.87
2	Juárez	Mexico	1,974	1,335,890	147.77
3	Maceió	Brazil	1,564	1,156,278	135.26
4	Acapulco	Mexico	1,029	804,412	127.92
5	Tegucigalpa	Honduras	1,123	1,126,534	99.69
6	Caracas	Venezuela	3,164	3,205,463	98.71
7	Torreón metropolitan	Mexico	990	1,128,152	87.75
8	Chihuahua	Mexico	690	831,693	82.96
9	Durango	Mexico	474	593,389	79.88
10	Belém	Brazil	1,639	2,100,319	78.04
37	Cape Town	South Africa	1,521	3,740,026	40.66

Most violent cities in the world-2013

(2013 data)	City	Country	total	Population	Homicide per 100,000
1	San Pedro Sula	Honduras	1,411	753,990	187.14
2	Caracas	Venezuela	4,364	3,247,971	134.36
3	Acapulco	Mexico	940	833,294	112.80
4	Cali	Colombia	1,930	2,319,684	83.20
5	Maceió	Brazil	795	996,733	79.76
6	Distrito Central	Honduras	946	1,191,111	79.42
7	Fortaleza	Brazil	2,754	3,782,634	72.81
8	Guatemala City	Guatemala	2,123	3,103,685	68.40
9	João Pessoa	Brazil	515	769,607	66.92
10	Barquisimeto	Venezuela	804	1,242,351	54.27
20	Cape Town	South Africa	1,905	3,740,026	50.94

Most violent cities in the world-2014/15

(2014/15 data)	City	Country	total	Population	Homicide per 100,000
1	San Pedro Sula	Honduras	1,319	769,025	171.20
2	Caracas	Venezuela	3,797	3,273,863	115.98
3	Acapulco	Mexico	883	847,735	104.16
4	João Pessoa	Brazil	620	780,738	79.41
5	Distrito Central	Honduras	928	1,195,456	77.65
6	Maceió	Brazil	733	1,005,319	72.91
7	Valencia	Venezuela	1,086	1,527,920	71.08
8	Fortaleza	Brazil	2,541	3,818,380	66.55
9	Cali	Colombia	1,530	2,344,734	65.25
10	São Luís	Brazil	908	1,403,111	64.71
14	Cape Town	South Africa	2,244	3,740,026	60.00

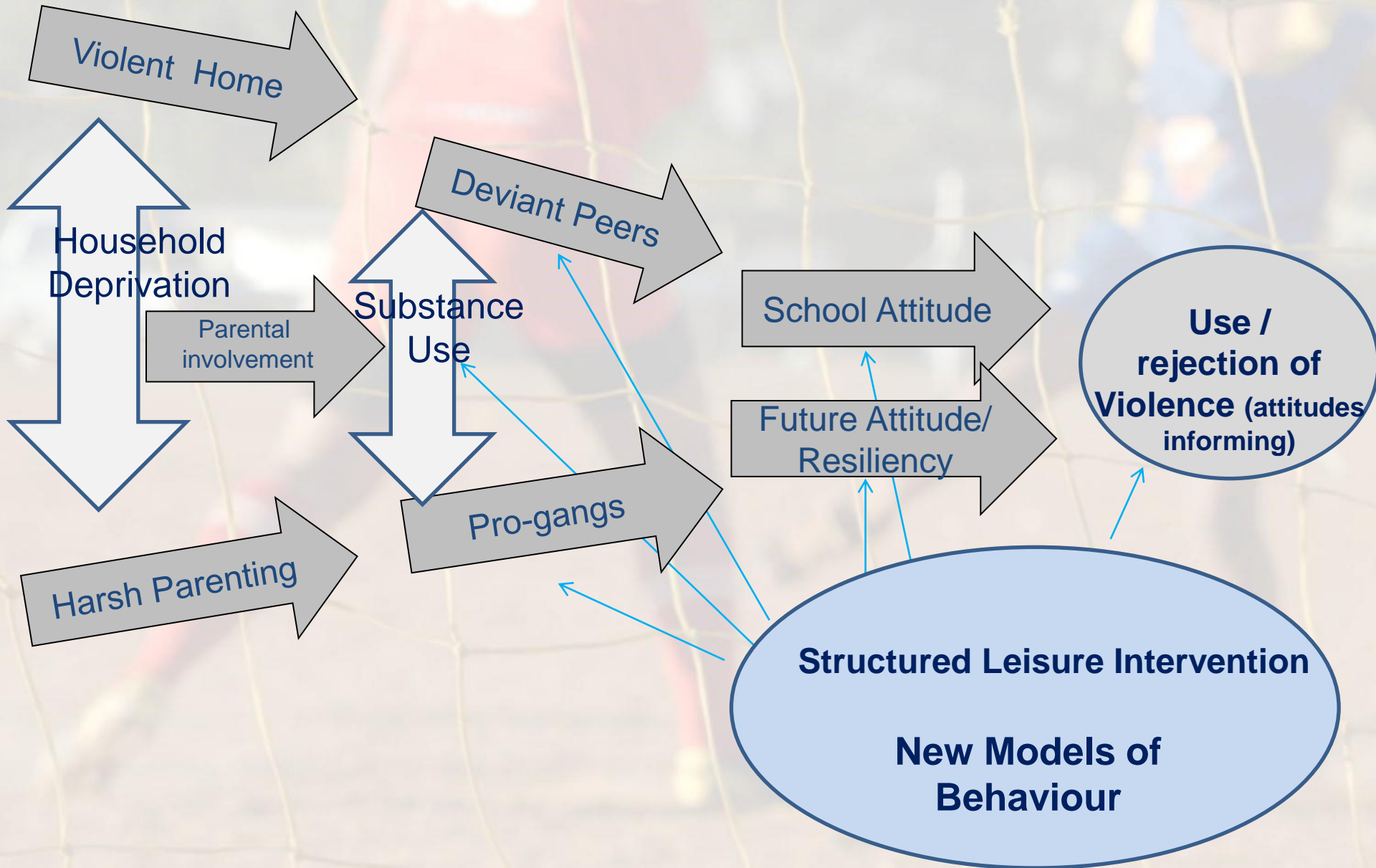
Most violent cities in the world-2015/16

(2015/16 data)	City	Country	total	Population	Homicide per 100,000
1	Caracas	Venezuela	3,946	3,291,830	119.87
2	San Pedro Sula	Honduras	885	797,065	111.03
3	San Salvador	El Salvador	1,918	1,767,102	108.54
4	Acapulco	Mexico	903	862,176	104.73
5	Maturín	Venezuela	505	584,166	86.45
6	Distrito Central	Honduras	882	1,199,802	73.51
7	Valencia	Venezuela	1,125	1,555,739	72.31
8	Palmira	Colombia	216	304,735	70.88
9	Cape Town	South Africa	2,451	3,740,026	65.53
10	Cali	Colombia	1,523	2,369,821	64.27

research overview

- 3-year longitudinal/quasi-experimental panel study with comparison group
- questionnaire tool → violence potential scorecard
- exploration of risk and protective factors
- modelling paths to violence/test for intervention effects
- Why: No real results = no impact = less (or no) \$ next year

Theory of Youth Violence



Violence Propensity “Scorecard”

20 items/4 factors/possible 101 pts. Psychometrically ‘sound’.

1- 7 peer deviance/criminal associates items (0-28 pts) $\alpha=0.87$

2- 6 pro-instrumental violence attitude items (0-24 pts) $\alpha=0.77$

3-6 pro-gangs attitude items (0-24 pts) $\alpha=0.77$

4- *How many fights have you been in the past year?* (0-25 pts).

Temporal measurement stability: wave2 to wave3 scorecards (corr.=0.18, $p<.01$), no mean difference (-0.06, $p=.583$).

Factor1: 7 peer deviance/criminal associates items (0-28 pts)

(response options: 0= never/none of my friends, 2=once or twice/1 or 2 of my friends, 3= often/3-4 friends, 4=Every day/5 or more friends)

Q3.23- Have any of your friends bought drugs in the past year?

Q3.26- (no details but) do any of your friends regularly use or sell drugs?

Q3.28.1-Have any of your friends dropped out of school?

Q3.28.3-Have any of your friends skipped school a lot without permission?

Q3.28.4-Do any of your friends smoke cigarettes on a pretty regular basis?

Q3.28.5-Do any of your friends go out in the evening with their parents' permission?

Q3.28.6-Do any of your friends drink wine/alcohol fairly regularly?

Factor2: 6 pro-instrumental violence attitude items (0-24 pts)

(response options: 0=strongly disagree, 1=disagree, 3=agree, 4=strongly agree)

Q10.3- It is sometimes okay for people to be discriminated against or physically harassed because of their nationality.

Q10.4- A guy shows he really loves his girlfriend if he gets in fights with other guys about her.

Q10.6- People from other races, sometimes deserve to be discriminated against or physically harassed.

Q10.8- If people do things to make me really mad, they deserve to be beaten up.

Q10.9- It is sometimes okay for people to be discriminated against or physically harassed because of their sexual orientation.

Q10.21- If you mess with me/my friends, you will get hurt

Factor 3: 6 pro-gangs attitude items (0-24 pts)

(response options wave 2: 0=not true for me, 3=somewhat true for me, 4=very true for me. Response option wave 3: 0=strongly disagree, 1=disagree, 3=agree, 4=strongly agree)

Q8.1-I think you are safer, and have protection, if you join a gang

Q8.2- I will probably join a gang

Q8.3- Some of my friends at school belong to gangs

Q8.4- I think it's cool to be in a gang

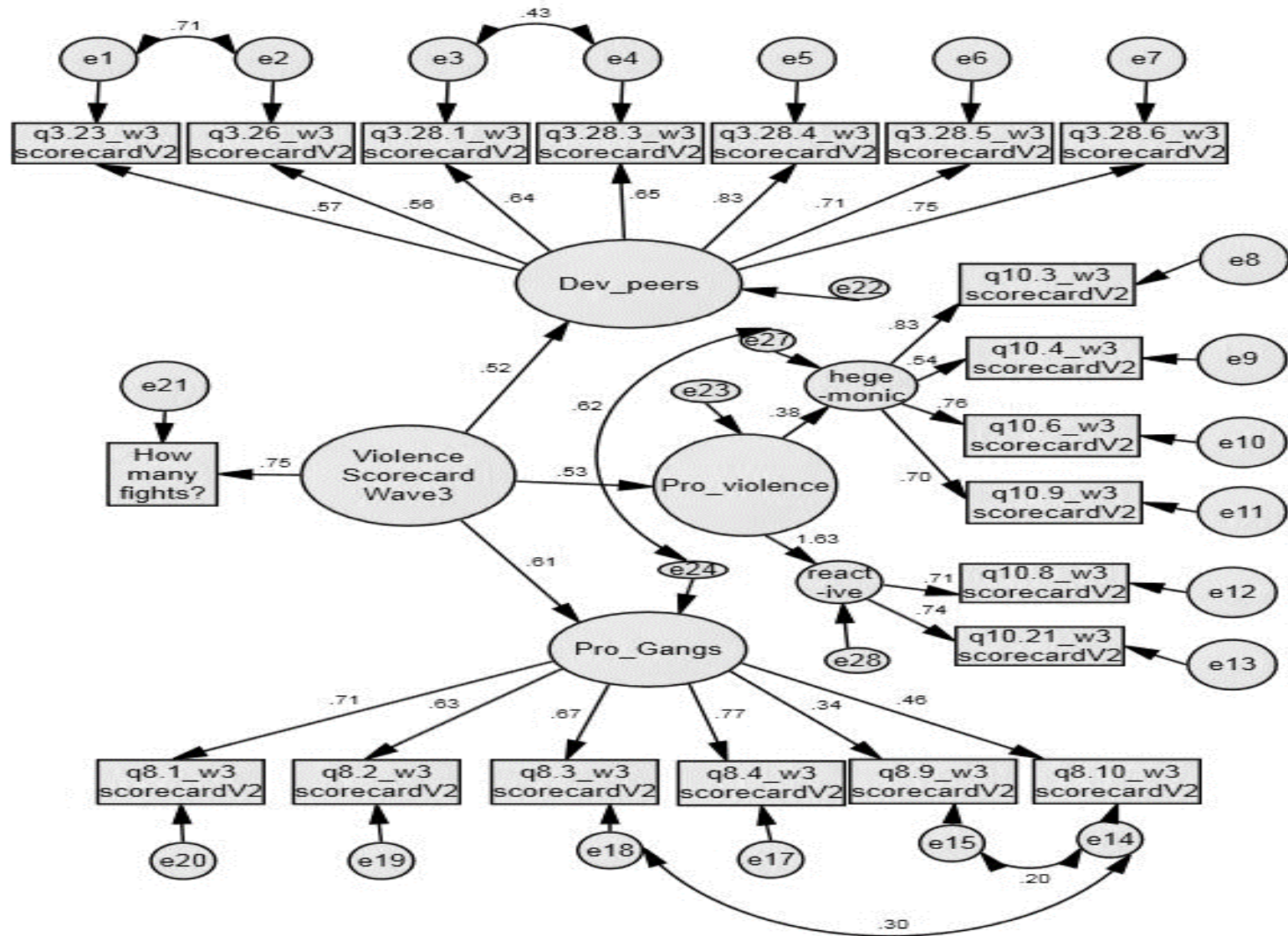
Q8.9- I belong to a gang

Q8.10- People think I'm a gangster

Factor 4: *How many physical fights have you been in within the past year?*

(scored as 0= none, 5=one fight only, 10=two or three fights, 15=four or five fights, 25=six or more fights)

Confirmatory Factor Analysis-Violence Propensity Score wave 3



Standardized coefficients reported. Fit statistics: Chi-square= 319.1. Df= 160. X²/df ratio= 1.99. p= 0.000. CFI= 0.94. RMSEA= 0.0657. N= 311

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

		Cmb multi-category Offend ever w3	Cmb frequency offending past 24 mos	Cmb Offend past12mos w3	Comb Sbstnce Use_w3	Matrnl Prblm Behav w3	Violence exposure 12mos w3	Comb victm w3	Subject failed school w3
Violence Propensity Score w3	Cor	.377**	.474**	.477**	.518**	.375**	.260**	.471**	.295**
	Sig	.000	.000	.000	.000	.000	.001	.000	.000
Violence Propensity Score w2	Cor	.397**	.340**	.035	<u>.181**</u>	.091	.074	<u>.159**</u>	.029
	Sig	.000	.000	.539	.001	.115	.192	.000	.614

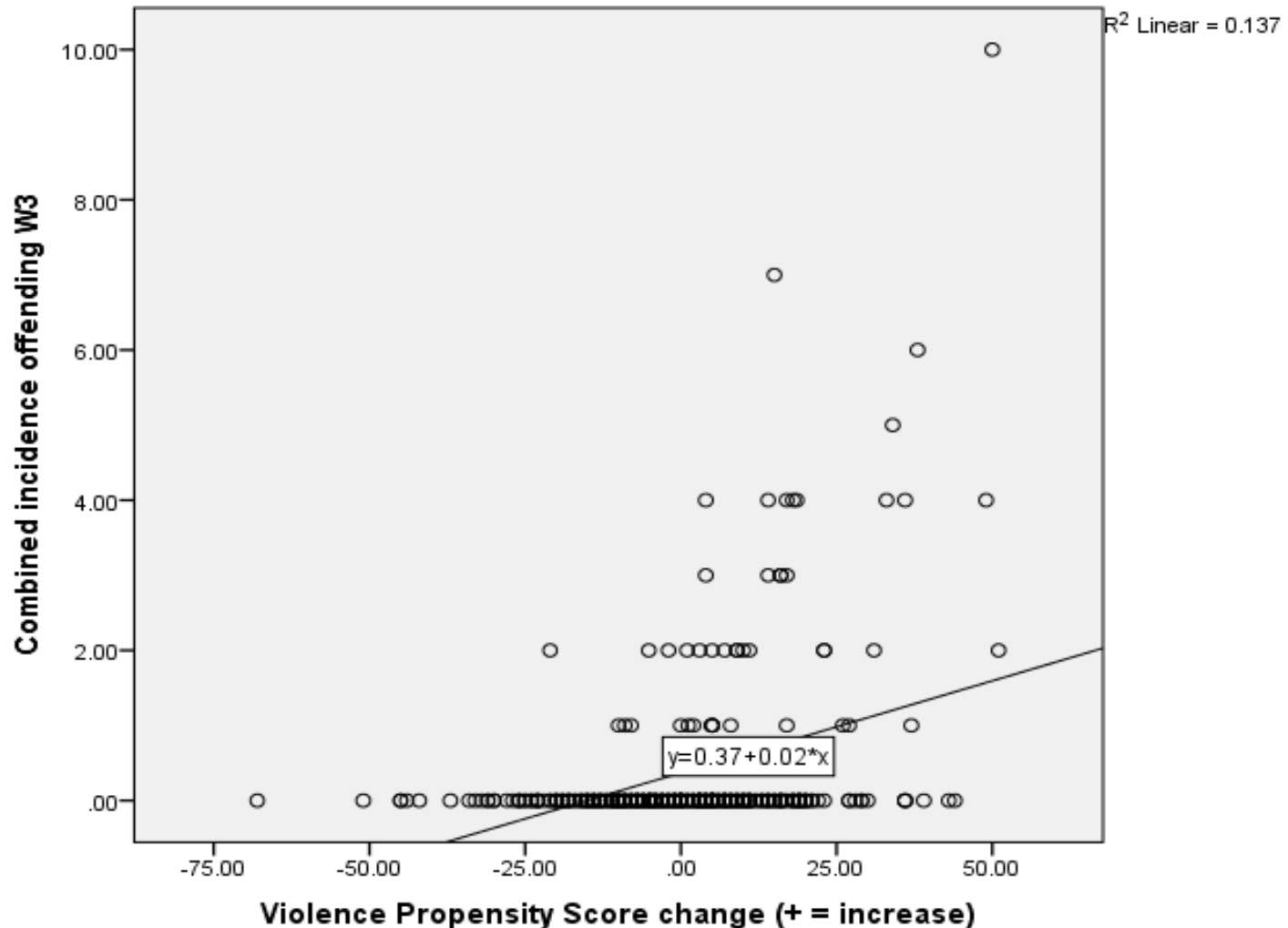
Guidelines for score evaluation:

- A total score between 15-19 is a potential concern
- Score of 20 is assoc. with mean of 1 self-reported violent offence
- between 20-39 serious concern, and
- above 40, likely actively engaged in serious violent and criminal behaviours.
- In wave 3, there are 32 subjects (10%) with scores of 40 or higher with a top score of 70 and 103 (32%) at 25+.

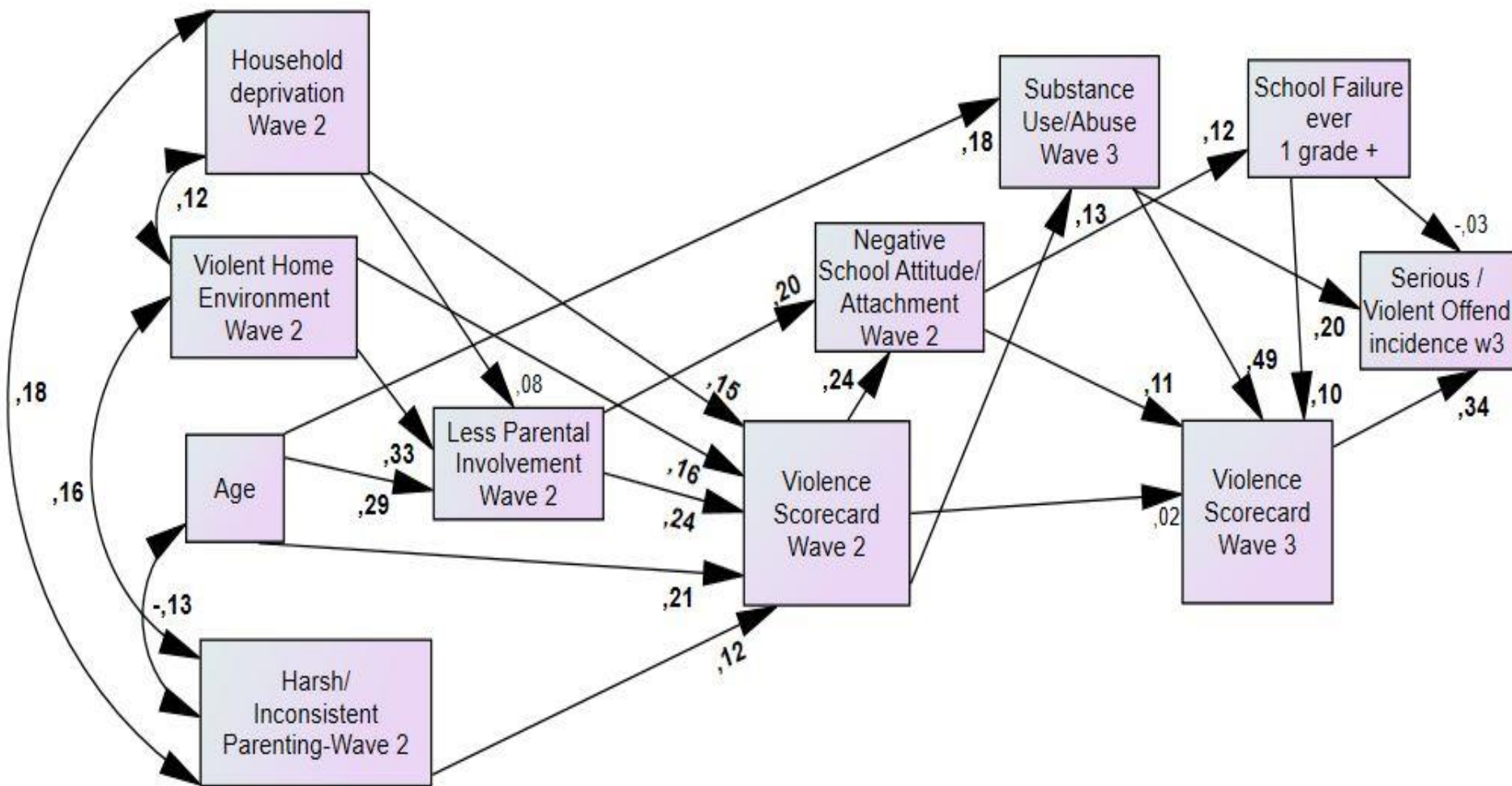
Guidelines for Change Scores:

- Within-subject Change Scores can be constructed by subtracting the pre-test score from the post-test score and described as a percentage point change.
- Average change across a treatment group can also be easily tabulated and evaluated (group effect).
- Risk-propensity can be compared across sites/interventions and against reference (control) group(s)

Positive relationship between Violence Propensity Score increase & incidence of self-reported offending ($r = .370$, $p < .000$). (7 Offences: *carrying gun/knife/weapon for protection; used force, threats or a weapon to steal from someone/; broke into house/building to try to steal something; set fire or tried to set fire to something on purpose; forced sexual activity; used a weapon to threaten or injure someone else; been involved in any gang fights. 1=once only, 2=two or three times, 3=four to five times, 4=six or more times.*)



Wave 2 Factors and pathways to Wave 3: Violence Scorecard, Serious Violent Offending, and School Failure



SEM using wave 2 and wave 3 data. Standardized coefficients reported. Fit statistics: Chi-square= 69.45. Df= 31. X²/df ratio= 2.24. p= 0.000. CFI= 0.92. RMSEA= 0.063. N= 311. Hoelter's (p=.05) = 201. Note. BOLD indicates p ≤ .05.

Overall Lessons Learned

- Shared understanding of concepts across languages and micro-cultures (i.e. 'go out at night', 'role model', 'afraid vs. safe', 'permission')
- Field Research: Self-reporting/under-reporting, subject and interviewer fatigue, complexity of sampling and supervision, service providers sometimes lacking 'humanitarian imperative'/disincentives
- Time frame to see behavioural change (and sustain?, 5 years min.?)
- How to ensure high disclosure AND reliability /measurement stability (with youth and 'temporality')
- Change (reduction) in violence/potential through intervention requires high-risk participants to 1)disclose 2)participate in study & intervention 3)disclose consistently. All 'youth-at-risk interventions' may suffer from these dynamics

Recommendations / Way Forward

- Use Scorecard/test in other contexts, further validate instrument, compare risk and change/impact
- Integrate basic research-evaluation capacity into local organisation(s)/youth development practitioners
- Evidence-Based Structured Leisure Intervention may be a missing key to addressing urban youth violence (and subsequent developmental inequalities) in the SA context

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