

Brief report: Acceptance of physical violence (APV) among adolescents in a Norwegian normal sample; statistical description of the assessment

Dr. F. Naevdal

Bergen College (HiB), Faculty of Education, Postbox 7030, Bergen N-5020, Norway

Abstract

The article presents a psychometric description of 11 statements related to use of physical violence. The items were tested in a normal sample ($N = 1700$, age: 15–16) from urban and rural areas in Western Norway. The internal reliability was $\alpha = 0.86$, and the factor analysis resulted in two factors. Boys had higher mean scores than girls. Self-reported violence was predicted by acceptance of physical violence.

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Introduction

Acceptance of violent strategies may increase through social supported justification of the violence (Bandura, 1973; Brendgen, Vitaro, & Bukowski, 2000; Rosenfeld, Bray, & Egley, 1999). Nicolls (1989) asserts that individual strive to demonstrate competence. This can be seen as a natural part of developing identity (Kaplan, 1980; Breakwell, 1986). When peers look upon violence as an important competence, violence becomes a focus of their affiliation (Barkin, Kreiter, & DuRant, 2001). Proactive or instrumental aggression is also linked to having groups of friends with high levels of similarity (Poulin & Boivin, 2000).

E-mail address: fne@hib.no (F. Naevdal).

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The purpose of this study was to statistically describe 11 items drawn from an earlier unpublished qualitative study of violence justification and contextual morality in a clinical sample of 17 violence participating teenagers. The focus was then not on the aggression itself, but rather on how easy, and in what way the teens justified, accepted and even idealized the aggressive actions and the strategies used. The theoretical approach was socio-cultural rather than psychological (Goffman, 1968; Willies, 1990).

The assessment's items express situations where the teens found it acceptable, necessary or satisfying to participate in physical violence. The assessment was intended to capture the justification, acceptance and strategy through statements that concern (i) The victim's attributed deservedness, defense, right to revenge, devaluation of the victim), (ii) honor codex, (iii) affiliation (collective action) and (iv) acceptance of extreme violent methods (weapon use):

- (1) Defend yourself if attacked.
- (2) It's best to attack when threatened.
- (3) You should attack someone who attacks a friend of yours.
- (4) You should beat up those who have ruined something for you.
- (5) You can beat up people who're asking for it.
- (6) You should beat up people who deserve it.
- (7) It is necessary to show your ability of force to avoid getting beaten up.
- (8) I participate in the gang to beat up people that mess with us.
- (9) You do not kick people lying on the ground, even if you think they deserve it.
- (10) I should like to join the gang when taking revenge on another gang.
- (11) It's okay to use a weapon when fighting.

The psychometric description of the acceptance of violence scale included distribution, internal consistency, item analysis and factor analysis (principal components). Further the relations between APV-score and self-reported serious violent actions were identified.

Method

Sample

The present study is part of a more comprehensive study measuring a wide variety of issues related to adolescents' living conditions in 12 local communities in Hordaland County in Norway, including typical urban areas in Bergen, the second largest city in Norway, as well as more rural areas. To study development in general, data were collected at different points of time (so far in 1996, 2000, 2002) among pupils in their last year of secondary school. All three cohorts are in the present analysis joined and thus constitute the total sample.

Data collection was administrated by each municipality's school office. Positive permission from parents was required to participate. Some classes were partly disorganized during the study period (excursions, etc.). Response rate in 1996 was 86% ($N = 450$), in 2000 it was 72% ($N = 619$) and in 2002, 71% responded ($N = 659$). Totally the sample consists of 1728

participants. Suspect and incomplete answers further reduced the sample. In total 1701 informants completed the APV-items and provided data for analysis.

Measures

The following instruction was given for self-administration of APV: “In your opinion, when is it acceptable to use physical force? How much do you agree with the following statements on a scale from “Strongly agree” through “Somewhat agree” and “Somewhat disagree”, to “Strongly disagree”.

The APV's raw-score was calculated by adding all single items' scores. This sum was then divided with the highest possible sum ($11 \times 4 = 44$). To make it more readable this result was multiplied by 100. The scale then ranged from 25 to 100 score points. In most contexts a 5-points percentile scale that fitted the theoretical normal distribution was used.

Self-reported participating in violence was measured by using a single query of how many times the youngster had, during the 2 last years, physically hurt or participated in injuring others (Seriousness described) and scaled as “Never”, “Once”, “A few”, and “Many”. Results were analysed using SPSS (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975).

Results

Randomly sampled groups from the total sample did not show any significant distribution differences. Among boys the mean was 60.7 score points, and among girls it was 48.8 ($D = 11.9$, $t = 17.7$, $df = 1699$, $p < 0.0001$).

To fit the theoretical distribution and to moderate extreme scores, the distribution was transformed into a 5 points scale in accordance with the normal distribution as shown in Table 1 below. Item statistics are displayed in Table 2.

The mean of the items increased with increasing extremity. Randomly sample-groups did not demonstrate any group differences for any items. Internal consistence was $\alpha = 0.86$.

Factor analysis resulted in a two-factor solution where the first accounted for 42.6% of the variance, and the second for 10.7% (total explained variance = 53.4%). The factor loadings are displayed in Table 3.

Table 1
Percentile-based 5-points scale according to the normal distribution

Categories	Score range in each of the five categories	Empirical distribution <i>N</i> (%)	Cum. %
1 (07%)	25–36.36	198 (11.6)	11.6
2 (24%)	36.37–45.46	387 (22.8)	34.4
3 (38%)	45.47–61.36	644 (37.9)	72.3
4 (24%)	61.37–79.55	340 (20.0)	92.2
5 (07%)	79.56–100	132 (07.8)	100.0

The table displays both the theoretical and empirical distribution.

Table 2
Statistical description of the scale's items, mean and standard deviation

Item no.	Mean	Std.
1. Defend your self...	3.80	0.50
2. It's best to attack...	2.26	0.95
3. You should attack...	2.96	0.90
4. You should squeeze...	2.49	1.04
5. You can beat up...	2.27	1.07
6. You should beat up...	2.18	1.09
7. It is necessary to...	2.11	1.07
8. I participate the gang...	1.59	0.92
9. You do not kick people...	1.48	0.92
10. I should like to join...	1.66	1.00
11. It's okay to use a weapon...	1.27	0.74
All entered	2.19	0.93

Items are listed in presented order, $N = 1701$.

Table 3
Factor analysis of the APV-items

Item no.	Fac. I	Fac. II
4. You should squeeze...	0.77	
5. You can beat up...	0.74	
6. You should beat up...	0.71	
3. You should attack...	0.69	
2. It's best to attack...	0.61	
7. It is necessary to...	0.57	
1. Defend your self...	0.56	
11. It's okay to use a weapon...		0.71
8. I participate the gang...		0.68
10. I should like to join...		0.65
9. You do not kick...		0.47

Criteria : Eigenvalue > 1, Enter limit: Coefficient > 0.40. When the coordinates are "rotated varimax", the factors do not correlate. Factor I explains 42.6% of the variance and Factor II 10.7% (total variance explained: 53.4%).

Factor 1 was loaded by the items that expressed individual revenge and defense in general. The second were loaded by affiliation (8,10) and extreme (9,11) items.

There was a substantial relation between APV-score and violent involvement ($\chi^2 = 468.14$, $df = 12$, $p < 0.0001$). The relation between the two variables was curve linear with the quadratic model as optimal ($F = 256.42$, $df = 1680$, $p < 0.0001$). $R^2 = 23.4$ with APV-level as independent (Table 4).

Table 4
Distribution of self reported serious violent actions towards others within each APV percentile

APV percentiles 1–5	Physical violence towards others (hurt or participated in hurting others) during the 2 last years				
	Never % (n)	Once % (n)	Some % (n)	Several times % (n)	Total % (N)
1	100.0 (198)				100 (198)
2	97.4 (372)	2.4 (9)	0.3 (1)		100 (382)
3	88.6 (567)	6.6 (42)	4.8 (31)		100 (640)
4	73.4 (248)	11.5 (39)	13.3 (45)	1.8 (6)	100 (338)
5	39.2 (51)	16.2 (21)	26.2 (34)	18.5 (24)	100 (130)
Total	85.1 (1436)	6.6 (111)	6.6 (111)	1.8 (30)	100 (1688)

$\chi^2 = 468.14$, $df = 12$, $p < 0.000$ (2-sided), $\eta = 0.49$. Curve linear regression (Quadratic): $F = 256.42$, $df = 1680$, $p < 0.000$, $R^2 = 0.234$.

Discussion

The psychometric analysis verified the expectations from the qualitative pilot study regarding score distribution and the items' ranking. The internal reliability was high ($\alpha = 0.86$). As expected from similar studies, gender differences were found (Cotten et al., 1994; Pepler & Slaby, 1994; Carlo, Raffaelli, Laible, & Meyer, 1999; Funk, Elliott, Urman, Flores, & Mock, 1999). Also the qualitative pilot study (unpublished) demonstrated that few girls were seriously involved in physical violence. But they, who were, demonstrated high level of violence acceptance (Fleisher, 2000; Miller, 2001).

No interaction effect was found between gender and APV-score on self-reported participation in injuring others. Girls demonstrated the same increase in APV-score through increasing violent participation as boys, but at a consistent lower level. In other words, girls act violently at a lower general acceptance level than boys. Maybe this is an indication of the same phenomena described by Roland and Idsøe (2001) when they found that girls' bullying was more affiliation-motivated.

Another possibility is that boys over-express their acceptance of violence and talk about it in "big letters" because boys are allowed and expected to do so in our culture. Girls are, perhaps, more restrictive in expressing their acceptance of violence. The items may also be gender biased. Because boys were over represented in the pilot study, the items are perhaps better fitted the masculine world and more understandable to most boys. If so, most of the existing aggression scales should be biased. However, further research in this area would be helpful.

Factor analysis resulted in two factors. Items that expressed deservedness, defense, revenge and solidarity and honorable reactions on provocations loaded the first factor. This factor can be named "General violence morality". Weapon use and the willingness to attack in groups seemed to be the content of factor II. The substantial consistence indicated a gang- or group-related violence. Funk et al. (1999) also found a second factor that was loaded strongly by weapons carrying. They identified this factor as the dimension of "reactive violence" on the basis that these items express some kind of reactive defense or reactions to threats. The weapon carriers in the qualitative pilot study did not support this understanding. Those youngsters earned weapons

mainly because they wanted to be respected in own group. They seemed to master their “gang life”. The weapons appear to be symbols rather than a preparation for defense. This understanding is also in accordance with Bailey, Flewelling and Rosenbaum (1997).

Reports of actual participation in violent actions (injury others) were significant explained by APV-score. A curve linear relation indicates that the higher level of APV predicted violence participation better than the lower. There is usual a long and unpredictable way from attitudes to actions (Fishbein & Ajzen, 1980). In certain contexts this way may be shorter. If some attitudes or codex are built within a limited social group and related to certain rituals or string ideals, the behaviour is perhaps not so unpredictable.

The APV-assessment may be a functional instrument to identify violent groups, but needs to be tested in alternative samples. The APV-score predicted about 23% of the variance of self-reported serious violent actions. Analyses in the actual sample showed that APV correlated with other risk factor like skipping school, delinquency, alcohol and drugs use. The statistical result was much in accordance with the prospective from the earlier qualitative interviews, but the assessment calls for further validation and development.

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