

# Portrayal of Violence, Weapons, Antisocial Behaviour and Alcohol: Study of Televised Music Videos in New Zealand

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## Abstract

**Aim** Given evidence that exposure to violence in the media is associated with subsequent violent behaviour in young people, we aimed to study the content of televised music videos with regards to violence, weapons, antisocial behaviours and alcohol use.

**Method** Music videos recorded from the New Zealand television channel 'Juice' in 2010 (n=861), were examined for violence-related content. Coding methods were developed and refined; and inter-rater reliability assessed. Data on six violence-related themes were collected: violence, weapons, antisocial behaviour, death themes, suicidal behaviour and Goth culture themes.

**Results** Over a third (39.3%, 338/861) of these music videos portrayed at least one violence-related theme (95% CI: 36.0% – 42.6%). More specifically, violence was portrayed in 23.7% of videos, and similarly for: the presence of weapon/s (12.9%), antisocial behaviour (10.7%), death themes (8.9%), suicidal behaviour (4.1%), and 'Goth' culture themes (2.7%). Violence portrayal was significantly more common in videos in which alcohol was also portrayed (34.5% of those with alcohol), than when alcohol was not portrayed (21.1%) (risk ratio [RR] = 1.65; 95% CI: 1.25 – 2.18). This was also the pattern for weapons portrayal at 19.6% and 11.3% respectively (RR = 1.65; 95% CI: 1.19 – 2.28). There was potential glamorisation of violence in that a fifth (20.4%) of videos portraying violence-related content (n=338) had sexual content and violence present in the same scene.

**Conclusions** The portrayal of violence, weapons and antisocial behaviours in music videos was common in this New Zealand sample. Furthermore, the portrayal of violence was significantly associated with the portrayal of alcohol. Fortunately there are a range of regulatory and non-regulatory approaches that could be used to reduce such portrayals if society considers this worthwhile.

## **Introduction**

Violence is a significant public health issue,<sup>1</sup> and is the third most common cause of death in 10-24 year olds worldwide.<sup>2</sup> There is evidence (albeit not fully conclusive) that exposure to violence in the media contributes to violent behaviour in children and adolescents.<sup>3-6</sup> Part of the complexity with this relationship may be that some children with a pre-existing tendency to be violent might be more likely to expose themselves to violent media. Nevertheless, a New Zealand-based longitudinal study recently reported that television exposure in childhood and adolescence was associated with increased aggressive and antisocial behaviour, with excessive television exposure having longstanding adverse psychological consequences.<sup>7</sup>

Violence in the media may be becoming more prominent, and violent and sexual images and lyrics are becoming much more explicit.<sup>8</sup> One particular form of media of particular relevance to young people are music videos as they combine two forms of media that young people tend to enjoy: television and popular music.<sup>8</sup> It has been suggested that music combined with lyrics and images has more of an impact on peoples' attitudes and behaviours than either form alone.<sup>9,10</sup> There is evidence that adolescents frequently watch music videos, and these videos can often contain violent imagery<sup>8</sup> (e.g., 12% to 22%<sup>11,12</sup>).

Given the above background, this study aimed to investigate what proportion of music videos had portrayals of violence and violence-related themes in televised music videos. We also studied the portrayal of alcohol and sexual content in these same videos to investigate any associations between the portrayal of alcohol and the portrayal of violence and violence-related themes and the portrayal of sexual content and the portrayal of violence and violence-related themes. Alcohol portrayal was studied because of the known associations between alcohol use and violence. Sexual content was also studied to investigate if it might play a role in the glamorisation of violence-related content.

## **Methods**

We used the same dataset of music videos as used in two previous studies conducted in 2010<sup>13,14</sup> in which one of us was involved (NW). This dataset was recorded from a New Zealand television channel dedicated to showing music videos ('Juice') between 1600h and 2030h, during 22 November to 5 December 2010. These times were chosen because they are likely to have high adolescent television viewing of music videos.

Juice TV is a dedicated music video channel that is estimated to reach 231,000 people per week, aged between 10–34 years.<sup>13</sup> We analysed this sample for the portrayal of six violence-related themes: violence, weapon/s, antisocial behaviour, suicidal behaviour, death themes, and Goth culture themes. We considered the latter while recognising that the association

between Goth culture and violence is controversial. Nevertheless, there is evidence that suggests such an association is possible.<sup>15-17</sup>

Our definition of violence included verbal and physical violence as seen in the video: “The explicit intentional use of physical force or verbal abuse, with or without a weapon, against self, other, object, or collective (a group or community), resulting in physical pain, injury, death, or threat/intimidation”<sup>11</sup> (see Table A1 in the Appendix). But we also included such violence where it was implied or threatened. Our definition of antisocial behaviour was “behaviour that is contrary to laws and customs of society, in a way that causes annoyance and disapproval of others”,<sup>18</sup> for example vandalism, dangerous driving, littering and theft. To understand issues around violence glamorisation we also considered the sexual content of the videos. Definitions of the themes we collected data on are listed in Table A1. Where possible we based our definitions (and thus inclusion criteria) on those used in previous studies collecting similar data from television.<sup>11,19</sup> To define the Goth culture theme we used the definition described by Goulding and Saren: “*Goth is a subculture closely associated with the wearing of black, an interest in the ‘darker’ side of life and death, a particular musical aesthetic, and in the UK at least, with the cult and sexuality of the vampire*”.<sup>20</sup> We used data on alcohol content collected on this same dataset in a previous study in which one of us was involved (NW).<sup>13</sup>

The specifics of the dataset are outlined in Table 1. Initially, the first ten percent (86 videos) were observed by two independent viewers. Each discrete music video was recorded as having one of the following content depending on the first scene in which one of these occurred: violence (V), weapon/s (W), antisocial behaviour (A), suicidal behaviour (S), death themes/dead bodies (D), or Goth culture themes (G). If none of these were observed, the video was recorded as having none (N). The scores of the two independent observers were analysed using the online statistical calculator GraphPad (<http://www.graphpad.com/>) and a Cohen’s kappa score calculated for the four key themes (violence, weapons, antisocial behaviour and none (V, W, A and N)). The kappa scores suggested that the strength of agreement between the two observers was ‘very good’ for four key themes: 0.85 (95% CI: 0.72 to 0.98) for violence, 0.90 (95% CI: 0.72 to 1.09) for antisocial behaviour, 0.88 (95% CI: 0.66 to 1.11) for weapons, and 0.88 (95% CI: 0.77 to 0.98) for none of these. The favourable kappa scores provided confidence in observer one’s (LJ) ability to identify all of the relevant data for initial collection.

**Table 1: General characteristics of the music videos in the sample**

Characteristic	N (n=861)	%
<i>Genre</i>		
Rock	301	35.0
Pop	205	23.8
Hip-hop	131	15.2
Rhythm and Blues	69	8.0
Other (including electronic)	155	18.0
<i>Main artist nationality</i>		
New Zealand	227	26.4
Other	634	73.6
<i>Unique videos</i> in the sample	353	41.0

The remaining 90% of the videos were then viewed by observer one and each video was identified as having either: any of the six violence related variables (V/W/A/S/D/G) content, or none of these (N). Videos identified as portraying any one of these six themes were then viewed fully and more detailed data were collected. Data were collected on sexual content only in videos identified as portraying one of these six themes. More detailed coding criteria are available on request from the authors.

Data were entered into a Microsoft Excel spreadsheet and descriptive statistics were employed using the web based resource OpenEpi (<http://www.openepi.com>).

To best reflect level of exposure to viewers we counted every music video, even if the same video had been repeated elsewhere in the sampling. We excluded videos where violence was not explicitly depicted (n=7) and for other reasons listed in Table A2 in the Appendix. In total, 95 videos (11.0%) were identified as having a degree of violence-related content but were excluded from this analysis.

Where there was any uncertainty over coding any aspect of a video (n=30), a second observer (LC) independently viewed and coded the video and a collective decision was made based on our coding criteria.

Classification of music genre was based on the first listed genre on the artist's Wikipedia page (<http://www.wikipedia.org/>), or Google searched if not on Wikipedia. If a video had more than one artist, the genre of the first named artist was used.

## Results

Out of all the 861 videos examined, 39.3% were identified as portraying at least one of the six-violence related variables (V/W/A/S/D/G) (338/861; 95% CI: 36.0% – 42.6%). There were a total of 542 such portrayals in these 338 music videos (mean of 1.6 per music video). More specifically, violence was portrayed in around a quarter of the music videos (23.7%, 204/861). Furthermore, the presence of any sort of weapon/s were present in 12.9%

(111/861), any antisocial behaviour in 10.7% (92/861), any death themes in 8.9% (77/861), any suicidal behaviour in 4.1% (35/861), and any Goth culture themes in 2.7% (23/861).

Further details on the key variables collected from the 338 videos identified as having one of the violence related variables (V/W/A/S/D/G) (or a combination of these) are presented in Table 2 and Tables A3-A8 in the Appendix. When weapon/s were portrayed, these were found to be used predominantly to cause physical injury (45.9%), followed by being carried on a person's body (21.6%). The most common type of specific weapon was bladed (28.7%), closely followed by a firearm (27.9%). Only one portrayal of a weapon was blurred (0.9%) (Table A4). Other violent acts (67.5%), was the most common type of violence (predominantly shouting (26.7%), pushing (13.3%), punching (9.8%), pinning (9.3%) and aggressively pointing (7.6%)) followed by a fight (18.5%) (Table A3). For antisocial behaviours, these mainly involved vandalism (31.8%), dangerous driving (20.2%), and littering (10.1%) (Table 2). Of the videos that portrayed dangerous driving, 26.9% also portrayed alcohol.

**Table 2: Types of violence, weapon/s and antisocial behavior portrayed in the music videos with these portrayed**

<b>Type of violent act portrayed</b>	<b>N (n=249)</b>	<b>%*</b>
Fight (non-fatal)	46	18.5
Suicide	10	4.0
Gunshot (non-fatal)	9	3.6
Battle scene (non-fatal)	8	3.2
Murder	6	2.4
Bomb explosion	2	0.8
Other acts (in one scene)**	168	67.5
<b>Portrayal of weapon</b>	<b>N (n=111)</b>	<b>%*</b>
Used to cause physical injury	51	45.9
On person's body (carried or held)	24	21.6
Used to intimidate but not cause physical injury	11	9.9
Used in a dance move	4	3.6
Other	21	18.9
<b>Type of weapon/s portrayed</b>	<b>N (n=137)</b>	<b>%*</b>
Bladed weapon	39	28.5
Firearm	38	27.7
Explosive	15	10.9
Household furniture	1	0.7
Other	44	32.1
<b>Antisocial behavior portrayed</b>	<b>N (n=129)</b>	<b>%*</b>
Vandalism	41	31.8
Dangerous driving	26	20.2
Littering	13	10.1

Type of violent act portrayed	N (n=249)	%*
Theft	9	7.0
Substance abuse	6	4.7
Other	34	26.4

\* % out of all types of W, V, or, A shown (including multiple W, V, or A in the same video)

\*\* Slap n=1, punch n=22, kick n=6, shaking n=9, self-harm n=14, pinning n=21, pointing n=17, shouting n=60, other n=39 (including where there was more than one single act per scene).

In the 338 videos that contained one of the violence related variables (or a combination of these), 42.0% were found to contain sexual content. In a fifth (20.4%) of these, sexual content and violence were present in the same scene. Sexy clothing (33.7%) was the most common portrayal of sexual content followed by kissing (23.5%) and sexy dancing (19.8%), (Table A7).

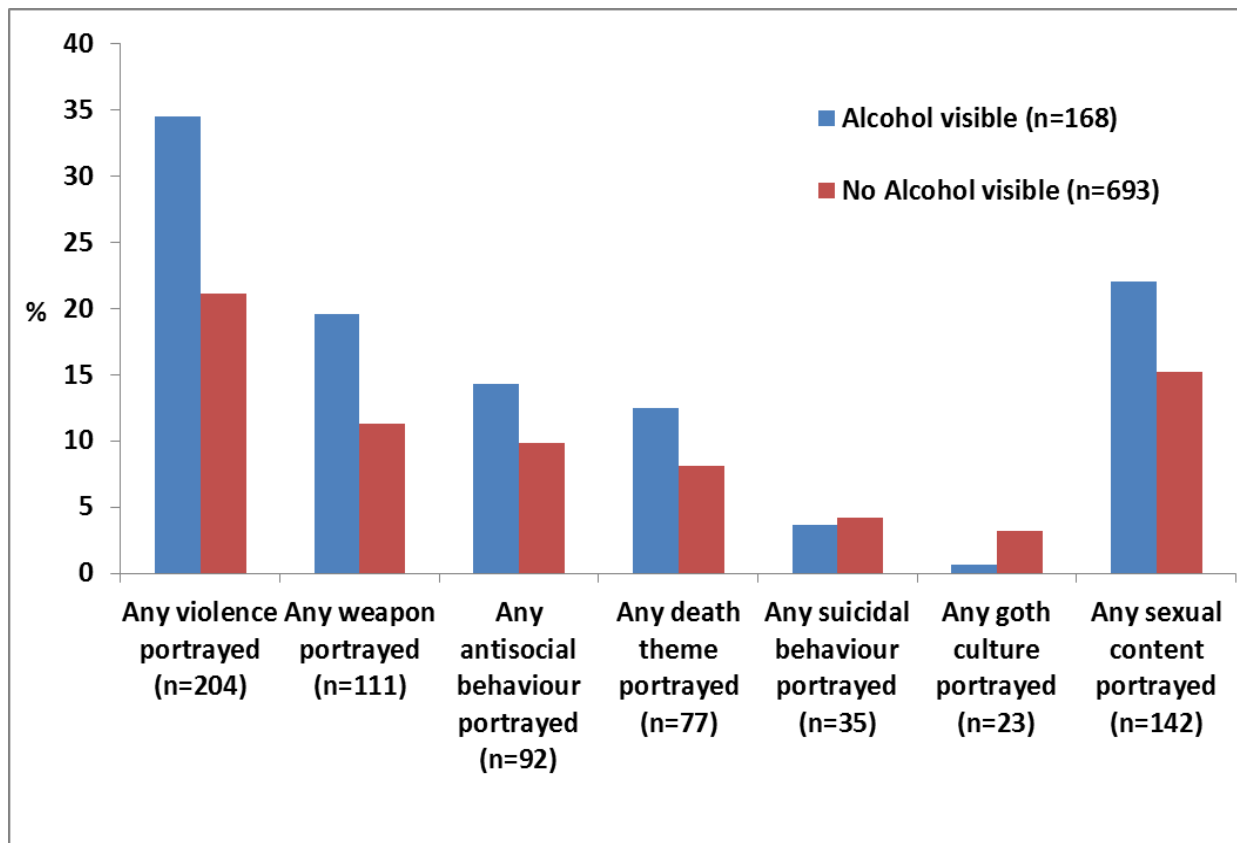
In music videos with violent content, the main aggressors were most commonly male (58.3%) and they were estimated to usually be between 18-30 years of age (72.1%) (Table A5). Portrayals of antisocial behaviour occurred in 10.7% of videos overall, with vandalism (31.8% of this subset) and dangerous driving (20.2% of this subset) being the most common forms (Table 2).

Violence portrayal was significantly more common in videos in which alcohol was also portrayed (34.5% of those with alcohol), than when alcohol was not portrayed (21.1%) (risk ratio [RR] = 1.65; 95% CI: 1.25 – 2.18). This was also the pattern for weapons portrayal at 19.6% and 11.3% respectively (RR = 1.65; 95% CI: 1.19 – 2.28), (Figure 1 and Table A8).

In terms of music video genre, the “rock” genre was the one most commonly shown (Table 1) and so it was not surprising that most of the violent videos (37.7%) were in this category (followed by “hip hop” at 25.5% (Table 3)). But in terms of violence within genre categories, comparing each genre to “pop” as the reference group, the relative levels were significantly higher in the “hip-hop” genre (Table 3). In terms of weapon/s portrayal within genre categories and comparing each genre to “pop” as the reference group, the levels were significantly higher in the “rock” genre (Table 3).

Portrayal of all of the six violence-related themes (V/W/A/S/D/G) was less common in videos with a New Zealander as the main artist (except for weapons, and this was not statistically significant). The lesser frequency of death themes portrayed in videos with a New Zealand main artist was statistically significant (Table 4). For additional results, see the Appendix (Tables A3-A8).

**Figure 1: Associations between violence-related themes portrayed and alcohol portrayal in music videos**



NB: We only coded sexual content if the video also contained one or more of the six violence-related themes (Violence/weapon(s)/antisocial behaviour/death theme/suicidal behaviour/Goth culture content).

**Table 3: Associations between music video genre and violence portrayal and weapon/s portrayal**

		Music genre				
		Rock (n=301)	Hip-hop (n=131)	Rhythm & Blues (n=69)	Other (n=155)	Pop (n=205)
<b>Any violence present (n=204)</b>	<b>N</b>	77	52	12	23	40
	<b>%</b>	37.7	25.5	5.9	11.3	19.6
<b>No violence present (n=657)</b>	<b>N</b>	224	79	57	132	165
	<b>%</b>	34.1	12.0	8.7	20.1	25.1
<b>Risk ratio</b>		1.31	2.03	0.89	0.76	1.0 (Reference)
<b>95% CI</b>		0.94, 1.84	1.44, 2.88	0.50, 0.60	0.48, 1.21	
<b>Any weapon/s present (n = 111)</b>	<b>N</b>	64	10	6	8	23
	<b>%</b>	57.7	9.0	5.4	7.2	20.7
<b>No weapon present (n= 750)</b>	<b>N</b>	237	121	63	147	182
	<b>%</b>	31.6	16.1	8.4	19.6	24.3
<b>Risk ratio</b>		1.90	0.68	0.78	0.46	1.0 (Reference)
<b>95% CI</b>		1.22, 2.95	0.33, 1.38	0.33, 1.80	0.21, 1.00	

**Table 4: Associations between main artist as a New Zealander and key violence related theme**

Key theme	Main artist NZ (n=227)		Other (not NZ artist) (n=634)		Risk ratio (95% CI) for violent content
	N	%	N	%	
Any weapon/s portrayed (n=111)	31	13.7	80	12.6	1.07 (0.77, 1.48)
Any violence portrayed (n=204)	34	15.0	170	26.8	0.57 (0.41, 0.79)
Any antisocial behavior p portrayed (n=92)	21	9.3	71	11.2	0.85 (0.58, 1.26)
Any sexual content portrayed (n=142)*	20	8.8	122	19.2	0.49 (0.32, 0.75)
Any suicidal behavior portrayed (n=35)	5	2.2	30	4.7	0.53 (0.23, 1.21)
Any death themes portrayed (n=77)	12	5.3	65	10.3	0.57 (0.33, 0.97)
Any Goth culture themes portrayed (n=23)	4	1.8	19	3.0	0.65 (0.27, 1.60)



\* We only coded sexual content if the video also contained one or more of the six violence-related themes (V/W/A/S/D/G)

## Discussion

**Main findings and interpretation** — The finding in this study of violence being portrayed in nearly a quarter (24%) of music videos shown on youth-orientated television in New Zealand is consistent with data from previous research in the US.<sup>11</sup> In this study we also considered other themes which may be related to violence. We found that by including violence, weapons, antisocial behaviour, death themes, suicidal behaviour, and Goth cultures, 39% of videos watched had at least one of such themes (average of 1.6 such themes). This high level of violence-related theme portrayal is a concern from a public health perspective, given the research that suggests the adverse impacts of such exposure on viewers.<sup>7,11,21</sup>

These high levels of violence in music videos are despite the fact that they were broadcast during a time that adolescents are most likely to be watching.<sup>22</sup> It is children and adolescents who are probably most at risk of being influenced by violence portrayed on television, as they are still developing ways to solve life's challenges, and they learn best by observing and then imitating behaviour.<sup>23</sup>

It was further identified that 13% of videos portrayed a weapon, including use of such weapons. This is similar to past research that found 11% of music videos contained the use of a weapon.<sup>24</sup>

Of possible additional concern is the way in which music videos containing violence are glamorised and therefore may have a stronger impression on viewers. One way in which videos might be considered to be glamorised (or otherwise made more attractive) is by the addition of sexual content. We found that 42% of videos containing V/W/A/S/D/G had sexual content, and in 20% the sexual content and violence were combined together (Table A7).

We found that portrayal of violence and weapon/s was significantly more common in videos with alcohol content (Figure 1 and Table A8). This is a concern because it is well documented in the scientific literature that there is an association between alcohol use and physical and sexual assault.<sup>25-27</sup> A population-based survey of 16,480 New Zealanders, found that more than half of physical and sexual assaults involved a perpetrator who was reported to have been drinking.<sup>28</sup>

**Strengths and limitations of this study** — This study is the first to look at violence content in music videos televised in New Zealand, and it is also the first (that we know of) to study antisocial behaviour in music videos internationally. We included each repeated song as a separate recording, to help best reflect level of exposure of viewers. The coding system was fairly detailed and its reliability was found to be relatively high (Cohen's kappa scores).

Another strength of this study is the fairly conservative methodology in coding portrayal of violence. That is, some videos were coded as not containing violence if the violence was implicit or subtle such as: violent words in the song title, artist's name or in the lyrics e.g., "Knives at Noon" by Violinist Violence. Some videos (95 / 861) were also identified as having a degree of violence-related content but excluded from this analysis.

Limitations that may reduce the generalisability of this study's findings are that the music videos were recorded over a short two week timeframe for just one music video channel (albeit the one in New Zealand most orientated to a youth audience). Also, there were only 861 songs studied (353 unique music videos), around a quarter (26%) of which had a New Zealander as a main artist, and the data set was recorded in 2010. Furthermore, a few of the data items had a fairly subjective component e.g., "emotional tone of victim/aggressor".

As data were only collected on sexual content in videos identified as portraying one of the six themes, we are unable to make a comparison to the prevalence of sexual content in the videos not portraying one of the six violence related themes. The most recent study analysing sexual content in music videos found portrayal of sexual content in 59% of a sample of 120 videos<sup>29</sup>; 17% higher than the findings in the New Zealand study presented here.

We coded the number of violent events per music video (Table A3) but it would also have been useful to record the proportion of minutes per music video with violent content given the possibility of a dose-response relationship with the amount of viewing and antisocial behaviour outcomes in longitudinal research.

**Implications for further research** — Further research into the influences of music video production and the associations (if any) between the music businesses with other industries, such as the alcohol industry, would be useful to help understand producer and artist decisions about music video content. For example, investigating the sponsorship of music festivals by alcohol companies and alcohol product placement in music videos and other media. In addition, further research could consider more recently televised music videos, and other music channels and/or forms of music media (e.g., YouTube). A more in-depth analysis of current music video content might also be useful, as this study only considered some themes if the video contained violence (e.g., the sexual content theme). An analysis of music video lyrics for violent, aggressive, antisocial or sexual content might also be of value, given that previous work found sexually degrading lyrics in up to 70% of songs across a range of artists.<sup>30</sup>

**Possible implications for policy makers** — Given the evidence around the likely hazard of violent media on youth violence (see *Introduction*) and the level of violence and antisocial behaviour in music videos, policy-makers may wish to respond. For example, health and social sector agencies could consider ways to inform and educate artists about the potential impact they may have on their viewers. This would be relevant not only to violence and antisocial behaviour, but also to drug content (alcohol, tobacco and illicit drugs).

Another possibility is for educational agencies to increase media literacy in schools, since there is some evidence that this can help to reduce the effect of media on some young people.<sup>31</sup> Such approaches involve teaching young people at school about the possible effects of media, and giving them the tools to make their own decisions about what they watch and what they take away from the media.

Regulatory approaches may however be a more reliable and cost-effective way to reduce exposure to media violence than relying on the non-regulatory approaches detailed above. The former could include tighter ratings being placed on music videos with violent and antisocial content. However, these may need to be well designed and enforced since some research has suggested that the PG, and R ratings of films do not provide a guide to the

frequency of violence.<sup>32</sup> Late night viewing restrictions are another possibility, but this might only be partially effective given growing access to the internet via hand held devices.

Finally, music videos and other TV content with high ratings due to violent and antisocial content, could be taxed (the approach taken with controlling tobacco, alcohol and sugary drinks in some countries). Such a tax would encourage producers to reduce violent content and also the revenue obtained from the tax could be used to fund media literacy activities and support the production of artistic work with nonviolent content.

## Conclusions

The portrayal of violence, weapons and antisocial behaviours in music videos was common in this New Zealand sample. Furthermore, the portrayal of violence was significantly associated with the portrayal of alcohol. Fortunately there are a range of regulatory and non-regulatory approaches that could be used to reduce such portrayals if society considers this worthwhile.

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## Appendix: Additional Tabulated Results for the Music Video Study

**Table A1: Definitions of key variables**

Variable	Definition
Violence	The explicit intentional use of physical force or verbal abuse, with or without a weapon, against self, other, object, or collective (a group or community), resulting in physical pain, injury, death, or threat/intimidation.*
Categories of violence	Murder, suicide (completed), sexual assault, gunshot (non-fatal), fight (non-fatal), battle scene (non-fatal), bomb, single (non-fatal), or other.
Fight	A violent event that involves multiple single acts of violence between at least two people (or a person vs an animal), i.e., slap, punch, kick, push, strangulation, shaking, pinning, pointing, shouting etc.
Other violent acts in one scene	A violent event that occurs only once, in one scene. The total number of scenes which contained a single act were recorded. A single act was further categorized into slap, punch, kick, push, strangulation, shaking, violent dance moves, overdose, hanging, self-harm, pinning, pointing, shouting, smash, chase, drag, or other.
Antisocial behaviour	Behaviour that is contrary to laws and customs of society, in a way that causes annoyance and disapproval of others.** ( <i>NB: alcohol misuse was not included in this definition as alcohol use was coded separately</i> )
Weapon	An object used by an aggressor with the intention of inflicting violence, or intimidation/threat upon either oneself, other, object, or collective.
Types of weapon	Bladed weapon, firearm, chain, rope, whip, household furniture, explosive, or other.
Weapon/s use	The weapon was recorded as being either on the person's body, used to cause physical injury, used to intimidate but not cause physical injury (i.e., emotional injury only), used in a dance move, or other.
Kiss	Any time in which two people's lips or lips to skin touched.***
Hug	A situation in which anyone's arms were wrapped around a body in an affectionate way, either to another person, or a group of people.***
Implicit sexual intercourse	Instances which suggest or seem to elicit sexual arousal or erotic thoughts, e.g., pelvic thrusting, prolonged lip licking, stroking,

Variable	Definition
	suggested prostitution.***
Sexy clothing and sexy dancing	Dancing or clothing that might be associated with sexual arousal or erotic thoughts.***
Goth culture theme	Portrayal of the wearing of black, vampires, an interest in the ‘darker’ side of life and death.
Death theme	Portrayal of dead bodies or other symbols of death.

\* DuRant RH, Rich M, Emans SJ, Rome ES, Allred E, Woods ER. Violence and weapon carrying in music videos. A content analysis. *Arch Pediatr Adolesc Med.* 1997;151(5):443-448.

\*\* Definition of antisocial. Oxford Dictionaries website. Oxford Universities Press. <http://oxforddictionaries.com/definition/english/antisocial>. Accessed 11 October, 2012.

\*\*\* Silverman TL, Sprafkin JN, Rubinstein EA. Physical Contact and Sexual Behavior on Prime-Time TV. *J Commun.* 1979;29(1):33-43.

**Table A2: Music videos identified as having a degree of violence-related content but excluded from this analysis**

Reason that a music video was not coded as portraying a violence-related theme (V/W/A/S/D/G)	Frequency (n)*	%
Violent activities in background of video only (e.g., fire, smashing objects)	12	12.6
Violence implied but no explicit violent behaviour observed**	7	7.4
Physical contact with potential for injury but not intended to injure (e.g., pillow fights, rugby tackle)	10	10.5
Masks worn in the video but not used in intimidating manner	3	3.2
Song title implied violence but no explicit violent content in the video	29	30.5
Artist name implied violence but no explicit violent content in the video	34	35.8
<b>Total</b>	<b>95<sup>†</sup></b>	<b>100.0</b>

\* Includes each repeated song as a separate recording, to help best reflect the level of exposure to viewers.

\*\* E.g., images of damaged objects portrayed but violence to objects not portrayed or fire burning in the background of the video destroying toy dolls but fire not seen to be lit by anyone.

<sup>†</sup>95/861 = 11.0% identified as having a degree of violence-related content but excluded from this analysis.

**Table A3: Additional characteristics of ‘other violent acts in one scene’ in the music videos**

	<b>N (n=225)*</b>	<b>%*</b>
<b>Type of other violent acts</b>		
Shouting	60	26.7
Push	30	13.3
Punch	22	9.8
Pinning	21	9.3
Pointing**	17	7.6
Self-harm	14	6.2
Shaking	9	4.0
Slap	7	3.1
Kick	6	2.7
Other	39	17.3
<b>Direction of violence</b>		
To another person	118	52.4
To object	51	22.7
To collective	19	8.4
To self	15	6.7
Other	22	9.8
<b>Number of violent acts per video</b>		<b>%</b>
1	71	37.4
2	23	12.1
3	33	17.4
4	57	30.0
≥5	6	3.2
Median	3	
<b>Outcome of violence</b>		<b>%*</b>
(some violent acts had more than one outcome e.g., a fight)		
None	82	29.6
Physical injury	70	25.3
Other	48	17.3
Threat/intimidation	46	16.6
Death	31	11.2
<b>Proximity of violent act in the scene</b>		<b>%</b>
Close-up	192	94.1
Background	12	5.9

	<b>N (n=225)*</b>	<b>%**</b>
<b>Violent act preceded by official parental guidance warning</b>	<b>N (n=204)</b>	<b>%</b>
Yes	0	0.0
No	204	100.0
<b>'Blurring' of violent act***</b>	<b>N (n=204)</b>	<b>%</b>
Yes	0	0.0
No	204	100.0
<b>Location of violent act</b>	<b>N (n=204)</b>	<b>%</b>
Home	16	7.8
Club/bar	3	1.5
Car park	0	0.0
Other public place	24	11.8
Other	0	0.0
Unspecified	161	78.9

\* % out of all types of violent acts shown (including multiple violent acts in the same video).

\*\* Pointing was recorded when it was portrayed aggressively e.g., pointing and touching the other person

\*\*\* Blurring was recorded when an image was purposefully altered in the video in order to make it less visible.

Note: one of the most common 'other' locations was recorded to be a café.

**Table A4: Other weapon/s details**

<b>Variable</b>	<b>N</b>	<b>%</b>
<b>'Blurring' of weapon/s*</b>	<b>(n=111)</b>	
Yes	1	0.9
No	110	99.1
<b>Proximity of weapon/s</b>	<b>(n=111)</b>	
Close-up	100	90.1
Background	11	9.9
<b>Location of weapon/s portrayal</b>	<b>(n=111)</b>	
Home	16	14.4
Club/bar	3	2.7
Other public place	24	21.6
Unspecified	67	60.4
Other	1	0.9

\* Blurring was recorded when an image in the music video was altered in order to make it less visible.

Note: one of the most common 'other' locations was recorded to be a café.



**Table A5: Nature of predominant aggressors and predominant victims of violence in the music videos**

<b>Characteristic</b>	<b>N (n=204)</b>	<b>%</b>
<b>Role of aggressor</b>		
Main character	100	49.0
Background character	99	48.5
Not applicable (NA)*	5	2.5
<b>Gender of aggressor</b>		
Male	119	58.3
Female	49	24.0
Both (i.e., > 1 aggressor)	18	8.8
Unspecified	13	6.4
Not applicable (NA)*	5	2.5
<b>Estimated age-group of aggressor (years)</b>		
<18	14	6.9
18-30	147	72.1
30-40	16	7.8
40-50	9	4.4
≥50	1	0.5
Indeterminate	12	5.9
NA*	5	2.5
<b>Aggressor details</b>		
One person	139	68.1
Two people	7	3.4
A group of people/gang	39	19.1
Unspecified	14	6.9
NA	5	2.5
<b>Emotional tone of aggressor</b>		
Angry	99	48.5
Apathetic	13	6.4
Aroused	9	4.4
Sad	2	1.0
Frightened	0	0.0
Other	16	7.8
Unspecified	65	31.9

<b>Characteristic</b>	<b>N (n=204)</b>	<b>%</b>
<b>Victim of violence</b>	<b>N (n=154)</b>	<b>%</b>
<b>Role of victim</b>		
Background character	100	64.9
Main character	53	34.4
Object	1	0.6
<b>Estimated gender of victim</b>		
Male	118	76.6
Female	36	23.4
<b>Estimated age of victim (years)</b>		
≤18	10	6.5
18-30	97	63.0
30-40	14	9.1
40-50	1	0.6
≥50	1	0.6
Unspecified	31	20.1
<b>Victim Details</b>		
Unknown person	42	27.3
Unknown relation	33	21.4
Partner	21	13.6
A group of people	11	7.1
Self	6	3.9
Object	5	3.2
Relative	3	1.9
Animal/s	0	0.0
Other	27	17.5
Unspecified	6	3.9
<b>Emotional tone of victim</b>		
Sad	26	16.9
Frightened	17	11.0
Aroused	14	9.1
Angry	10	6.5
Apathetic	6	3.9
Other	10	6.5
Unspecified	71	46.1

\* Where a violent act appears without a person as an aggressor e.g. the image of a gun on it's own firing shots.

**Table A6: Additional findings for videos containing violence/weapon(s)/antisocial behaviour/suicidal behaviour/death theme/Goth theme**

<b>Variable</b>	<b>N (n=338)</b>	<b>%</b>
<b>V/W/A/S/D/G content glamorised</b>		
Yes	40	11.8
No	272	80.5
Unclear	26	7.7
<b>Dominant violence/social impression from the video</b>		
No social or violent aspect	163	48.2
Pro-violence	83	24.6
Pro-weapon	14	4.1
Antisocial	13	3.8
Anti-violence	5	1.5
Pro-social	0	0.0
Other	1	0.3
Total of the above where violence/social impression was unambiguous	59	17.5

**Table A7: Sexual content portrayal and sexuality with violence**

<b>Sexual content portrayal in videos identified as portraying V/W/A/S/ D/G</b>	<b>N (n=338)</b>	<b>%</b>
Total no. of videos with any sexual content	142	42.0
<b>Portrayal of sex and violence-related theme content together</b>	<b>N (n=142)</b>	<b>%</b>
Sexual content and violence-related theme combined in same scene	29	20.4
Sexual content and violence-related theme content not combined in same scene	113	79.6
<b>Type of sexual content portrayed</b>	<b>N (n= 187)</b>	<b>%*</b>
Sexy clothing	63	33.7
Kiss	44	23.5
Sexy dancing	37	19.8
Implicit intercourse	29	15.5
Hug	2	1.1
Other	12	6.4
<b>'Blurring' of sexual content**</b>	<b>N (n= 187)</b>	<b>%</b>
Yes	0	0.0
No	187	100.0
<b>Type of sexy clothing portrayed</b>	<b>N (n=146)</b>	<b>%***</b>
Female two piece/bikini style	98	67.1
Breast cleavage accentuated	23	15.8
Legs and buttocks accentuated	14	9.6
Male torso revealed	4	2.7
Other	7	4.8

\* % out of all types of sexual content shown (including multiple types of sexual content in the same video).

Note: we only coded sexual content if they were initially identified as having V/W/A/S/D/G so this is a conservative estimate of all videos and does not include sexual content in those videos without V/W/A/S/D/G.

\*\* Blurring was recorded when an image was altered in order to make it less visible.

\*\*\* % out of all types of sexual clothing (including multiple types of sexual clothing in the same video).

**Table A8: Associations between violence and alcohol (see also Figure 1)**

	Alcohol visible (n=168)		No alcohol visible (n=693)		Risk ratio (95% CI) for violent content
	Yes (n)	%	No (n)	%	
Any weapon/s portrayed (n=111)	33	19.6	78	11.3	1.65 (1.19, 2.28)
Any violence portrayed (n=204)	58	34.5	146	21.1	1.65 (1.25, 2.18)
Any antisocial behaviour portrayed (n=92)	24	14.3	68	9.8	1.39 (0.96, 2.03)
Any sexual content portrayed* (n=142)	37	22.0	105	15.2	1.43 (1.04, 1.96)
Any suicidal behaviour portrayed (n=35)	6	3.6	29	4.2	0.87 (0.42, 1.83)
Any death themes portrayed (n=77)	21	12.5	56	8.1	1.46 (0.98, 2.15)
Any Goth culture themes portrayed (n=23)	1	0.6	22	3.2	0.22 (0.03, 1.49)

\* We only coded sexual content if the video also contained one or more of the six violence-related themes (V/W/A/S/D/G).