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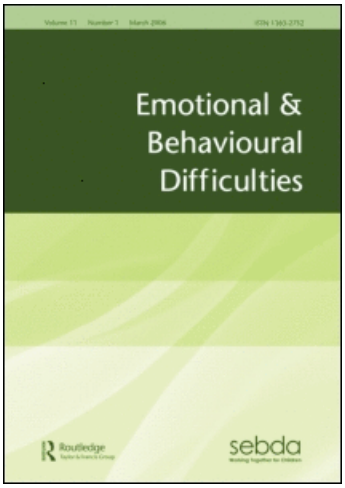

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CHILDREN'S PLAYGROUND BEHAVIOUR ACROSS FIVE YEARS OF BROADCAST TELEVISION: A NATURALISTIC STUDY IN A REMOTE COMMUNITY

Tony Charlton, Charlie Panting, Ronald Davie, David Coles & Lorraine Whitmarsh

3- to 8-year-olds' free-play behaviour was video-recorded in two playgrounds before broadcast TV's availability in the South Atlantic island of St. Helena. Similaraged children's behaviour in the same playgrounds was recorded five years after television's arrival. Recorded behaviours were then coded for pro-social and anti-social acts. Out of sixty-four pre-lpost-TV comparisons only nine significant shifts were found. Five revealed decreases in pro-social behaviour (boys and girls), two showed increases in pro-social behaviour (boys only), and the remaining two showed decreases in anti-social behaviour (for boys only). In the discussion, particular environmental factors are highlighted which may help determine whether learned aggression (from TV and elsewhere) is enacted.

The Literature

Television's popularity has burgeoned so that most of children's leisure-time is now focused upon the "box". In the UK, for example, children view for around 18.5 hours weekly (Office for National Statistics, 1998), and the majority of households boast multiple sets. Despite this universality, television is constantly reproached due to claims that watching violent programming encourages viewers to act in matching ways. In comparison, potential benefits of television viewing have been largely unresearched.

Adverse **outcomes of viewing**

Allegations of adverse viewing effects are not unchallenged, and evidence underpinning them is often queried. For instance, whilst laboratory studies often report that viewing violence prompts imitative responses, it is pointed out that such findings lack ecological validity as studies tend only to measure immediate or short-term behaviours and to exclude natural consequences of (mis)behaviour. Field study results are often held to confirm those from the laboratory yet sometimes they need cautious interpretations as participants are often atypical (e.g. youngsters from institutions, and others who are initially more aggressive). Involving such participants calls into question the generalisation of results to real life. In naturalistic inquiries, although effects can be observed in real life, results have so far been equivocal. In particular, too few opportunities have arisen for data collection in pre- (rather than post-) TV occasions, to allow informed verdicts on television's effects.

Thus, claims for adverse viewing-behaviour links are at times suspect. Furthermore, these links also are often deliberated upon in an overly simplistic manner that overlooks potentially moderating influences of contextual (or situational) variables such as the home and the community (Tan, 1986; Charlton, 1998). Elsewhere, some studies paradoxically have found increases in aggression to be linked to non-violent - rather than violent - programming (Feshbach and Singer, 1971). Even so, McGuire's (1986) estimation of television programming's (adverse) influence is that it accounts 'for no more than a few percent of the variance in viewers' aggressiveness' (p.195).

Beneficial outcomes of viewing

Preoccupations with untoward viewing effects have essentially eclipsed efforts to determine viewing benefits (e.g. leading to improved generosity, helping, co-operation, as well as delaying gratification). This neglect is remarkable given that many programmes:

> Emphasise prosocial themes of generosity, helpfulness and co-operation between people, and even those action-dramas in which violence is most commonly and vividly portrayed often feature positive, socially desirable behaviour.
>
> (Gunter, 1984, p.152)

Moreover, Bandura's (1986) contention **that** by exemplification 'one can get people to behave altruistically' (p.50) is seldom disputed, and there is widespread acceptance on the part of policy makers and educators that television is one of the most important (and readily accessible) socialisation agencies available (Zimmerman, 1996; Rushton, 1982).

Of the relatively few inquiries into pro-social effects many have reported benefits. Stein and Freidrich (1972), for instance, reported that viewing children's TV programmes such as *Lassie, Sesame Street,* and *The Waltons* helped enhance pre-schoolers' interpersonal behaviour, although only in the short term. Similar results were obtained by others (Murray and Ahammer, 1977; Baron, Chase and Courtright, 1979; Zielinska and Chambers, 1995; Forge and Phemister, 1987).

Further support for viewing benefits emanates from research involving the collective outcomes of a number of studies. For instance, in Rushton's (1982) review of thirty-six experimental studies he concluded that television has the 'power to affect the social behaviour of viewers in a positive, pro-social direction' (p.255). Similarly, from her meta-analysis of 190 studies of pro-social viewing effects Hearold (1986), maintained that:

> Although fewer studies exist on pro-social effects, the effect size is so much larger, holds up better under more stringent experimental conditions, and is consistently higher for boys and girls, that the potential for pro-social effects overrides the smaller but persistent negative effects of antisocial programs. (p.116)

Even so, the debate over effects of pro-social viewing is confounded by disagreements and contradictions not unlike those encountered in debates on adverse viewing effects. For instance, Weigman, Kuttschreuter and Baarda (1992) were unable to find that pro-social TV affected children's pro-social behaviour, whilst De Koning et al. (1990) reported that increased pro-social behaviour was linked to antisocial (rather than pro-social) programming. From a different perspective, Gauntlett (1995) is critical of a number of flawed studies whose findings confuse rather than inform pro-social research. Additionally, he draws attention to the lack of 'support of major longitudinal non-experimental studies' (p.45) focusing upon positive impacts of television.

Gauntlett's (1995) remark highlights the need for longitudinal naturalistic research into beneficial viewing outcomes. (This need extends to anti-social research, too.) Likewise, Gunter (1984) talks of the need for additional research to 'assess the potential of pro-social TV content to induce long-term altruistic effects' (p.157). Another need is for data derived from pre- as well as post-television phases, preferably using 'Gold Standard' measurement tools such as naturalistic observations (see Scott, 1996). Observations of this kind can be more ecologically valid than those undertaken 'in structured settings or by retrospective reports of childhood play activities' (Boyatzis, Mallis and Leon, 1999, p.96).

The few media effects' studies that have gathered observational data on pre-television behaviour, have used proximal observations as opposed to video-recordings. However, both methods have their advantages and disadvantages.

Proximal observations versus videotape recordings

For research purposes, children's behaviour has often been viewed and coded in situ. However, the limitations of this method, particularly in terms of reliability, have spurred a search for alternatives. Whilst proximal observations can be more reliable with pre-school children where participant numbers are small (Fagot and Hagan, 1988), a wider range of playground behaviour can be coded in more detail using video-recordings (Stafford and Stafford, 1995). Moreover, whilst 'live' observations offer a less restrictive field of view and can be less time-consuming than analyses of videotapes, the latter enables the use of unlimited observers as well as repeated codings. Video-recordings also help prevent observer 'drift' over time and limit observer fatigue. Likewise, inter-observer checks are easier to undertake with video-recordings (O'Brien et al., 1999). An extra advantage of video-tapes is that they can be juxtaposed for comparisons over time, or edited and viewed in any order so that observer expectations or bias can be minimised (Kent et al., 1979). Nevertheless, the principal limitations of video-recordings are that facial expression and verbal communications may go undetected (Smith and Boulton, 1990).

Understandably, most proximal observations and video-recordings of children behaviour have been undertaken in the school playground given that this venue presents ideal opportunities for viewing naturalistic peer interactions and processes.

Observing behaviour in playgrounds

Playgrounds are not only an important part of children's development (Pellegrini, 1995) but also are a popular location for measuring children's behaviour and social interaction in both laboratory and naturalistic setting. Laboratory studies of children's social behaviour offer high internal validity because of the standardisation of conditions, control over physical and social variables and improved observability of verbal and non-verbal interactions. However, they are limited in terms of external validity precisely because of their contrived simplification of social processes. Hence, laboratory interactions are less representative of real-life behaviour

and therefore not as useful as naturalistic studies in providing opportunities to measure (and monitor over time) normative behaviour particularly of a free-play kind (Boulton, 1991). It is understandable, therefore, that efforts to observe changes in children's naturalistic behaviour across time, usually turn to the playground for such monitoring.

The Research Background

This study monitors children's behaviour four months prior to, and five years after, the inception of broadcast television using video-recordings of naturalistic observations of young children's free-play in playgrounds.

Research setting

St Helena, a British colony in the South Atlantic Ocean with a population of 5644 (1994 census), is among the world's most isolated populated islands. It occupies a land mass of 121 square kilometres at the intersection of latitude 15° 56' south and longitude 5° 43' west. The island is without daily newspapers, a cinema, regular public transport, an airport and until recently, broadcast television. Satellite television (CNN) was transmitted to St Helena for the first time in March 1995. Since then, the local television network has expanded to incorporate two channels offering a mix of M-Net Brochure (KTV, Movie Magic, BBC), Discovery and Supersport. Viewing is possible 'around the clock'. The introduction of broadcast television was a major event on the island, whose only televisual experience had been through video.

History of visual media on St Helena

Since television's availability in the 1950s, enhanced technologies have helped popularise television. Consequently, within the last few decades it has became more difficult to locate a (broadcast) TV-naive community in the 'westernised' world. Hence, most quasi-experimental studies of television effects have made use of communities which - whilst not TV-naive - have had only limited access to television. By way of illustration, William's (1986) North American study involved a moderately sized community about to receive 'flawless' television reception. Because the town was located in a geographic blindspot, hitherto it had been unable to receive full-strength TV transmitter signals. Yet in reality, at least some households were picking up broadcast TV signals, albeit weak ones. Additionally, other townsfolk were guest viewing in houses other than their own, either within the town or elsewhere. The town had also enjoyed long experiences with the cinema. Even so, despite the confounding intrusion of viewing experiences of this kind (in research terms), regular access to broadcast television became a novel encounter for most of the population when full strength television signals were finally transmitted to them.

In St Helena, the natural progression in the availability of the various media was altered. Nevertheless, whilst the video preceded the arrival of broadcast television, earlier visual media arrived in the foreseen order. Magic lantern presentations were available, and popular, from the 1900s onwards, and the first cinematograph show was given in 1927. In 1940 the 'Talkies' arrived and several cinemas were established for a population of around 5000. Sadly, with the advent of the video all cinemas had closed by the mid-1980s. The video first arrived in 1979. Whilst video hire shops were soon established, videotapes were also sent to the island from the UK and South Africa. The island's 1987 census showed 29% of households owned one or more video sets. Whilst financial circumstances could limit the widespread availability of the sets, so could the non-availability of electricity. At that time, many households, particularly those in more remote and less accessible regions on the island, were not connected to a mains electricity supply. Even so, in 1994 (the year before broadcast television's availability) most 3- to 4-year-old children were watching videos for around 11 minutes a day, and much of their viewing diet was comprised of cartoons.

The new televisual experience provided an opportunity for a quasi-experimental investigation into the impact of broadcast television upon social behaviour of young children. The following study compares young children's free-play behaviour in playgrounds before and nearly five years after the availability of broadcast television.

The Research Study

Participants were random samplings of the school populations of 3- to 8-year-old boys and girls engaging in free-play activities in the playgrounds of two of the larger first schools in St Helena, on two separate occasions over five years apart. Numbers on roll at the two schools averaged one hundred and sixty pupils over the two observation periods.

Procedure. Video-recordings of children's free-play behaviour were undertaken in 1994 and 2000 during morning-, lunch- and afternoon-recesses within a two-week period in each year. 256 minutes of video-tape were filmed in 1994, and 344 minutes in 2000. Recordings were not usually undertaken during inclement weather or when one or more class was absent from school (e.g.

in attendance at the community swimming pool). Video-cameras were sited in playgrounds with an operator close by, and recordings commenced when the operator's presence ceased to attract attention. Children entered into and exited the video frame at will, whilst school staff continued with normal supervisory duties thus offering the usual protection to children when they were exposed to harmful or dangerous behaviour from their peers, and thereby lessening need for intervention by the video operator.

Coding of recorded behaviour was undertaken in the UK. Trained coders observed, coded and then registered behaviours on the revised Playground Behaviour Observation Schedule (PBOS). The PBOS includes 26 behaviours commonly presented in playgrounds. Only the eight pro-social and anti-social behaviours from the PBOS are used in this study (see Figure 1).

Working in pairs, coders made independent codings of behaviours occurring within each 60-second time frame, and then compared them. Agreed codings were transferred to the PBOS (see Figure 1). Disagreements were resolved by replaying the appropriate 60-second time frame and re-coding to reach agreement. Replays also occurred when playgrounds were crowded. On such occasions up to seven replays could take place. Coded behaviours were recorded on the PBOS together with the gender of the behaver[s] (i.e. b = boy; g = girl, and x = mixed genders) and the number of children involved.

	Group size		
PLAYGROUND BEHAVIOUR	1	pairs	3+
1. Anti-social, gesture, verbal			
2. Anti-social, contact, kicking, pushing, hitting			
3. Anti-social, seizing, damaging property			
4. Non-complaint holding, forcing			
5. Pro-social, gesture, verbal			
6. Pro-social, sharing, turn taking, helping			
7. Pro-social, consoling, affection			
8. Hand holding, arm in arm			

Groupings - **1** boy, 2 boys, 3+ boys; I girl, 2 girls, 3+ girls; 1 boy and 1 girl; 3+ boys and girls together

Figure 1: Pro-social and Anti-social Behaviours taken from the revised Playground Behaviour Observation Schedule (PBOS)

Results

Cross-sectional comparisons were made between data taken from pre- and post-TV observations. The low frequency of anti-social behaviours precluded the use of the PBOS's 60-second time frames as units for analysis (anti-social behaviour occurred in only around a third of the 60-second time frames). Therefore, data analyses involved computing the number of anti-social and pro-social behaviours occurring within 30-minute periods (using data from 30 x 60-second time frames) in both the 1994 and 2000 videotape recordings.

Data analyses were based, therefore, on the mean number of acts per 30-minutes for each of the 8 anti- and pro-social behaviours occurring within the 8 groupings (see Figure 1). A total of 64 independent t-tests were computed. In the absence of a directional hypothesis data were subject to two-tailed t-tests.

Behaviour changes across observation occasions

Of the 64 cross-sectional comparisons (i.e. between pre- and post-TV observations), only nine reached levels of statistical significance (see Tables 1 and 2). Two of the significant changes showed decreases in anti-social behaviour on the post-TV observation occasion. The remaining seven significant changes involved pro-social behaviours. On the post-television occasion, five showed decreases in pro-social behaviour whilst the other two showed increases.

		Means				
		pre-TV	post-TV	t	df	p
Pro-social	*PBOS No.*					
two girls	8	13.67	5.75	3.405	19	.01
group girls	8	5.22	1.58	2.266	9.9	.05
group boys	8	2.44	0.58	2.573	19	.05
one boy	7	0.22	1.67	3.055	13.2	.01
one boy	6	0.00	0.58	2.548	11	.05
Anti-Social	*PBOS No.*					
one girl	4	**1.11**	0.83	2.846	8.9	.05

PBOS No. refers to behaviours listed in Figure 1.

Table 1: Significant Mean Score Changes Across the Availability of TV for Boys' and Girls' Groups (i.e. 1, 2, 3+)

		Means				
		pre-TV	post-TV	t	df	p
Pro-social	*PBOS No.*					
mixed pair	8	2.00	0.58	2.441	19	.05
mixed group	8	1.89	0.58	2.447	19	.05
Ami-Social	*PBOS No.*					
mixed pair	4	0.78	0.00	2.800	8	.05

PBOS No. refers to behaviours listed in Figure 1.

Table 2: Significant Mean Score Changes Across the Availability of TV for Mixed Gender Groups (i.e. 2, 3+)

Gender differences

With data combined from the two observation occasions, significant differences were found between boys' and girls' levels of anti-social behaviour. Boys committed nearly four times as many anti-social acts as girls ($t=5.42$, $p<0.01$ for a 2-tailed test, $df=20$). Non-significant differences were found between genders for rates of pro-social behaviours although a tendency was noted for girls to behave more pro-socially.

Differential rates of pro-social and anti-social behaviour

With boys' and girls' data combined for the two observation occasions, the pro-social behaviour mean rate was found to be significantly higher than the antisocial mean rate ($t=2.59$, $p<0.05$ for a 2-tailed test, $df=20$). Overall, pro-social behaviours took place with nearly twice as much frequency as anti-social ones.

Discussion

Studies of TV viewing effects can be undertaken at macro and micro levels. For example, at the micro level data can be gathered on individuals' viewing habits and then linked to their pre- and post-viewing behaviour. At the macro level the data gathered are of an aggregate nature. Both levels have their strengths and limitations. For instance, the microanalysis enables a potentially more precise study of individual characteristics but may place limitations on the extent of generalisability from what will be normally a small sample. Moreover, the micro level study holds out more potential for pinpointing causal factors. On the other hand, the use of grouped data will usually produce a more robust and more reliable analysis in statistical terms but only reveals associations or correlations between variables rather than directly examining possible causation. The two methods are ideally complementary - the one throwing up findings and hypotheses that the other can test.

The methodology adopted in this study is of the macro kind, although research of the micro kind has been undertaken and reported elsewhere (Gunter, Charlton, Panting and Coles, in press). In this study, therefore, it was not practicable to link the behaviour of individuals to their personal viewing habits (e.g. how much violence and pro-social programming they watched). Consequently, it was not possible to ascribe any changes in observed behaviour to television. What was being measured was the behaviour 'temperature' in two playgrounds at two different periods of time in order to detect any differences (i.e. occurring between the non-availability and availability of TV).

Gender differences

The finding that anti-social behaviour in free-play settings was more widespread among boys than girls replicates outcomes from other studies. Gender differences occur commonly in a large number of studies including those studying effects of television viewing upon children (Stein and Friedrich, 1972; Joy, Kimball and Zabrak, 1986) and others investigating more general social responses (e.g. Rutter, Tizzard and Whitmore, 1970). Macoby (1966), for example, found that behaviours including physical attacks, fighting, negativistic behaviour, verbal aggression and destructiveness were all more common among boys than among girls. (More recent research suggests that 11- and 12-year-old girls practise more *indirect* aggression. See Tremblay, 2000). Moreover, anti-social behaviours tend to become more pronounced as children grow older, a tendency that seems to follow from boys' and girls' culturally acquired gender roles becoming more firmly established.

Predictably, therefore, girls not only tended to engage less often in anti-social behaviour but also they were more inclined to behave pro-socially than boys, although this latter difference did not reach a significance level. These findings are in common with many other studies reporting no consistent gender differences in pro-social behaviour (see Brown and Singhal, 1990).

Behaviour changes across observation occasions

More generally, what has emerged from this study is that at the macro level, few of the pre-/ post-TV behaviour changes reached levels of statistical significance. Fifty-five of the sixty-four comparisons failed to do so. So, across a period of 5.3 years (i.e. the time span between the two observations), rates of anti-social and pro-social playground behaviour changed little.

Anti-social behaviour. The only two significant changes in anti-social behaviour were in the direction of decreasing rates with the availability of television. Non-significant differences were recorded in the other thirty pre-/ post comparisons. So, after five years of broadcast television there was no evidence of increases in the types of anti-social behaviour which TV is often accused of abetting (e.g. fighting, kicking, pushing, damaging property, hitting). Overall, these results are similar to those reported by Charlton, Gunter and Coles (1998) in an earlier study of playground behaviour in St. Helena (using an early version of the **PBOS).** Thus, findings from these two studies are inconsistent with outcomes from most other naturalistic investigations including the one by Joy et el. (1986). In their study, ten of the twelve cross-phase comparisons revealed significant

increases in anti-social behaviour two years following the arrival of television (and the other two non-significant increases were in the same direction). Moreover, the St. Helena results are at variance with the large majority of laboratory and field studies (e.g. Bandura, 1965; Liebert and Baron, 1973) which have demonstrated modelling effects from viewing filmed violence and verbal aggression.

Pro-social behaviour. Pro-social comparisons are more difficult to undertake due to the paucity of prior research, especially in naturalistic or quasi-experimental settings. Additionally, this is the only investigation within the St. Helena Project, so far, to observe and compare prosocial behaviour in playgrounds across television's availability. Even so, the direction and magnitude of this study's findings (five significant increases and two significant decreases from 32 t-tests) are not entirely consistent with outcomes from the majority of laboratory and many of the field studies that have investigated pro-social television-viewing effects (e.g. Bandura, 1965; Liebert and Baron, 1973; Zielinski and Chambers, 1995; Stein and Freidrich, 1972) although pro- social increases noted in these studies have tended not to persist beyond the short-term. In the St. Helena study the time-scale was five years whereas most of these other studies have used a much — sometimes a very much — shorter time-scale. This may account, to some degree, for the relatively few (and the mixed directions of) 'settled' pro-social changes found in the present study. Other possible reasons for these results could parallel those discussed later with reference to anti-social behaviour. Likewise, the relative absence of change may be due, also, to the high levels of good behaviour already apparent amongst young children in the pre-television phase (see Charlton et al., 1999). These high levels may have produced a 'ceiling effect' making it more difficult for further improvements to occur than for reductions. Clearly, additional research is needed to help elucidate television's effects upon pro-social behaviour in the longer term.

Comparisons with other project findings

Overall, findings from this study on anti-social behaviour are consonant with those from the other studies in the St. Helena Project. A longitudinal study by Gunter et al. (in press), for example, focused upon a cohort of young children attending nursery classes. Measures of their early behaviour were obtained when they were aged 3- to 4-years old. Four years later the same cohort's behaviour was checked again. At the same time, information on their viewing habits was obtained from viewing diaries where children listed the programmes watched by them over a three-day period. The programmes listed were then given violence loadings taken from a content analysis of all TV programmes broadcast on the same days for which the diaries were completed (Gunter, in press). So Gunter et al. (in press) had information on a single cohort of children in terms of their behaviour when they were 3- and 4-year-olds, as well as their behaviour when they were aged 8. Additional data included not only how much television they viewed but also how much violence they watched. Of course, some of the children were non-viewers. Results showed that viewers did not differ significantly from non-viewers on either their pre-TV or post-TV behaviour scores. Overall, TV viewing was not correlated with antisocial behaviour scores at any point.

Elsewhere in the project the behaviour was investigated of two cohorts of nursery class children (in 1993 and 1998). Some forty-four months after the availability of broadcast television, nursery class teachers' ratings of their children's social behaviour indicated a continuation of much of the good behaviour noted prior to the availability of television, in 1993 (Charlton, Panting, Coles and Hannan, 1999). Further, no significant differences were noted between the cohorts in the incidence of antisocial behaviour (e.g. "fights", "interferes with others", "teases", "difficult to manage" and "destructive"), although teachers rated the 1998 cohort boys as having significantly poorer concentration, higher activity levels, being more fearful and more inclined to whine.

Mediating viewing/behaviour links

A possible explanation for the tendency of St. Helenian children's good behaviour to be relatively unaffected by television viewing (and possibly other potentially harmful 'external' influences) has a potential importance wider than the more focused study of television and behaviour. Thus, in another study forming part of the overall project, students in the island's secondary school were recorded discussing the issue of television viewing. Based on their experience, they concluded that it was difficult to indulge in anti-social acts on the island "Because everyone watches you ... everyone knows you... You've just got to behave" (Charlton and O'Bey, 1997, p.134). Their remarks suggested the combined presence on the island of a vigilance and supervision exercised by the family and community. Together, these may have helped constrain and shape young and older children's behaviour for the better, in homes and schools as well as the wider community.

If explanations of this latter kind are substantiated by further work of a more empirical nature (which work is now in hand) the students' shared opinion may furnish one plausible explanation for the continuation of good behaviour across the availability of broadcast television. Children's behaviour on St. Helena was shaped chiefly by environmental (or social) controls, both without and with television.

Similar controls have been noted at work in small, and mainly rural, communities in the UK, and elsewhere. Valentine (1997), for example, maintains that in communities where most people are known to most others, feelings of being watched over are commonplace because of the 'eyes on the street' (p. 144) that keep young and old alike under surveillance. Likewise, Cohen (1982) talks of individuality giving way to communality, and Jones' (1999, p.9) refers to the 'power of gossip' in establishing conformity.

The importance of family, neighbourhood and community factors in shaping behaviour has attracted the attention of many others (e.g. Elliott et al., 1996; Laub and Lauritson, 1998). For example, in two of the disadvantaged communities they studied, Elliot and colleagues (1996) found that high levels of social control, strong informal support networks and a high consensus on community norms and values were influential in maintaining good behaviour among youngsters. Likewise, Laub and Lauritsen (1998) stress the importance of "guardianship" behaviour and "social capital". Social capital they define as:

> the extent to which one has others to rely on for assistance and support In terms of family management, increased social capital means residents share information about children and others in the neighbourhood, thereby establishing community norms regarding acceptable and unacceptable behaviour.
>
> (p.138)

Whilst neighbourhood and community influences are important so, too, is that of the family. Paterson (1980), for instance, argues that delinquency and aggression among children are linked to parents' capacity to care about, to be alert to, and to reprove children's antisocial behaviour. Additional evidence for contextual/situational effects stem from work by Rutter, Tizzard, and Whitmore (1970) who found that the overlap between children who were reported to present problems in school and in the home, respectively, was very small. Given such findings it is understandable that Campbell, Bibel, and Muncer (1985, p. 176) are critical of models of anti-social behaviour which 'pay only nominal attention to the social and situational parameters' which govern the social expressions of behaviour.

This social control thesis is, of course, not new. Social or situational influences are central to social learning (and most other) theories. Moreover, the importance of their sway was tested empirically by Potts, Huston, and Wright (1986) who investigated effects upon young boys' behaviour of a systematic manipulation of situational cues (in this case, aggressively and pro-socially cued toys) after exposing them to varied television stimuli (i.e., high and low action, high and low violence). They concluded that particular environmental factors, or cues, can expunge the influences of exposure to television violence (although, in terms of the performance of, not the learning of, violent behaviours). Along not entirely dissimilar lines Sawin (1990) argued that:

> It is becoming increasingly clear that the differential responsiveness of children to television violence is a function of children's social learning, cognitive development, and concurrent social situational variables. The cumulative evidence indicates that these antecedent, concurrent, and subsequent subject and situational variables serve as a filter of media content, and as modifiers of television effects.
>
> (p.176)

More to the point Tan (1986) stressed that the 'enactment of learned aggressive acts in the real world is regulated by many inhibitors'. He then reasoned that analyses of television's effects upon viewers need to consider 'the environmental conditions in which the learned act is or can be performed' (p.45). Given the obvious sagacity of such comment, it is improvident to consider the debate on TV effects to be closed.

Conclusion

This naturalistic investigation compared similar aged children's free-play behaviour in playgrounds both before and five years after the availability of broadcast television on the remote island of St. Helena. Findings failed to support other studies' claims of adverse viewing effects, in particular. A number of explanations are suggested for these findings. Potentially the most interesting and far-reaching of these is that environmental factors help moderate television's potential for affecting viewers' behaviour. These factors may heighten or diminish the "box's" influence. Additional research is

now in hand to investigate further, selected environmental factors that seem to function as moderating influences. However, the major conclusion from the St. Helena project, thus far, is that - contrary to most other research - television viewing does not unequivocally or inevitably influence children's social behaviour (adversely or otherwise).

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