The Book vs. The Box: The Impact of Broadcast Television on Library Borrowing Levels on St. Helena, South Atlantic

By Alexander Hugo Schulenburg

Introduction

The introduction of new information technologies has been recognized as having a significant impact on "rural reading" (Bracey, 1959, pp.190-201). While the degree to which reading in general might be displaced by television viewing has been the subject of extensive research, the overall evidence on displacement effects has to date been "mixed and inconclusive" (Gunter and McAleer, 1997, p.10). In their pioneering study, Himmelweit, Oppenheim and Vince (1958) argued that television displaced "functionally equivalent" activities, that is, activities that once met the same needs now met by television. They also argued people find time for television at the expense of "marginal" or "fringe" activities. Brown, Cramond and Wilde (1974), on the other hand, suggested a theory of "functional reorganization," arguing that existing media are adapted to meet new needs or needs previously met by other activities.

As for reading in particular, Furu (1962) and Werner (1971) reported significant displacements of book reading, while Himmelweit et al (1958) and Schramm, Lyle and Parker (1961) noted that comic book reading, rather than book reading, was significantly reduced. Himmelweit et al (1958) even argue that television may stimulate an interest in book reading, especially in books and authors linked to television programs. An increase in book-reading, as opposed to a decline in comic-reading, was indeed noted in a study by Murray and Kippax (1978).

In a recent longitudinal study of the introduction of broadcast television into a television-naïve community, using diary forms based on those used by Himmelweit et al (1958), Hannan and Charlton found that in the British overseas territory of St. Helena book-reading had in fact increased following the arrival of television in 1995 (Hannan and Charlton, 1999, and Hannan, 1999). *Table* A gives a selected breakdown of their results, showing three out of 29 categories into which children's diary entries were coded. The figures cover the three years during which the survey had been undertaken (1994, 1995, 1997 and 1998). A total of three near-consecutive days (making a total of 30 time slots) was covered during each year. Percentages indicate the proportion of the time slots children allocated to each of the activities (as coded).

Table A

Activity	1994	%	1995	%	1997	%	1998	%
Reading books	298	3.69%	250	3.23%	272	4.40%	191	3.81%
Watching TV	0	0.00%	155	2.00%	873	14.13%	615	12.28%
Watching video	985	12.21%	792	10.23%	419	6.78%	204	4.07%

Hannan and Charlton (1999) argue that possible displacement effects can perhaps best be seen by directly comparing the results obtained for 1994 and 1997, that is, for the period before television was introduced and for a period when both news and entertainment channels were available. Thus, "watching TV" increased from zero in 1994 to 14.13% of available time slots by 1997. Those activities that lost more than 3% of the available time slots over that period were "watching video" (5.38%) and "unorganized outdoor play" (3.10%). However, in addition to watching television, one activity that gained was "reading books" (0.94% more), amongst others.

The diary surveys also collected information on which activities on each of the days were enjoyed "most of all," "next most" and "third most." Although "watching TV" accounted for 25.19% of first preferences by 1997, gains had also been made by "reading books" (3.11% more), amongst others. Hannan and Charlton furthermore found that children who watched television in 1997 devoted more of their time to "reading books" (0.61% more) than children did in 1994. Although those who watched television in 1997 spent 1.3% less time "reading books" than non-viewers, they spent substantially more time doing so than children did overall in 1994.

Although figures for 1998 (Hannan, 1999) show a decrease in the proportion of time slots which children allocated to "reading books" (0.59% less), this decrease is less than a third of the decrease in the proportion of time slots allocated to "watching television" (1.85% less), providing support for the view that "the 'novelty' effect of television would eventually fade" (Hannan, 1999, p.8). And while "reading books" was found to be children's second favorite activity in 1998 (9.1%, rising from 2.9% in 1997), it was listed by fewer as their first preference (6.38%, decreasing from 6.85% in 1997).

The findings by Hannan and Charlton do not necessarily contradict a 1995 report on St. Helena (Hayes, 1995, p.3), which found that "reading does not seem to be a much-practiced leisure pursuit on the island". They may, however, contradict the same report's conclusion that "more television is unlikely to reverse this trend".

The Study

In order to test the findings of Hannan and Charlton (1999) and Hannan (1999) and to examine the possible impact of television on book reading on St. Helena, it was deemed feasible to use an interrupted time series design based on public library borrowing data gathered for general statistical purposes by the St. Helena Public library itself. Using such pre-existing archival material allowed for an extended time series design employing a far greater number of data points than those used by Hannan and Charlton (a total of 58 data points, as opposed to a mere 4), just beyond the recommended minimum of 50 such points (Robson, 1993). Furthermore, these data span a period from January 1994, that is, from well before the introduction of broadcast television to St. Helena, to December 1998, well thereafter.

Background

St. Helena is one of the United Kingdom's 13 remaining overseas territories and one of the world's most isolated island settlements (Cross, 1980; Foreign and Commonwealth Office, 1999). A lone mid-ocean island, volcanic in origin, and a mere 122 sq km in size, St. Helena is situated at Latitude 15 55' S and Longitude 5 45' W., 1,930 km west of Angola, its nearest mainland. The nearest land is Ascension Island, 1,125 km away. Communications with the outside world are by sea only, as there has never been an airport.

St. Helena's resident population is enumerated at 5,010 (1998 census), giving a population density of 41 per sq km. The island's capital and only town is Jamestown, with a population of 884 (1998 census). St. Helena is largely British in character and St. Helenians have a strong cultural and economic connection with the United Kingdom. The population is of mixed origin and English is the only language. A Country Policy Plan, agreed in 1997, commits the British Government to provide a package of development assistance totaling some £26 million over the period 1997/98 to 1999/00. Public Sector employment accounts for some 45 per cent of the working population, while unemployment totals about 15 per cent of the resident population with the underlying trend now downward. The island has a gross domestic product of £2,536 per capita. Educational provision is well developed on St. Helena (Evans, 1994) and the island's 1,300 pupils are provided for in a three-tier education system incorporating four first schools (for five- to eight-year-olds), three middle schools (for nine- to twelve-year-olds), and a secondary school (for thirteen- to sixteen-year-olds). The island has an adult literacy rate of 98% (1998 census).

Broadcast television was unavailable on St. Helena prior to 1995. Videos had been introduced in the early 1980s, leading to the closure of the of the island's cinemas by the middle of that decade, although the island's government-run radio broadcasting station has been operating successfully since 1967 (Schulenburg, n.d.). Cable and Wireless Plc officially launched the St. Helena Television Service (SHTV) on 31 March 1995 (*St. Helena News*, 1995, March 31), although test transmissions had been taking place since July 1994. Initially, broadcasts consisted solely of a local relay of the satellite

channel CNN. By April 1996, SHTV was broadcasting to "a subscriber base of approximately 33% of householders," although it was acknowledged that there was "a large percentage of householders who use the service but are not subscribing" (*St. Helena News*, April 12, 1996). No precise figures have yet been made available. In May 1996, Cable and Wireless initiated a two-week trial period for an expanded service (St. Helena News, March 31, 1996), which eventually came into effect on November 1, 1996, and provided two channels offering a selection of programs from CNN, Cartoon Network, Hallmark, SuperSport, and Discovery (*St. Helena News*, November 1, 1996). By the end of 1998, SHTV was broadcasting a selection of programs from M-Net, SuperSport, Discovery, KTV, CNN International, and BBC World.

To ensure access to its television service to subscribers only, the installation of decoders commenced in June 1997 (*St. Helena News*, 1997, June 13), although SHTV was only fully encrypted from March 1998 (*St. Helena News*, February 27, 1998) A number of districts on St. Helena, accounting for approximately 20% of the population, have to date been unable to receive SHTV, although the majority of islanders have access to television as guest viewers.

Library services on St. Helena consist primarily of the island's Public Library in Jamestown and a Mobile Library service to outlying districts. The island's only comprehensive school, Prince Andrew School, and the island's first and middle schools maintain small libraries of their own. All these library services are provided by the government's Education Department (Timm, 1994). Resources at the St. Helena Public Library consist primarily of books for adults and children (fiction and non-fiction), as well as some journals and newspapers. In addition to a book lending service, the library houses a small reference section. Overall, the library houses approximately 30,000 items. Library services are promoted through articles in the *St. Helena News*. Librarians also aim to encourage reading by organizing the annual children's book week, radio story times and holiday time children's activities. In this respect, at least, it is difficult to agree with Hayes' claim that "there seems to be a conspiracy on the island to inculcate children with the idea that reading is not significant" (Hayes, 1995, p.3).

Although the St. Helena Public Library is situated in Jamestown, it is used by people from all over the island (Monday to Friday the library is used primarily by people from "town," that is, by children and adults living or working in Jamestown, whereas "country people," other than those working in Jamestown, largely use the library on Saturdays only). Library membership is free of charge to local residents, and although temporary residents and visitors to the island are able to borrow books upon payment of a deposit, their numbers are so small they do not significantly affect the overall borrowing figures. No figures are available for the number of readers registered with the library during the period in question.

Table B1

	A	B	C	D	E	F	G	H
1		<15 m F	<15 f F	<15 m NF	<15 f NF	<15 M t	<15 F t	<15 t
2	Jan-94	56	135	24	9	80	144	224
3	Feb-94	58	148	5	17	63	165	228
4	Mar-94	127	182	17	16	144	198	342
5	Apr-94	85	175	10	14	95	189	284
6	May-94	119	230	14	30	133	260	393
7	Jun-94	107	146	12	17	119	163	282
8	Jul-94	130	168	24	13	154	181	335
9	Aug-94	73	185	20	11	93	196	289
10	Sep-94	45	155	9	22	54	177	231
11	Oct-94	75	27	124	23	199	50	249
12	Nov-94	52	13	155	14	207	27	234
13	Dec-94	29	75	3	15	32	90	122
14	Jan-95	39	153	22	26	61	179	240
15	Feb-95	49	101	11	18	60	119	179
16	Mar-95	50	137	11	16	61	153	214
17	Apr-95	47	146	18	21	65	167	232
18	May-95	80	167	12	19	92	186	278
19	Jun-95	90	173	30	22	120	195	315
20	Jul-95	91	185	17	27	108	212	320
21	Aug-95	63	191	23	27	86	218	304
22	Sep-95	75	205	23	21	98	226	324
23	Oct-95	93	214	23	21	116	235	351
24	Nov-95	56	174	16	12	72	186	258
25	Dec-95	22	113	11	6	33	119	152
26	Jan-96	51	190	13	18	64	208	272
27	Feb-96	40	116	10	8	50	124	174
28	Mar-96	70	177	17	15	87	192	279
29	Apr-96	73	256	13	14	86	270	356
30	May-96	96	285	14	13	110	298	408
31	Jun-96	63	287	15	25	78	312	390
32	Jul-96	77	274	26	19	103	293	396
33	Aug-96	77	308	19	20	96	328	424
34	Sep-96	75	248	10	15	85	263	348
35	Oct-96	84	251	10	11	94	262	356
36	Nov-96	56	235	17	22	73	257	330
37	Dec-96	47	123	16	3	63	126	189
38	Jan-97	70	188	19	13	89	201	290
39	Feb-97	47	179	16	11	63	190	253
40	Mar-97	71	213	17	12	88	225	313
41	Apr-97	59	229	9	1	68	230	298
42	May-97	46	209	24	6	70	215	285
43	Jun-97	43	178	12	5	55	183	238
44	Jul-97	52	262	18	16	70	278	348
45	Aug-97	89	319	22	18	111	337	448
46	Sep-97	77	290	15	9	92	299	391
47	Oct-97	61	234	15	5	76	239	315
48	Nov-97	51	197	14	13	65	210	275
49	Dec-97	39	170	11	4	50	174	224
50	Jan-98	57	228	31	20	88	248	336
51	Feb-98	46	152	21	9	67	160	227
52	Mar-98	50	254	20	8	70	262	332
53	Apr-98	37	234	20	5	57	239	296
54	May-98	91	300	25	18	116	318	434
55	Jun-98	60	267	22	8	82	275	357
56	Jul-98	51	227	8	26	59	253	312
57	Aug-98	69	290	31	34	100	324	424
58	Sep-98	65	263	6	9	71	272	343
59	Oct-98	68	283	12	24	80	307	387
60	Nov-98	60	241	16	16	76	257	333
61	Dec-98	44	174	2	8	46	182	228

Table B2

	A	B	C	D	E	F	G	H
I		<15 m F	<15 f F	<15 m NF	<15 f NF	<15 m T	<15 f T	<15 t
2	Jan-94	478	878	44	87	522	965	1487
3	Feb-94	531	847	110	71	641	918	1559
4	Mar-94	483	1019	86	100	569	1119	1688
5	Apr-94	425	933	79	80	504	1013	1517
6	May-94	440	1064	73	112	513	1176	1689
7	Jun-94	442	1031	96	99	538	1130	1668
8	Jul-94	477	1054	72	83	549	1137	1686
9	Aug-94	429	964	51	68	470	1032	1502
10	Sep-94	457	1013	68	70	525	1083	1608
11	Oct-94	444	954	84	97	528	1051	1579
12	Nov-94	375	745	58	78	433	823	1256
13	Dec-94	302	616	46	74	348	690	1038
14	Jan-95	643	999	60	83	523	1082	1605
15	Feb-95	344	706	91	121	435	827	1262
16	Mar-95	355	742	99	114	454	856	1310
17	Apr-95	293	795	77	111	370	906	1276
18	May-95	382	862	95	127	477	989	1466
19	Jun-95	376	983	81	117	457	1100	1557
20	Jul-95	480	1072	57	134	537	1206	1743
21	Aug-95	421	1205	64	100	485	1305	1790
22	Sep-95	368	958	98	117	466	1075	1541
23	Oct-95	368	1047	82	126	450	1173	1623
24	Nov-95	389	961	52	96	441	1057	1498
25	Dec-95	424	729	37	85	461	814	1275
26	Jan-96	514	1242	106	140	620	1382	2002
27	Feb-96	427	979	68	89	495	1068	1563
28	Mar-96	578	1162	104	89	682	1251	1933
29	Apr-96	552	1154	85	121	637	1275	1912
30	May-96	549	1231	70	91	619	1322	1941
31	Jun-96	506	1388	92	109	598	1497	2095
32	Jul-96	512	1294	63	144	575	1438	2013
33	Aug-96	609	1784	77	116	686	1900	2586
34	Sep-96	434	1332	79	97	513	1429	1942
35	Oct-96	604	1361	103	133	707	1494	2201
36	Nov-96	550	1214	89	124	639	1338	1977
37	Dec-96	464	781	67	80	531	861	1392
38	Jan-97	534	1419	96	131	630	1550	2180
39	Feb-97	449	1277	126	148	575	1425	2000
40	Mar-97	391	1414	92	105	483	1519	2002
41	Apr-97	421	1255	67	109	488	1364	1852
42	May-97	427	1289	85	103	512	1392	1904
43	Jun-97	386	1145	81	122	467	1267	1734
44	Jul-97	417	1328	96	153	513	1481	1994
45	Aug-97	410	1386	96	152	506	1538	2044
46	Sep-97	343	1122	98	164	837	1286	2123
47	Oct-97	406	1300	74	130	480	1430	1910
48	Nov-97	361	1039	78	85	449	1124	1573
49	Dec-97	305	694	37	62	342	756	1098
50	Jan-98	433	1266	112	857	545	2123	2668
51	Feb-98	407	1019	109	112	516	1131	1647
52	Mar-98	450	1086	111	100	561	1186	1747
53	Apr-98	455	1152	92	119	547	1271	1818
54	May-98	533	1239	89	154	622	1393	2015
55	Jun-98	462	1178	87	121	549	1299	1848
56	Jul-98	482	1123	94	127	576	1250	1826
57	Aug-98	448	1403	110	128	558	1531	2089
58	Sep-98	383	1089	41	108	424	1197	1621
59	Oct-98	556	1303	68	127	624	1430	2054
60	Nov-98	430	1040	49	78	479	1118	1597
61	Dec-98	424	1007	62	77	488	1084	1572

Table B3

	A	B	C	D	E	F	G	H	I	J
I		m t F	f t F	m t NF	f t NF	m t	f t	t F	t NF	total
2	Jan-94	534	1013	68	96	602	1109	1547	164	1711
3	Feb-94	589	995	115	88	704	1083	1584	203	1787
4	Mar-94	610	1201	103	116	713	1317	1811	219	2030
5	Apr-94	510	1108	89	94	599	1202	1618	183	1801
6	May-94	259	1294	87	142	346	1436	1553	229	1782
7	Jun-94	549	1177	108	116	657	1293	1726	224	1950
8	Jul-94	607	1222	96	96	703	1318	1829	192	2021
9	Aug-94	502	1149	71	79	573	1228	1651	150	1801
10	Sep-94	502	1168	77	92	579	1260	1670	169	1839
11	Oct-94	519	981	208	120	727	1101	1500	328	1828
12	Nov-94	427	758	213	92	640	850	1185	305	1490
13	Dec-94	331	691	49	89	380	780	1022	138	1160
14	Jan-95	502	1152	82	109	584	1261	1654	191	1845
15	Feb-95	393	807	102	139	495	946	1200	241	1441
16	Mar-95	405	879	110	130	515	1009	1284	240	1524
17	Apr-95	340	941	95	132	435	1073	1281	227	1508
18	May-95	462	1092	107	146	569	1175	1491	253	1744
19	Jun-95	466	1156	111	139	577	1295	1622	250	1872
20	Jul-95	571	1257	74	161	645	1418	1828	235	2063
21	Aug-95	484	1396	87	127	571	1523	1880	214	2094
22	Sep-95	443	1163	121	138	564	1301	1606	259	1865
23	Oct-95	461	1261	105	147	566	1408	1722	252	1974
24	Nov-95	445	1135	68	108	513	1243	1580	176	1756
25	Dec-95	446	842	48	91	494	933	1288	139	1427
26	Jan-96	565	1432	118	158	684	1590	1997	277	2274
27	Feb-96	467	1095	78	97	545	1192	1562	175	1737
28	Mar-96	648	1339	121	104	769	1443	1987	225	2212
29	Apr-96	625	1410	98	135	723	1545	2035	233	2268
30	May-96	645	1516	84	104	729	1620	2161	188	2349
31	Jun-96	569	1675	107	134	676	1809	2244	241	2485
32	Jul-96	589	1568	89	163	678	1731	2157	252	2409
33	Aug-96	686	2092	96	139	782	2231	2778	235	3013
34	Sep-96	509	1580	89	112	598	1692	2089	201	2290
35	Oct-96	688	1612	113	144	801	1756	2300	257	2557
36	Nov-96	606	1449	106	146	712	1595	2055	252	2307
37	Dec-96	511	904	83	83	594	987	1415	166	1581
38	Jan-97	604	1607	115	144	719	1751	2211	259	2470
39	Feb-97	496	1456	142	159	638	1615	1952	301	2253
40	Mar-97	462	1627	163	117	625	1744	2089	280	2369
41	Apr-97	480	1484	76	110	556	1594	1964	186	2150
42	May-97	473	1498	109	109	582	1607	1971	218	2189
43	Jun-97	429	1323	93	127	522	1450	1752	220	1972
44	Jul-97	469	1590	114	169	583	1758	2059	283	2342
45	Aug-97	410	1386	96	152	506	1538	2044	281	2435
46	Sep-97	816	2341	113	173	929	2514	3157	286	3443
47	Oct-97	476	1534	89	135	556	1669	2001	224	2225
48	Nov-97	412	1236	92	98	504	1334	1648	190	1838
49	Dec-97	344	864	48	66	392	930	1208	114	1322
50	Jan-98	490	1494	143	877	633	2371	1984	1020	3004
51	Feb-98	453	1171	130	121	583	1292	1624	251	1875
52	Mar-98	500	1340	131	108	631	1448	1840	239	2079
53	Apr-98	492	1386	112	124	604	1510	1878	236	2114
54	May-98	624	1539	114	172	738	1711	2163	286	2449
55	Jun-98	522	1445	109	129	631	1574	1967	238	2205
56	Jul-98	533	1350	102	153	635	1503	1883	255	2138
57	Aug-98	517	1693	141	162	658	1855	2210	303	2513
58	Sep-98	448	1352	47	117	495	1469	1800	164	1964
59	Oct-98	624	1586	80	151	704	1737	2210	231	2441
60	Nov-98	490	1281	65	94	555	1375	1771	159	1930
61	Dec-98	470	1181	65	85	534	1266	1651	149	1800

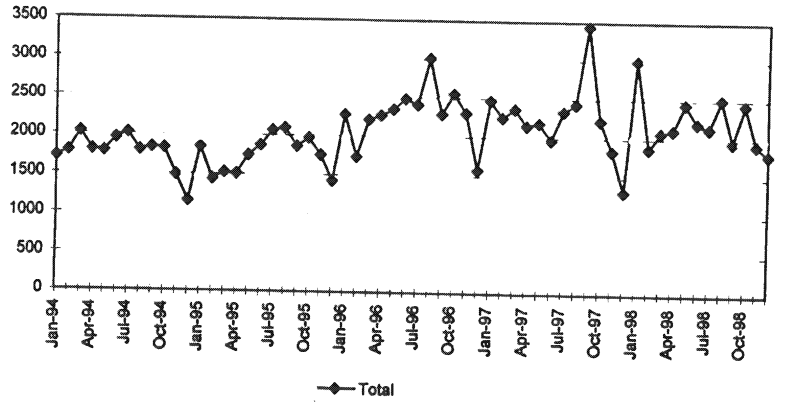
Time Series Data

The St. Helena Public Library uses Browne's manual issue system, and library borrowing data are collected manually by staff. Quarterly statistical tables of those data are regularly passed to the government's Education Department and Statistics Unit, although the data have never previously been published, let alone evaluated, and the accuracy of the data cannot be verified. The data in its entirety is presented in *Tables B1-B3.* (Tables on pages 42-4)

The figures show the *number of items* borrowed at the Public Library, *not* the number of borrowers. They do not include items borrowed from the Mobile Library. The abbreviations used in both the table and the subsequent charts are: '<15' (under 15), '>15' (over 15), 'm' (male), 'f' (female), 'F' (fiction), 'NF' (non-fiction), and 't' (total).

Items are distinguished according to whether they are fiction or non-fiction and according to their target age group (under 15 years or over 15 years). Both distinctions are made on the basis of any given item's book ticket. Items are not distinguished according to the age of their borrower, although it can reasonably be assumed that a distinction between adult and non-adult readers is reflected by these figures. The gender of readers is noted on the basis of their respective reader's ticket.

The total number of items borrowed each month is illustrated in *Chart 1.*



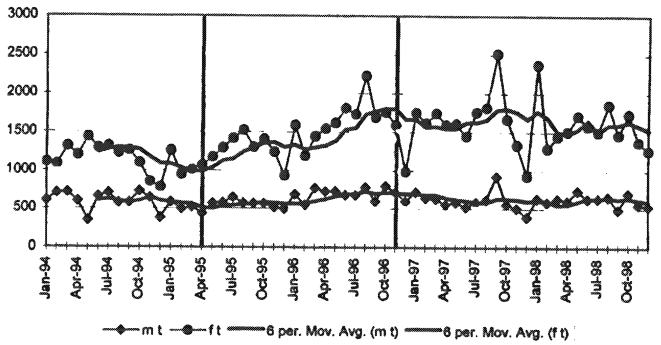
As is evident from this chart, borrowing figures can be irregular, these irregularities possibly being due to a number of factors, not all of which can be ascertained retrospectively. The extended closure of the library during the Christmas and New Year period accounts for the annual drop in borrowing in December and the steep rise in borrowing the following January. School holidays, including the half term holidays, account for fluctuations in borrowing throughout the year. Fluctuations due to the possibility of human error in the original collection of the data cannot be excluded.

For the purpose of analyzing data akin to those derived from a single-subject quasi-experiment (involving a single independent variable, the months of the year, and a single dependent variable, the number of items borrowed), recourse was had primarily to "eyeballing" the data (Robson, 1993, pp. 367-368). To facilitate this approach, and to smooth out both regular and short-term fluctuations occurring in the data, moving averages were calculated specifying a period of either 6 or 12 data points, using Microsoft EXCEL 7.0a.

Finally, to allow for an assessment of the impact of broadcast television on library borrowing, and given the interrupted time series approach taken by this paper, observations akin to quasi-experimental pre-test and post-test observations were made possible by two natural interventions which occurred during the period January 1994 to December 1998. These interventions, the inception of SHTV on March 31, 1995 and the expansion of the service on November 1, 1996, have been indicated in subsequent charts with black x-axis gridlines. For the purposes of this study, the period from January 1994 to March 1995 has been designated as phase 1 (pre-TV), the period from April 1995 to October 1996 as phase 2 (CNN), and the period from November 1996 onwards as phase 3 (multi-channel). Although test transmissions were undertaken in both cases, these are not deemed to have constituted interventions per se, as is borne out by the data.

Discussion

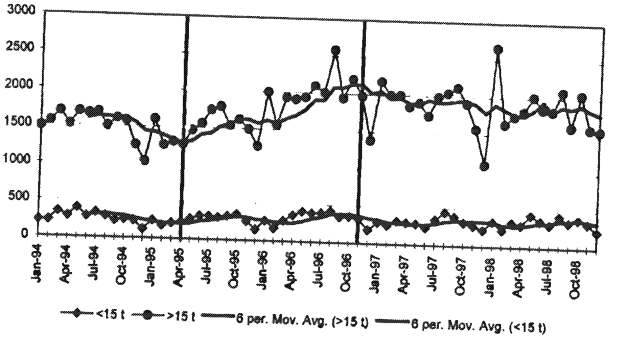
The results of a comparison of the total number of items borrowed by male and female readers, illustrated in *Chart 2*, shows that during the period in question, the number of items borrowed by female readers has considerably exceeded that borrowed by male readers.



While the number of items borrowed by male readers has remained fairly steady over the period in question, the number of items borrowed by female

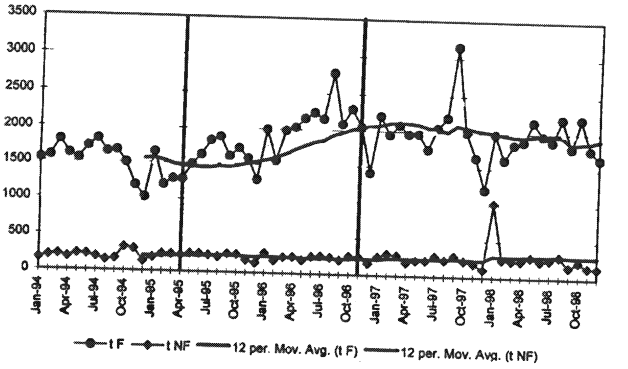
readers shows a decline during phase 1 (pre-TV), an increase during phase 2 (CNN), and, a leveling out during phase 3 (multi-channel). In the case of female readers, the number of items borrowed in phase 3 exceeds the level of the number of items borrowed in phase 1.

The same pattern of borrowing is evident from a comparison of the total number of borrowed items with a target audience of under 15-year-olds and over 15-year-olds, as illustrated in *Chart 3*.



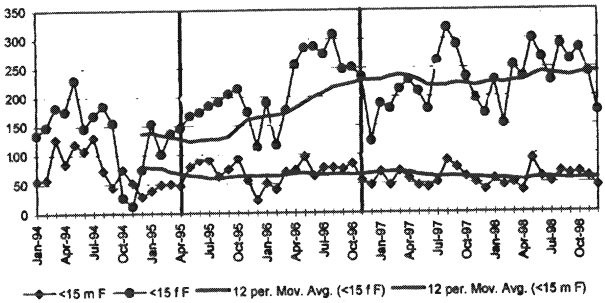
During the period in question, the number of borrowed items with a target audience of over 15-year-olds has considerably exceeded that with a target audience of under 15-year-olds. While the number of borrowed items with a target audience of under 15-year-olds has remained steady over the period in question, the number of borrowed items with a target audience of over 15-year-olds shows a slight decline during phase 1, an increase during phase 2, and leveling out during phase 3. In the case of borrowed items with a target audience of over 15-year-olds, the level of the number of items borrowed in phase 3 exceeds the number of items borrowed in phase 1.

This pattern is once again repeated in a comparison of the total number of borrowed items characterized as fiction and those characterized as non-fiction, as illustrated in *Chart 4*.



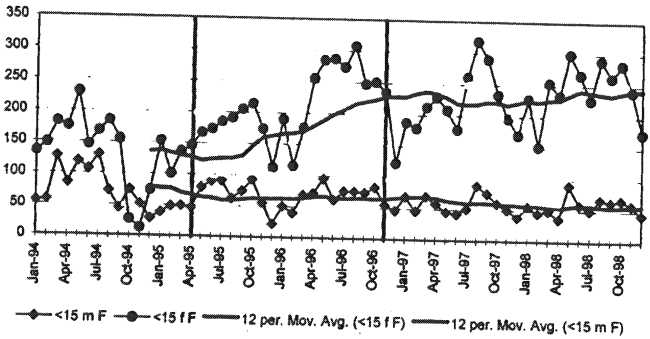
Given the considerable fluctuation in borrowing evident from these particular data, it was decided to calculate a moving averages specifying a period of 12 data points. While the number of borrowed items classified as non-fiction has remained steady over the period in question, the number of borrowed items classified as fiction shows a slight decline during phase 1, an increase during phase 2, and leveling out during phase 3.

Further details are provided by a comparison of the total number of items in the under 15-year-olds category borrowed by male and female readers, as illustrated in *Chart 5*.



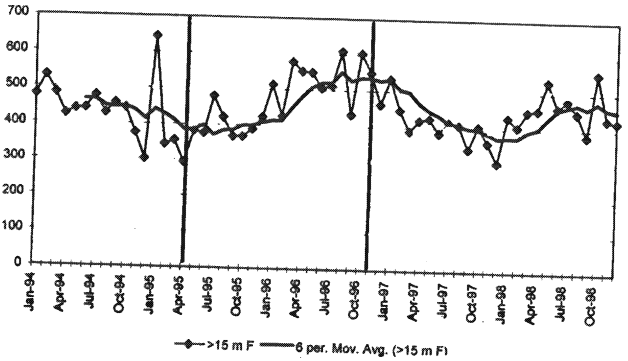
Here too, it was decided to calculate moving averages specifying a period of 12 data points, given considerable fluctuation in borrowing. While a decline in borrowing is evident for both male and female readers in phase 1, the number of items borrowed by male readers does not show the increase in borrowing in phase 2 shown by the number of items borrowed by female readers. Instead, the number of items borrowed by male readers has not recovered the level attained in phase 1 of the study, prior to the introduction of television. On the other hand, the number of items borrowed by female readers in phase 3, despite leveling out, is well above the level of borrowing in phase 1.

A different pattern is evident from a comparison of the total number of items in the over 15-year-olds category borrowed by male and female readers, as illustrated in *Charts 6 and 7* respectively.



The number of items borrowed by female readers, which far outweighs the number borrowed by male readers, declined in phase 1, increased considerably in phase 2, but shows a renewed decline in phase 3, albeit to a level still above the level of phase 1. Phase 3 also shows a late, and possibly only temporary, recovery. Although no figures are available, librarians report that female readers borrow romances and family sagas primarily, whereas male readers opt for westerns, and for adventure, detective and horror novels.

A slightly different pattern is evident from the number of items in the over-15-year-olds category borrowed by male readers, as illustrated in *Chart 7*.



While the number of items borrowed declined in phase 1 and into phase 2, where it recovered and increased slightly over the level attained in phase 1, phase 3 shows a further decline in the number of items borrowed, matching previous low levels attained in phase 1 and 2, despite a late, and again possibly only temporary, recovery in phase 3.

Conclusions

Contrary to claims that television viewing displaces reading, levels of library borrowing on St. Helena showed no decline in the wake of the initial introduction of broadcast television. Instead, levels are higher now than they were prior to the inception of the service. However, while levels of borrowing have increased in the period since the inception of the service, this increase has been halted (possibly only temporarily) subsequent to the provision of entertainment channels in addition to the existing news channel. While a causal relationship cannot be established for certain, it is interesting to note this expansion of the service does coincide *exactly* with the leveling out or even decline of borrowing levels of items classified as fiction. On the basis of the "functional similarity" hypothesis proposed by Himmelweit et al (1958), these finding were to be expected, given that SHTV provides entertainment programs primarily, addressing needs previously met by library items classified as fiction. Also in line with this reasoning, the borrowing levels for items classified as non-fiction have remained unaffected. It is equally interesting to note the introduction of the television service coincides with a rise in borrowing of items classified as fiction. However, given that SHTV at its inception provided a news channel only, the rise in borrowing cannot be explained by arguing that television may stimulate an interest in books or of books by authors that have been televised.

Overall, the data presented in this paper support the findings by Hannan and Charlton (1999) and Hannan (1999) that levels of reading on St. Helena have increased since the period prior to the introduction of broadcast television. While Hannan and Charlton's study was limited to middle school pupils only, this study has employed data on the reading habits of the population in general. Furthermore, using an interrupted time series design with a far greater number of data points than those used by Hannan and Charlton, the data presented in this paper have shown in detail the initial rise and eventual leveling out of library borrowing levels (and, by implication, of the time devoted to reading) following the introduction of broadcast television to St. Helena.

Acknowledgements

The author gratefully acknowledges the assistance of senior staff at the St. Helena Public Library (past and present), as well as of John Price, chief education officer, Government of St. Helena. Andy Hannan provided helpful comments on an earlier version of this article.

References

Bracey, H.E. (1959). *English Rural Life: Village Activities, Organizations and Institutions*. London: Routledge.

Brown, J.R., Cramond, J.K. and Wilde, R. (1974). Displacement Effects of Television and the Child's Functional Orientation to Media. In Blumer, J.G. and Katz, E. (eds.), *The Uses of Mass Communications*. London: Sage Publications, 93-112.

Cross, T. (1980). *St. Helena, Including Ascension Island and Tristan da Cunha*. London: David & Charles.

Evans, D. (1994). *Schooling in the South Atlantic Islands 1661-1992*. Oswestry: Anthony Nelson.

Foreign and Commonwealth Office (1999). *Partnership for Progress and Prosperity: Britain and the Overseas Territories*. London: Her Majesty's Stationery Office.

Furu, T. (1962). *Television and Children's Life: A Before-After Study*. Tokyo: Japan Broadcasting Corporation.

Gunter, B. and McAleer, J. (1997). *Children and Television* (second edition). London: Routledge.

Hannan, A. (1999, May). A Clash of Cultures?: How the Children of St. Helena Responded to the Introduction of Television With Specific Reference to Diary Based Surveys of Leisure Activities. Paper given at the ICA Conference, San Francisco.

Hannan, A. and Charlton, T. (1999). Leisure Activities of Middle School Pupils of St. Helena Before and After the Introduction of Television. *Research Papers in Education*, 14 (3), 257-274.

Hayes, J. (1995). *Visit of English Consultant to St. Helena: Report Prepared for the Government of St. Helena and the Overseas Development Administration*. Cheltenham: Cheltenham and Gloucester College of Higher Education.

Himmelweit, H.T., Oppenheim, A.N. and Vince, P. (1958). *Television and the Child: An Empirical Study of the Effects of Television on the Young*. London: Oxford University Press.

Murray, J.P. and Kippax, S. (1978). Children's Social Behavior in Three Towns With Different Television Experience. *Journal of Communication*, 28, 18-29.

Robson, C. (1993). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. Oxford: Blackwell.

Schramm, W., Lyle, J. and Parker, E.B. (1961). *Television in the Lives of Our Children*. Stanford: Stanford University Press.

Schulenburg, A.H. (n.d.). Media and Community: The Social and Cultural Contexts of Television Viewing on St. Helena. Unpublished paper.

Timm, D.A. (1994). *A Personal Review of the Public Library and Other Library Services on St Helena Island*. St. Helena: Education Department.

Werner, A. (1971). Children and Television in Norway. *Gazette*, 16, 133-151.