

# Announcement Effect of Share Buyback on Share Price at National Stock Exchange: An Empirical Investigation

**Shachi Bhargava\* and Puja Agrawal\*\***

E-mail: shachibhargava@rediffmail.com, pujaweb@gmail.com

## ABSTRACT

*This paper is an attempt to examine the returns on the announcement of share buybacks for a sample of 42 buyback announcements made through open market offer for a period of April 2010 to March 2014. The companies chosen for analysis are listed on the National Stock Exchange of India. The market model has been used in conjunction with the foundations of the event study methodology to arrive at the Abnormal Returns (AR). The returns on Nifty 50 over the estimation window of one year have been taken as the proxy for market returns. The study reports significant announcement effect on the share price in about 50% of the companies. However, the Average Abnormal Returns (AAR) have not been found significant. This indicates that the news of announcement of buyback of shares is already reflected in share price.*

**Keywords:** Buyback of Shares, NSE, Stock Market, Market Model, Event Study

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\* Mystique Moods, Viman Nagar, Pune

\*\* Amity University, Uttar Pradesh



## **Introduction**

Share buybacks became popular in the US in 1980's although the concept was introduced in 1960's. The system of buyback was considered to be one of the most liberal one as it allowed companies to repurchase shares by borrowing funds and it wasn't mandatory that repurchase has to be made only out of the undistributed profits or reserves. This means companies can replace share capital by debt. Many other countries had adopted the idea but were more conservative in their approach.

In UK share repurchases were introduced in 1980's and in other European countries shares repurchases became popular in mid 1990's as government had either prohibited buybacks or the tax laws were very stringent. The restrictions were gradually released in late 1990's. The period between 1995 to 2000 witnessed lot of share buybacks in European countries like Finland, Germany, France, Denmark and Sweden. Even in Asian countries share buybacks became popular in late 1990's (Japan-1995, Malaysia 1997 followed by Singapore and Hong Kong in 1998 and Taiwan in 2000) (Gupta, 2005).

In India till 1998 Share buybacks were prohibited but the Companies (Amendment) Act 1999 introduced Section 77A, 77AA and 77B in the companies Act, 1956 permitting companies to buy-back their own shares and other securities. Buyback of equity shares is in a way a capital restructuring process. It means repurchase of its own share by a company. A company having substantial cash resources may like to buy its own share from the market when the prevailing market price of its share is much lower than its book value or what the company perceives to be its true value. Unlike US the rules for share buybacks in India are quite stringent. The terms and conditions are as follows:

### ***Terms and Conditions of Buyback of Shares in India***

- Buyback must not exceed 25% of aggregate of the paid up capital and free reserves and it shall be completed within 12 months of passing of resolution.
- The Articles of Association of the company must authorize the buyback and a special resolution has to be passed in the general meeting of the company. But if the amount of buyback is less than 10% of the

paid up capital and free reserves of the company, than the buyback decision can be made by a board resolution.

- The ratio of the debt owed by the company should not be more than twice the aggregate of capital and its free reserves after such a buy back, i.e. not more than 2:1.
- Section 68(1) of Companies Act says that the Shares could be purchased out of resources generated in the following manner:
  - Free reserves
  - Securities Premium Account
  - Proceeds that are generated out of Issue of any shares or other specified securities.

### *Objectives of Buyback of Shares*

*Signalling hypothesis:* This concept is based on the assumption that management of the company can estimate the true value of their securities and when they feel that their security is undervalued (market value is less than the intrinsic value) they resort to buyback of shares. When the company buys back its own shares, the number of shares are reduced which in turn increases the EPS. In a way by resorting to share buyback the company is giving a positive signal to the investors that the value of their share is much higher than the prevailing market value.

*Free cash flow hypothesis or agency cost:* This concept is based on the assumption that the company should distribute the surplus cash amongst the shareholders, if it feels that there are no investment avenues available.

*Optimum financing ratio or leverage hypothesis:* Capital structure can be rationalised through share repurchase as it increases the debt content and reduces the equity in the share capital. Increased leverage results in increasing the volatility in the share price making it more attractive.

*Substitution effect:* Share buyback is generally considered as a substitute to dividends because of the rationale that dividends are taxed at a higher rate than capital gains.

*Increase in promoters holding* by offsetting an equity dilution caused by allotment of shares through ESOPs and otherwise.

*Overcoming a takeover threat* and to provide an exit route to the share holders in case of illiquid shares.

### ***Methods of Buyback Prevalent in India***

Buy back can be carried out in two ways in India:

- *Tender offer*: Shareholders may be presented with a tender offer whereby they have the option to submit a portion or all of their shares within a certain time frame (20-300 day period) and at a premium to the current market price. Tender offer is used when the buyback is slightly large.
- *Open market offer*: Shares are bought from the open market through brokers over a long term period. In this method, the company announces the minimum and the maximum buyback price, while the actual price is market determined. Open market purchases are used when the number of shares to be bought is relatively small.

The present paper is an attempt to understand the effect of announcement of buyback on the share prices at National Stock Exchange, India. The study is divided into five sections including this one on Introduction. Next section covers the past literature on the subject. Third section lays down the research methodology employed in the study. The empirical findings are reported in fourth section and finally, last section concludes the paper with an outline of implications of the study.

### **Literature Review**

In line with the increasing popularity of share buybacks, there is a plethora of literature on the subject in both western markets and in Asian markets. A brief review of the same is presented below of the studies which are pertinent to the present study.

In the U.S. market, Asquith and Mullins (1986) pointed out that signalling role of dividends and stock repurchases is different but the objective is same behind both i.e to return excess cash to the shareholders. The firm offering dividend suggests that the firm has a promising future and when it goes for share buyback it suggests that the share is undervalued.

Ikenberry et al. (1995) took a long term perspective and have analysed the effect of share repurchases over a period of 10 years. The findings indicated that the average market response to the news of open market share repurchase was only 3.5%, despite the public endorsement made by the company that the shares were undervalued and it was a 'good investment'. This showed that managers are overly optimistic about the firm's value. For value stocks, undervaluation can be a reason for repurchasing wherein the AAR is 45.3% (four year buy and hold return) but for glamour stocks this was not the case.

Kahle (2001) examined how employee stock options affect the decision to repurchase shares in the U.S. Most of the studies have suggested that repurchase programs have been used by the companies to signal undervaluation to the investors and to return excess cash flow to the investors. However, in this study the author opined that the announcement effect was lower for the companies that have higher non-managerial options.

According to the findings of Grullon and Michaely (2002) the firms have gradually substituted repurchases for dividends. Majority of firms that initiate cash payments do so through share repurchases and many firms that have been paying dividends have also started to repurchase shares as well. It has also been suggested that differential taxes between dividends and capital gains matters a lot. The market's reaction to repurchases is more positive when the tax gains from repurchases are higher than dividends. Share repurchases as a percentage of total dividends increased from 13.1% in 1980 to 113.1% in 2000 in the U.S Market.

Li and McNally (2004) showed that firms choose tender offer when they have financial slack and large shareholders that monitor management and prefer open market repurchases in times of market turbulence or weak business conditions. There was a direct relationship between the choice of the repurchase program and the offer terms and the announcement period price reaction.

Mishra (2005) empirically examined the price reaction on announcement and whether management is acting in the best interest of non tendering shareholders when the company wants to go ahead with targeted share buyback. In many cases it was observed that the company that offered

buyback price far above premium had over subscription and the prices fell after the buyback. Share buyback could not ensure a sustained rise in the price of the scrip. The study pointed that the buyback norms should be made more stringent if the companies were to have a long term view.

In the Indian market, Thirumalvalavan and Sunitha (2006) emphasised on the fact that market reacts more favourably to share buybacks announcements than dividends announcements which in turn suggests strong signalling power of share repurchase announcements. The market reaction to share repurchase announcement recorded a high Cumulative Abnormal Return (CAR) two days of the event whereas dividend announcement recorded a high CAR within one day of the event. In the share price movement markets showed an immediate upward swing but this positive signalling existed for a very short period.

QUINTANA (2006) suggested that French companies have a positive correlation between the relative amount spent on buyback programs and the long run share price performance which further suggests a positive impact of buybacks on shareholder's value. However the immediate effect of buyback announcements was much smaller than in other countries (US and Germany) with an average abnormal return of 0.32% only. This study pointed out that when buyback announcements are not viewed as aiming at shareholder's value creation then there is an adverse reaction.

Hyderabad (2009) studied the market reaction to share repurchases in India documented and for this purpose 68 buybacks were selected for the period 1998 to 2007. The announcement day return was 2.83%, for days prior to announcement day the AAR was found to be negative as compared to the days nearer to the announcement day. The announcement day CAR was 6% but the overall CAR was 5.16% only. Year wise analysis of AAR and CAR for buyback returns indicates vast divergence in the returns over several years. In the year 2002-03 there were 22 buybacks but the announcement returns and CAR was lowest. However, we cannot say that higher number of buybacks impact the announcement day returns as such returns and CAR were found to be negative even in the years when buybacks were less.

Hyderabad (2009a) examined the excess returns on the announcements of share buybacks for the period 1999-2007. The overall CAR was found to be 7.24% for a 41 day window. However the positive reaction on

the announcement day was only temporary. According to this study the fixed price tender offers yielded higher announcements returns than open market repurchases in the Indian context. For a better market reaction and to strengthen the investor's interest the announcement date should be followed by repurchase so as to avoid the incidences of insider trading and information leakage as such activities provide unfair gains to some shareholders.

In another study, Hyderabad (2009b), studied the market reaction to multiple buyback announcements in India. Accordingly only 30% of initial repurchases return to the market with the offered second share buyback within a gap of 1.64 years. Market reaction to multiple offers was in contradiction to signalling hypothesis predictions. The overall Cumulative abnormal returns was negative which indicated that all positive returns were realised in pre offer period only.

Ishwar (2010) gave contradictory findings from the past Indian market studies and opined that there was absence of any change in the movement of stock price reaction to buyback which further led to the inference that market anticipates the information provided by these announcements and incorporates this before the announcements. In short, the study showed negative and insignificant abnormal returns for majority of the days in the event period.

Varma and Rao (2010) investigated the drivers of share repurchases in India and for this the companies that have gone in for buyback have been compared with control companies which were in the same industry with similar capitalisation. The findings indicated that repurchasing firms paid lower dividends and were undervalued in comparison to the non repurchasing firms. The motives for repurchase varied over years. It was also observed that high profitability firms usually go in for repurchase and the companies having low profitability over the years use repurchases for false signalling.

Horan (2011) reported that the buybacks are more frequent and more intense compared to past, having an increased accretive effect on EPS.

Chavali and Shemeem (2011) aimed to investigate the impact of share buyback on the share price performance and the findings indicated that market reacts positively with an AAR on announcement day of 1.07%

and CAR of 1.59%. However the result held true for the select sample of companies and it cannot be generalised.

Doan et al. (2012) examined whether the Australian firms used share buybacks to deter unwanted takeover risks. The results suggested that firm's share buyback activities will increase if it perceives a high takeover risk from the market.

Rajlaxmi (2013) the announcement effect was tested for which CAR with 5 day pre CAR and 5 day post CAR was calculated. The sample for this study comprises of 6 buyback announcements and the results indicated that the investors must view repurchase announcements as a short term gain only.

Thus it can be noted from the above literature review that buyback of shares have been extensively studied. However, in the light of recent developments in the Indian capital markets and increased activity level, it becomes imperative to take up such a study again to update the existing literature. This study attempts to understand the announcement effect and thus examine the market efficiency at India's leading stock exchange, NSE.

## **Data and Methodology**

The objective of this research paper is to examine the announcement effect of share buybacks. The present study uses the market model to analyse the announcement returns for buybacks. The study uses Nifty 50 index as a proxy measure of market portfolio over a 252 day estimation period. The event window comprises of 31 days (15 days prior to announcement and 15 days post announcement). The announcement date is designated as day "0" in the event period. Only the buybacks made through open market offers has been considered during the sample period of April 2010 to March 2014. The criterion for the selection of buyback sample is as follows:

- Availability of data in the event window and estimation period.
- No major events like Bonus issue, Mergers, Stock splits etc during the period of study as these events also influence the share price.

Only those companies were considered which fulfilled the above mentioned parameters. Thus 42 companies made it to the final sample

for the study. The public announcement date for buyback was taken from the website of SEBI [www.sebi.gov.in](http://www.sebi.gov.in) and the data from the official website of NSE [www.nseindia.com](http://www.nseindia.com). The daily closing prices were used for computing the event returns.

According to the market model the Abnormal returns on a given trading day  $t$  is calculated as:

$$AR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t} \quad \dots (i)$$

where  $AR_{i,t}$  is the abnormal return on security  $i$  for day  $t$ , and  $R_{m,t}$  is the return on market portfolio,  $\alpha_i$  and  $\beta_i$  are intercept and slope respectively and are estimated using the following equation:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \quad \dots (2)$$

for calculating the values of  $R_{m,t}$  and  $\alpha_i$ ,  $\beta_i$ , the study uses Nifty 50 index as a proxy measure of market portfolio.

The Average Abnormal return on day  $t$  is calculated as:

$$AAR_t = \frac{\sum_{i=1}^n AR_{i,t}}{N} \quad \dots (3)$$

where  $N$  is the number of announcements in the sample.

The daily AARs are cumulated over the window period to calculate the Cumulative Abnormal Return as:

$$CAR = \sum_{t=-d}^d AAR_{i,t} \quad \dots (4)$$

where  $-d$  and  $d$  represent the event window period.

To validate our findings statistically the study has employed one sample  $t$  test in two tables. In the first table  $t$  test has been employed on individual company's event window and in the second table  $t$  test has been done on Average Abnormal Return of all the companies. The significance level was taken as 5%.

## Empirical Findings

The result of Market Model has been presented in Table 1. The intercept and slope have been arrived at by using Equation 2. In most

of the companies the intercept is negative indicating the riskiness of the companies compared to their expected returns.

**Table 1: Results of Market Model**

<i>Sr. No.</i>	<i>Company</i>	<i>Announcement Date</i>	<i>Intercept</i>	<i>Slope</i>	<i>R<sup>2</sup></i>	<i>Standard Error</i>
1	Allied Digital Services Limited	4-Apr-11	-0.0039	1.2018	0.1894	0.0273
2	Amtex Auto Limited	22-Nov-11	-0.0003	0.8403	0.1361	0.0265
3	Aptech Limited	11-Jun-13	-0.0017	1.1754	0.1387	0.0243
4	Bhagyanagar India Limited	2-Nov-11	-0.0007	0.8091	0.0726	0.0361
5	Cairn India Limited	14-Jan-14	0.0000	0.4839	0.1165	0.0152
6	Crisil Limited	13-Dec-11	-0.0016	0.4608	0.0096	0.0587
7	Crompton Greaves Limited	3-Jul-13	-0.0016	1.2366	0.1932	0.0210
8	DCM Shriram Limited	3-Mar-14	-0.0006	0.2552	0.0156	0.0234
9	De Nora India Limited	3-Nov-11	0.0015	0.7961	0.1088	0.0283
10	Deccan Chronicle Holdings Limited	6-May-11	-0.0026	1.3665	0.2434	0.0272
11	ECE Industries Limited	15-Jul-11	0.0001	0.7299	0.0673	0.0289
12	Eclerx Services Limited	20-Aug-13	0.0004	0.5499	0.0602	0.0191
13	FDC limited	24-Aug-12	-0.0002	0.1440	0.0106	0.0178
14	Garware Wall Ropes Limited	3-Oct-13	-0.0006	0.1577	0.0033	0.0303
15	GeeCee Ventures Limited	24-Jan-12	-0.0013	0.5670	0.0843	0.0248
16	Gemini Communication Limited	11-Nov-11	-0.0006	1.0023	0.1173	0.0343
17	Gujarat Apollo Industries Limited	27-Jan-14	-0.0005	0.4088	0.0417	0.0223
18	HT Media Limited	17-May-13	-0.0009	0.3368	0.0231	0.0182

<i>Sr. No.</i>	<i>Company</i>	<i>Announcement Date</i>	<i>Intercept</i>	<i>Slope</i>	<i>R<sup>2</sup></i>	<i>Standard Error</i>
19	India Bulls Real Estate Limited	29-Dec-11	-0.0020	-0.0422	0.0026	0.0258
20	Infinite Computer Solutions (India) Limited	7-Jun-13	0.0012	0.9712	0.0768	0.0282
21	JBF Industries Limited	27-Aug-13	-0.0017	0.4884	0.0726	0.0152
22	Jindal Poly Films Limited	1-Nov-11	-0.0045	1.2091	0.1078	0.0434
23	Jindal Steel and Power Limited	10-Sep-13	-0.0025	1.5319	0.2605	0.0239
24	J K Laksmi Cement Limited	13-Feb-12	-0.0001	0.8729	0.2837	0.0181
25	Kanoria Chemicals and Industries Limited	17-Aug-12	-0.0011	0.4575	0.0631	0.0224
26	Kirloskar Oil Engines Limited	16-Feb-12	-0.0004	0.6425	0.1002	0.0252
27	KRBL Limited	18-Feb-13	0.0010	0.8141	0.1110	0.0213
28	Maharashtra Seamless Limited	2-May-13	-0.0025	0.1032	0.0042	0.0131
29	Mastek Limited	3-Mar-14	0.0010	0.6416	0.0628	0.0286
30	Monnet Ispat and Energy Limited	22-Feb-12	-0.0007	0.2528	0.0517	0.0142
31	Motilal Oswal Financial services Limited	26-Jun-13	-0.0008	1.0011	0.1548	0.0199
32	Nitin Fire Protection Industries Limited	22-Aug-13	-0.0008	0.5943	0.0404	0.0255
33	Panama Petrochem Limited	1-Mar-13	-0.0026	0.3595	0.0204	0.0231
34	Pennar Industries Limited	11-Jun-13	-0.0010	0.4839	0.0523	0.0171
35	Praj Industries Limited	7-Dec-11	0.0015	1.3737	0.3525	0.0235
36	Reliance Industries Limited	23-Jan-12	-0.0003	1.1515	0.6076	0.0121

<i>Sr. No.</i>	<i>Company</i>	<i>Announcement Date</i>	<i>Intercept</i>	<i>Slope</i>	<i>R<sup>2</sup></i>	<i>Standard Error</i>
37	Sasken Communication Technologies Limited	27-Apr-12	-0.0006	0.6631	0.1040	0.0251
38	Selan Exploration Technology Limited	25-Sep-12	0.0001	0.7299	0.1960	0.0179
39	SMS Pharmaceuticals Limited	6-May-13	0.0018	0.2923	0.0073	0.0284
40	The Great Eastern Shipping Company Limited	16-Aug-13	-0.0008	0.2955	0.0263	0.0158
41	Tips Industries Limited	26-Jul-12	0.0032	0.7224	0.1005	0.0278
42	Zee Entertainment Enterprises Limited	13-Apr-12	0.0003	0.5577	0.1351	0.0180

The Abnormal returns (AR) for all the companies has been computed using Equation 1. A one-sample t-test has been carried out to determine whether the mean is significantly different from zero for all the days in the event period, for each of the companies separately. A summary of these tests is presented in the Table 2 is as follows:

**Table 2:** Summary of t-test for Individual Companies for the Event Window

<i>Event window</i>	<i>Reject Null Hypothesis</i>	<i>% Rejected</i>
-15	20	48%
-14	20	48%
-13	18	43%
-12	18	43%
-11	15	36%
-10	14	33%
-9	18	43%
-8	24	57%
-7	15	36%
-6	19	45%
-5	20	48%
-4	23	55%
-3	21	50%

<i>Event window</i>	<i>Reject Null Hypothesis</i>	<i>% Rejected</i>
-2	21	50%
-1	17	40%
0	19	45%
1	19	45%
2	16	38%
3	19	45%
4	15	36%
5	16	38%
6	15	36%
7	17	40%
8	12	29%
9	12	29%
10	16	38%
11	16	38%
12	15	36%
13	15	36%
14	13	31%
15	18	43%

$H_0$ : The mean of Abnormal returns is not significantly different from 0.

$H_a$ : The mean of Abnormal returns is significantly different from 0.

Alpha level = 5%.

It can be observed from the Table that for about 45% of the companies the abnormal returns are not significantly different from zero for the event day. Infact for most of days in the event window, the abnormal returns are significantly different from zero for not more than half of the companies in the sample.

These findings are in direct contrast with many past studies, where the announcement effect is pronounced and leads to significantly high (low) returns. However this may be an encouraging sign for the Indian Stock market. Buyback of shares is essentially a method of realigning the capital structure of the company and as such does not contradict the caveat of shareholder wealth maximization. The fact that the announcement of buyback is not having a significant effect on the share price implies that the information is quickly subsumed in the share price and thus the market is moving towards being informationally efficient.

**Table 3: Average Abnormal Returns (AAR) and Cumulative Abnormal Returns (CAR) for the Event Window for the Sample Companies**

<i>Event Window</i>	<i>AAR</i>	<i>Count positive AR</i>	<i>p-value</i>	<i>A/R Null Hypothesis</i>	<i>CAR</i>
-15	0.0067	24	0.378	Accept	0.67%
-14	0.0147	22	0.059	Accept	2.15%
-13	0.0013	24	0.8	Accept	2.27%
-12	0.0059	27	0.087	Accept	2.86%
-11	-0.0016	21	0.715	Accept	2.70%
-10	-0.0012	17	0.658	Accept	2.58%
-9	0.0023	22	0.478	Accept	2.82%
-8	0.0122	23	0.059	Accept	4.03%
-7	0.0028	21	0.429	Accept	4.31%
-6	0.0093	22	0.176	Accept	5.24%
-5	0.0015	21	0.8	Accept	5.39%
-4	0.0055	24	0.077	Accept	5.95%
-3	0.0011	21	0.907	Accept	6.06%
-2	0.0048	19	0.647	Accept	6.53%
-1	0.0063	23	0.142	Accept	7.16%
0	0.0042	18	0.453	Accept	7.58%
1	-0.0001	23	0.759	Accept	7.57%
2	0.0035	22	0.237	Accept	7.91%
3	-0.0005	17	0.795	Accept	7.86%
4	0.0032	22	0.328	Accept	8.18%
5	-0.0066	17	0.084	Accept	7.52%
6	0.0008	19	0.785	Accept	7.60%
7	0.0015	18	0.493	Accept	7.75%
8	0.0058	27	0.029	Reject	8.33%
9	0.0003	24	0.573	Accept	8.36%
10	0.0006	21	0.861	Accept	8.42%
11	0.0037	20	0.412	Accept	8.79%
12	-0.0008	22	0.863	Accept	8.71%
13	0.0024	21	0.546	Accept	8.95%
14	-0.0024	15	0.418	Accept	8.71%
15	0.0029	22	0.411	Accept	9.00%

$H_0$ : The mean of Abnormal returns is not significantly different from 0.

$H_a$ : The mean of Abnormal returns is significantly different from 0.

Alpha level = 5%.

It is evident from Table 3 that AAR (computed from Equation 3) is statistically insignificant at 5% level for the event window. This finding is in contradiction with many studies but in line with the conclusions of Ishwar (2010). One of the plausible reasons for the insignificance of results could also be due to the cancelling out effect of averaging returns of the sample companies – some companies have positive abnormal returns whereas some have negative abnormal returns.

This can be substantiated from the Table 3 whereby 18 companies exhibit positive AAR on the event day and remaining 24 give out negative AAR. This also indicates that the announcement of buyback has resulted in positive abnormal returns for fewer companies and for remaining companies buyback announcement has resulted in negative abnormal return. There is no discernible trend related to AAR in the event window.

The CAR (calculated from Equation 4) for the event date is 7.58% which compares favorably well with the findings of Hyderabad (2009, 2009a). The CAR for the event window is 9.00% which seems to be on the higher side given the sample of 42 companies.

## Conclusion

The present study envisaged to understand the effect of announcement of buyback of shares on the share price. A sample of 42 companies was taken over the period of 4 years which announced share repurchases through open market offer. The market model methodology was adopted for the study to compute the abnormal returns. The Average Abnormal Returns were tested for statistical significance for each of the days of the event window.

The findings of the study reported significant results at individual company level on the event day for about 50% of the sample. However the Average Abnormal Returns was not found to be statistically significant for the overall companies. The results of the study imply that the information related to the announcement of the buyback is already reflected in the share price. This also throws light on the growing maturity and efficiency of stock market of India.

These findings may have important implications for all the market participants. The traders who look for abnormal returns about corporate

announcements may not get such gains. The companies proceeding for buyback may feel more confident about approaching the market since volatility in share price will be less.

More research can be taken up along the same lines for other corporate announcements taking the recent data to corroborate with the findings of the study.

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