Message Framing and Buying Behavior: A Field Experiment

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The article examines the impact of message framing on real life buying behavior. Customers of a credit card company who did not use the card for a three-month period received a communication explaining the benefits of the card. These benefits were explained either in terms of gains the customers could obtain from using the card or in terms of losses they could suffer from not using it. Card usage was monitored for two months after the message. Results indicated that the impact of the loss-framed message was much stronger than the impact of the gain-framed message. The percentage of customers who started to use the card in the loss condition was more than double the percentage in the gain conditions, and the charges of the former customers were more than twice as much as the charges of the latter customers. In addition, an interview conducted with some of the customers 6 months after the initial contact revealed an effect of framing on persuasiveness and recall of the message and on involvement with the method of payment. J BUSN RES. 1995. 32.11–17

A question of considerable importance to a marketer of a product is whether to frame the message to current or potential customers in terms of gains they can obtain from using the product or in terms of losses they would suffer from not using it. For example, should a marketer of a cellular telephone inform prospective buyers as to what can be gained from using the phone or as to what is lost from not using it? Should a credit card company interested in encouraging the use of its card frame its message to card members in terms of the benefits they gain by using the card or in terms of the benefits they lose by not using the card? In this article we present the results of a field experiment that examines this issue.

The theoretical base for the current work is derived from *prospect theory* (Kahneman and Tversky, 1979). This theory has two major stipulations about the effect of framing a decision problem in gain versus loss terms. First it suggests that people are risk-averse when a decision problem is formulated in terms of gain and risk-prone when the problem is formulated in terms of loss. Second, it suggests that people exhibit *loss aversion*, i.e. that losses loom larger than gains (Tversky and Kahneman, 1991). It is this second stipulation of prospect theory that is the basis for the experiment we report.

So far, there have been many laboratory studies regarding the effect of framing on behavior in laboratory settings. In consumer behavior, there are quite a few studies that examined such effects (Puto, 1987; Bettman and Sujan, 1987; Qualls and Puto, 1989; Christensen, 1989; Kahn and Meyer, 1991). These effects were also studied in many other areas such as financial decision-making (Roszkowski and Snelbecker, 1990), social dilemmas (McDaniel and Sistrunk, 1991), distributive justice (Arts, Hermkern, and Van-Wijck, 1991), medical decision-making (Christensen et al., 1991), gambling (Levin et al., 1985), resource allocation (Kramer, 1989), personnel selection (Huber, Neale, and Northcraft, 1987), therapy (1990), and bargaining (Bazerman, Magliozzi, and Neale, 1985). However, although framing was proved to be an important and fruitful concept in laboratory research, it has not, so far, been examined experimentally outside the laboratory. This study examines the effects of message framing on buying behavior as they occur in the natural marketing environment.

Two previous studies examined the effectiveness of message framing in a laboratory setting. In one, Meyerowitz and Chaiken (1987) examined the impact of gain and loss framing of a message for breast self-examination and found that loss framing had a stronger impact on subjects' attitudes, intentions, and reported behavior toward breast self-examination. In another study, Maheswarn and Meyers-Levy (1990) examined the effect of framing a message recommending a blood test for coronary heart disease. They found that when involvement was high, loss framing was more effective than gain framing, whereas when involvement was low, the opposite was true.

The purpose of the current work is to examine the findings of these two earlier studies in a domain that is directly relevant to the practice of marketing. Like these two studies, the current study deals with a message that is aimed at convincing people to adopt a behavior, rather than convincing them to refrain from performing a behavior; that is it deals with "marketing" rather than "demarketing" (Kotler and Levy, 1971; Hanna, Khizibash, and Smart, 1974). However, the current work differs from earlier work in two important ways. First, we examine the effect of framing in the natural environment, using behavioral measures that are of prime interest for marketers (i.e., product usage). Second, we examine the effect of framing on the persuasiveness of a message in the financial domain, rather than in the health domain. The difference in the perception of gains and losses may be domain-specific, in the same way that the perception of risk is domain-specific. (For examples of the domain specificity of risk perception see, among others, Jacoby and Kaplan, 1972; Peter and Ryan, 1976. In particular, these

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authors note that the perception of financial risk is rather distinct from the perception of health–or physical–risk.

In this experiment, credit card owners who did not use the card for a period of 3 months received a message regarding the benefits of the card, either in terms of gain or in terms of loss. Their charges on the card were monitored in the two months after the receipt of the message in order to examine the effectiveness of each of the framing manipulations. Six months after receiving the message they were also interviewed by phone to assess the impact of the manipulation on cognitive and attitudinal variables.

Methods

Subjects

Two hundred forty-six credit card owners, who live in the country's three largest cities, were randomly selected from all customers who did not use their cards in the three months preceding the study. They were randomly assigned to either gain-framing or loss-framing conditions.

Design

The experiment included two factors, each having two levels. One factor was message framing (gain versus loss). The other factor was preferred payment method (cash versus checks). There are two main reasons for including this factor in the design. First, the benefits in using the card for cash users vary from those of check users; second, these two groups may differ in important characteristics that may influence their responsiveness to the message.

Procedure

The message was communicated to the customers through two channels. First, they were contacted by phone, and then they received a direct mail communication. Both the telemarketing communication and the direct mail communication were based on the standard communication used in the credit card company in its marketing campaign, but they were changed for the purpose of the experiment according to the framing conditions.

THE TELEPHONE CALL. Subjects were contacted by the regular telemarketing agents of the company. Agents rotated between gain-framing messages and loss-framing messages, each rotation including about 10 to 15 calls. The agents received a written text to guide them in talking with the customer and were asked to follow this text as closely as possible.

In the beginning of the conversation the agent identified him/herself, told the customer that it was noticed that he/she uses the card very little, and was asked what alternative mode of payment he/she uses. The agent continued according to the customer's answer; that is, choosing either the "cash" script or the "checks" script. Each of these scripts had two versions, a loss version and a gain version. The two versions of the script for the check users are shown in Exhibit 1, and the two versions of the script for the cash users are shown in Exhibit 2.[1]

THE LETTER. Several days after the telephone conversation, a letter was sent to the customer, signed by the telemarketing agent who had spoken with the customer. It summarized and elaborated on what was said in the telephone conversation. There were four versions of the letter. Two versions, one framed in gain terms and one in loss terms, for customers who use primarily cash; and two versions, one framed in gain terms and one in loss terms, for customers who use primarily checks. The first pages of the two versions for the cash customers are shown in Exhibit 1, and the two versions for the cash users are shown in Exhibit 2. The second page was similar in all four versions of the letter. It explained a bonus system used by the credit card company. The only difference was in the conclusion of the letter. In the gain-framed [loss-framed] version for the check users the conclusion was: "Finally, it is obvious that by using checks [ZionCard] you can only lose [gain]. I am sure I have given you good reasons to put your ZionCard in your wallet and use it at every opportunity." The letters for the cash users were similar, with the "checks" replaced by "cash."

Behavioral Measures

The behavioral measures were derived from the information compiled by the credit card company on a regular base. They included the number of transactions and the amount of Israeli shekels charged in each of the two months after mailing the letter.

[1] In the exhibits we disguised the company name according to their request. In addition, the monetary unit of agora, which is mentioned in the script, is the Israeli equivalent of a penny. An agora is about .28 pennies.

Exhibit 1. The Loss-Framed (Left) and Gain-Framed (Right) Telephone Call Script for Cash Users

Loss-Framed	Gain-Framed
". . . I understand. It is worthwhile for you to know that there are many disadvantages in using cash instead of ZionCard. One is that in using cash there is a danger that money will be lost or stolen; but if someone used your card, we are responsible, and the money will be returned to you. This means that paying by cash is not only less convenient, but also much less secure.	". . . I understand. It is worthwhile for you to know that there are many advantages in using ZionCard instead of cash. One is that in using ZionCard there is no danger that money will be lost or stolen; that is if someone used your card, we are responsible, and the money will be returned to you. This means that paying by ZionCard is not only more convenient, but also much more secure.
I suppose you know that when you pay with ZionCard you are not charged any fee. In addition, when you pay cash you lose credit of up to one month."	I suppose you know that when you pay with ZionCard you are not charged any fee. In addition, when you pay by ZionCard you gain credit of up to one month."

Exhibit 2. The Loss-Framed (Left) and Gain-Framed (Right) Telephone Call Script for Check Users

". . . I understand. It is worthwhile for you to know that when you use checks instead of using ZionCard, you lose, because the commission to the store is paid by us and not by you. When you use checks you lose approximately 120–180 shekels annually. You should know that the bank charges you 40–47 agorot on every transaction–depending on whether your account is in credit or debit–and each check costs you an additional 15 agorot. On the other hand, if you use ZionCard, the bank charges you for only one transaction each month. As a result you lose annually about 120–180 shekels.

There are other reasons for not using checks. Using checks is not only less convenient, but also results in a loss. When you use checks you lose credit of up to one month. Furthermore, checks are much less convenient in daily use, and of course, your money is in danger if your wallet is lost or stolen.

". . . I understand. It is worthwhile for you to know that when you use ZionCard instead of using checks, you gain, because the commission to the store is paid by us and not by you. When you use ZionCard you gain approximately 120–180 shekels annually. You should know that the bank charges you 40–47 agorot on every transaction–depending on whether your account is in credit or in debit–and each check costs you an additional 15 agorot. On the other hand, if you use ZionCard, the bank charges you for only one transaction each month. As a result you gain annually about 120–180 shekels.

There are other reasons for using ZionCard. Using ZionCard is not only more convenient, but also results in a gain. When you use ZionCard you gain credit of up to one month. Furthermore, ZionCard is much more convenient in daily use, and of course, your money is not in danger if your wallet is lost or stolen.

Exhibit 3. The First Page of the Loss-Framed (Left) and Gain-Framed (Right) Letter for the Check Users

Dear Mr. Johns:

I thought about what you said in our conversation about using checks instead of ZionCard. I fully respect this practice, but I decided to tell you in a few words about the disadvantages of checks in comparison to ZionCard. Using checks has a lot of disadvantages, but I chose to focus on a few things that are particularly important.

1. In using checks you can only lose in comparison to using ZionCard!!
   - In using checks you lose the fee you pay for the checkbook.
   - You lose the commission the bank charges you for each transaction, as every check-transaction is treated as a regular transaction that costs money.

2. There is no commission on using ZionCard!!

   You can use ZionCard to buy almost any product or service. Approximately 43,000 businesses including gas stations, supermarkets, and clothing stores accept the card. Customers are never charged a commission. Although the retailers pay a commission, it is still worthwhile for them.

3. Using checks does not provide you with protection against theft or loss!!

   If you use checks it is very easy to get money out of your account, because a sample of your signature does not appear on your checkbook. Furthermore, if something has happened, and someone used your checks, your money is in danger. But if your card was lost or stolen, and someone used it, we are obliged by law to return the money to you, if you notified us about it immediately after you found out about the loss or the theft.

Additional disadvantages in using checks

- No free credit for up to one month.
- No continuous tracking of your expenses.
- Inconvenience in daily use.

Dear Mr. Johns:

I thought about what you said in our conversation about using checks instead of ZionCard. I fully respect this practice, but I decided to tell you in a few words about the advantages of ZionCard in comparison to checks. Using ZionCard has a lot of advantages, but I chose to focus on a few things that are particularly important.

1. In using ZionCard you can only gain in comparison to using checks!!
   - In using ZionCard you gain the fee you pay for the checkbook.
   - You gain the commission the bank charges you for each transaction, as every check-transaction is treated as a regular transaction that costs money.

2. There is no commission on using ZionCard!!

   You can use ZionCard to buy almost any product or service. Approximately 43,000 businesses including gas stations, supermarkets, and clothing stores accept the card. Customers are never charged a commission. Although the retailers pay a commission, it is still worthwhile for them.

3. Using ZionCard does provide you with protection against theft or loss!!

   If you use ZionCard it is very difficult to get money out of your account, because a sample of your signature does appear on your ZionCard. Furthermore, if something has happened, and someone used your ZionCard, your money is not in danger. The reason for this is that we are obliged by law to return the money to you, if you notified us about it immediately after you found out about the loss or the theft.

Additional advantages in using ZionCard

- Free credit for up to one month.
- Continuous tracking of your expensees.
- Convenience in daily use.

Exhibit 4. The First Page of the Loss-Framed (Left) and Gain-Framed (Right) Letter for the Cash Users

Dear Mr. Johns:

I thought about what you said in our conversation about using cash instead of ZionCard. I fully respect this practice, but I decided to tell you in a few words about the disadvantages of cash in comparison to ZionCard. Using cash has a lot of disadvantages, but I chose to focus on a few things that are particularly important.

1. In using cash you can only lose in comparison to using ZionCard!!

   In using cash you lose the commission the bank charges you for each transaction, as every cash withdrawal is treated as a regular transaction that costs money.

2. There is no commission on using ZionCard!!

   You can use ZionCard to buy almost any product or service. Approximately 43,000 businesses including gas stations, supermarkets, and clothing stores accept the card. Customers are never charged a commission. Although the retailers pay a commission, it is still worthwhile for them.

3. Using cash does not provide you with protection against theft or loss!!

   In this case you lose your money. But if your card was lost or stolen, and someone succeeded in using it, we are obliged by law to return the money to you, if you notified us about it immediately after you found out about the loss or the theft.

Additional disadvantages in using cash

- No free credit for up to one month.
- No continuous tracking of your expenses.
- Inconvenience in daily use.

Dear Mr. Johns:

I thought about what you said in our conversation about using cash instead of ZionCard. I fully respect this practice, but I decided to tell you in a few words about the advantages of ZionCard in comparison to cash. Using ZionCard has a lot of advantages, but I chose to focus on a few things that are particularly important.

1. In using ZionCard you can only gain in comparison to using cash!!

   In using ZionCard you gain the commission the bank charges you for each transaction, as every cash withdrawal is treated as a regular transaction that costs money.

2. There is no commission on using ZionCard!!

   You can use ZionCard to buy almost any product or service. Approximately 43,000 businesses including gas stations, supermarkets, and clothing stores accept the card. Customers are never charged a commission. Although the retailers pay a commission, it is still worthwhile for them.

3. Using ZionCard does provide you with protection against theft or loss!!

   In this case you gain your money. The reason for this is that if your card was lost or stolen, and someone succeeded in using it, we are obliged by law to return the money to you, if you notified us about it immediately after you found out about the loss or the theft.

Additional advantages in using ZionCard

- Free credit for up to one month.
- Continuous tracking of your expenses.
- Convenience in daily use.

Post-experimental Questionnaire

Nearly 6 months after the telephone conversation, random samples of customers who participated in the experiment, about 20 from each of the four experimental groups, were interviewed by phone. They were first asked whether they remembered the message (in an unaided as well as an aided question). Subjects who remembered the message were asked to recall specific arguments used in the message. In addition, each interviewee was asked a question about issue involvement ("how important is the method of payment to you?"). The interviewees who remembered the phone call or the letter were also asked a question about the persuasiveness of the message ("how convincing was the information you received in the telephone call and in the message?"). Answers to these last two questions were given on a 1 to 7 Likert-type scale.

Results

Behavioral Measures

We performed two analyses on the behavioral data. In one analysis the dependent variables were dichotomous variables indicating whether the customer used or did not use the credit card during each of the 2 months. These variables will be labeled *utilization*. In the other analysis, the dependent variables were continuous–the amount of shekels charged by the customer in each of the 2 months. Six subjects were not included in these analyses because a very high single charge–more than 1,000 shekels–was detected on their account (such a charge is more than 8.5 SD above the average charge).

UTILIZATION. A 2 × 2 × 2 repeated measures logit analysis (Guthrie, 1981; Bishop, Feinberg, and Holland, 1975) was performed on utilization. The design of the analysis was a 2 (month: first or second) × 2 (payment method: cash or checks) × 2 (message: gain versus loss) mixed design with repeated measures on the first factor. The analysis revealed only one, highly significant, effect for message $\chi_{(1)} = 11.4$, $p < .0007$. The effect resulted from a higher tendency among the customers who had received a loss-framed message to use the card. For example, in the second month, 54.8% of the check users who had received the loss-framed message used their card, whereas only 16.4% of the customers who received a gain-framed message used their card. The other contrasts between loss and gain framing are also very strong. In all of them, utilization was about

Table 1. Utilization and Charges by Condition

Group	n	Utilization Month 1	Utilization Month 2	Charges Month 1	Charges Month 2
Cash–negative	66	45.5%	45.5%	270.0	199.9
Cash–positive	57	29.3%	24.1%	129.8	129.1
Checks–negative	62	54.8%	54.8%	492.8	260.6
Checks–positive	55	23.6%	16.4%	244.9	104.4

twice as much for loss framing than for gain framing. The results are presented in the second and third columns of Table 1.[2]

CHARGES. The mean charges of the customers who used the card in at least one of the two months after the telephone conversation by the four experimental groups and by month are given in the fourth and fifth columns of Table 1. It is clear from this table that framing had a strong effect on charges. Charges in the loss-framing conditions are as much as twice the charges in the gain-framing conditions.

To analyze these data we conducted a repeated measures analysis (Winer, 1971: 514–599)[3] on the logarithm of the charges of the customers who used the card in at least one of the two months after the telephone conversation. The design of this analysis was similar to the design of the analysis of utilization. Because the logarithmic transformation could result in an infinite value for a customer who used the card in 1 month but not in the other, a minimal charge of 0.1 was assigned to those customers in the month they did not use the card.

The analysis revealed, indeed, a strong effect of message framing, $F(1,99) = 24.4$, $p < .0001$. The only other significant effect was the effect of month, $F(1,99) = 9.1$, $p < .003$. This effect results from lower charges in the second month than in the first. (An analysis on the untransformed total charges–the sum of the charges over the two months–was similar in revealing a strong message effect, $F(1,99) = 15.7$, $p < .0001$, but it also revealed a payment method effect, $F(1,99) = 5.8$, $p < .02$.)

AVERAGE CHARGE. Although message has a strong effect on charges, it does not have an effect on the average charge. A 2 × 2 (message by payment method) ANOVA, performed separately for each month, revealed no significant effect for message, neither for the first month, $F(1,89) < 1$, nor for the second, $F(1,85) < 1$. (The effect of the payment method and the interaction were also not significant for both months.) Thus, it appears that the increase in charges results from a more frequent usage of the card and not from higher charges on individual transactions.

Post-experimental Questionnaire

RECALL. Out of the 41 interviewees in the loss-framing condition, 66% recalled the message either in the unaided or in the aided recall question. In the gain-framing condition only 43% of the 37 interviewees recalled the message. The difference is significant on the .05 level.[4] Payment method did not have a significant effect on recall, $\chi_{(1)} = 1.3$. Note that the effect of framing on recall is in contrast to Meyerowitz and Chaiken (1987) finding of no framing effect in recall of message for breast self-examination.

Argument recall was quantified by summing up the number of arguments recalled from the message. A 2× 2 ANOVA on argument recall revealed a main effect for message, $F(1,77) = 5.25$, $p < .02$, resulting from higher recall in the loss-framing conditions than in the gain-framing conditions. The other effects were not significant. The mean of the former conditions is 2.44, whereas the mean of the latter conditions is 1.43.

Users and non-users of the card differed in regard to argument recall, $t(76) = 2.5$, $p < .02$. The mean of the arguments recalled by the first group was 2.59, whereas the mean of the second group was 1.48. Argument recall was also correlated (for the subjects who remembered the message) with persuasiveness, $r = 0.33$, $p < .03$ and, for the users group, with total charges, $r = 0.58$, $p < .0003$.

INVOLVEMENT. A 2 × 2 ANOVA on involvement revealed a significant message effect [$F(1,74) = 3.85$, $p < .05$], resulting from higher involvement in the loss-frame conditions than in the gain-frame conditions. The mean of the former conditions was 5.24, whereas the mean of the latter conditions was 4.68. The other effects were not significant.

Users and nonusers did not differ in their involvement, $t(1,77) = 0.02$, but involvement was correlated with persuasiveness (for the subjects who remembered the message), $r = 0.33$, $p < .03$, with total charges (for the users group), $r = 0.55$, $p < .0007$, and with number of arguments recalled, $r = 0.40$, $p < .0003$.

Discussion

The results of this experiment are clear-cut. Loss framing has a much stronger effect on the behavior of credit card owners than gain framing. Utilization was more than double when the message was framed in terms of loss than when it was framed in terms of gain, and the charges made by customers who received the loss-framed message and used the card were also more than twice those made by customers who received the

[2] In addition the interaction between payment method and message was marginally significant, $\chi_{(1)} = 11.4$, $p < .09$. This interaction stems from the fact that check users are more responsive to the framing manipulation than cash users.

[3] The analysis was performed within a regression (rather than ANOVA) framework to control for unequal cell size (see for example Cohen and Cohen, 1983: 428–451).

[4] The results of the unaided recall were: 37% of the interviewees in the negative-framing conditions and 24% of the interviewees in the positive-framing conditions recalled the message. However, the difference was not significant.

gain-framed message. The effect of framing is not short-term – remaining strong in the second month after the message and still apparent in the post-experimental questionnaire 6 months later.

It is interesting to contrast the effect of framing with the effect of payment method. Objectively, the message is stronger for check users than for cash users, because although all the arguments for using a credit card that are relevant to the latter group also apply to the former group, there is an additional important argument that is relevant only to the former group – savings on the checks' transaction costs. (Compare, for example, the first item of the letter to the check users with the first item of the letter to the cash users.) However, the effect of payment method is very small when compared to the effect of framing. Thus, the "psychological" effect of framing is much stronger than the "economic" effect of saving.

The experiment also documented the effect of framing in the cognitive and attitudinal domains. Loss framing resulted in both better recall and stronger persuasiveness of the message, as well as higher involvement with the payment method.

The effect of framing on involvement and the relationship between this effect and buying behavior is particularly interesting for marketers, because involvement may be an important factor in inducing a long-term behavioral change. It may be that in our experiment the loss-framed message was more persuasive than the gain-framed message, which in turn increased the importance subjects attributed to the payment method and consequently increased their use of the card. However, it is also possible that the involvement with the payment method is the result, rather than the cause, of the increased usage. A cognitive dissonance (Festinger, 1957), or self-perception (Bem, 1967) explanation would suggest that because subjects in the loss-framing conditions were persuaded more than subjects in the gain-framing conditions, they used the card more, and as a result, in order to "justify" or to "explain" their behavior, the payment method became more important to them.

Most marketing messages encountered by consumers are positively framed. Do our findings imply that marketers should abandon positive framing in favor of negative framing? We believe that caution should be exerted in applying the results of this research to other domains, because factors, such as the competitive context, the specific product, or the type of risk associated with the decision may be important in mediating the effect of framing.[5] Thus, one question for future research is whether the differences in the effectiveness of gain and loss framing extend to comparative advertising, whereas another question is whether these differences extend to domains other than the domain of financial risk.

As an example of the complexity of applying the findings of this study to other domains, consider the issue of initial involvement of the target audience with the message. In our study, this initial involvement is relatively high – the message concerns a product that people already own and financial gains [losses] that can be actually obtained [prevented]. When involvement with the message is low (e.g., advertisements in the mass media), framing may have different, and even opposite, impact (Maheswarn and Meyers-Levy, 1990), that is, a negative framing may decrease the effectiveness of the message in comparison to a positive framing. From a practical point of view, the selection of framing method is particularly difficult, because pretest in the laboratory may be quite misleading: involvement in laboratory decisions is usually substantially lower than involvement in real life decisions.

Finally, an important theoretical question is why was the loss-framed message more persuasive than the gain-framed message. Our research was inspired by prospect theory, which suggests that loss framing is more effective than gain framing as the subjective utility function is steeper for losses than for gains, resulting in a larger gap between the utility associated with cash/check usage and that associated with credit card usage in a loss frame than in a gain frame. However, other explanations are also possible. For example, it is possible that the effect of the message is the result of negative information being more salient than positive information in a world perceived by people to be generally positive (Kanouse and Hanson, 1972; Markus and Zajoncs, 1985; Sears and Whitney, 1972). As in earlier studies (Meyerowitz and Chaiken, 1987), the findings of this experiment are consistent with both theoretical explanations, and therefore neither explanation can be ruled out. A study that will allow for a more accurate specification of the mechanism by which message framing affects persuasion is an important challenge for future research.

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[5] For example, the difference in risk perception between the current study and previous studies such as Meyerowitz and Chaiken (1987), may be due not only to the particular risk, but also to the amount of risk. In these studies the risk involve the possibility that complying with the message will result in negative results (e.g., finding a lump in a breast self-examination). In the study reported here, there is very little risk involved, and it could be even argued that the behavior advocated by the message is a riskless behavior, because the target can only benefit from adopting this behavior.

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