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Duration of the Effect of Good Mood on Helping: "Footprints on the Sands of Time"[1]

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Two field studies investigated the time course of the effect of feeling good on helping. Subjects were given small packets of stationery by a confederate who went from door to door. Then, at different intervals, each subject received a "wrong number" telephone call during which he or she had the opportunity to help. Results showed that subjects who had received stationery helped more than did those in either of two control groups. The effect declined gradually over time, and by 20 minutes after receipt of the stationery, the experimental group did not differ from the control groups. The time course of the decline in helpfulness and the basic relationship between good mood and helping were discussed in terms of cognitive processes.

What is the influence of moods or emo- tional states on behavior? This is a question that has long interested psychologists but that has been eclipsed for some years, in part because of the difficulty of establishing the presence of a given mood state. Despite this difficulty, recently there have been renewed attempts to study the effect of feeling state on behavior, especially on altruistic or helpful behavior. Several authors, for example, have examined the effect of guilt on compliance with a request for help (Carlsmith & Gross, 1969; Freedman, Wallington, & Bless, 969), on spontaneous helping (Regan, Williams, & Sparling, 1972), or on willingness to administer electric shock (termed *conscience*) Rawlings, 1970). Another sample line of investigation has centered on the experience of empathy with a person in distress as a determinant of helping (Aderman & Berkowitz, 970; Aronfreed, 1968, 1970). In addition to uch presumably negative states, positive moods have been postulated and studied as determinants of helping. It is this topic, the relationship between good mood and helping, that we attempted to investigate in greater detail.

The postulated good mood state has been induced in a variety of ways and has been shown by more than one investigator to lead to helping in a variety of situations (Aderman, 1972; Berkowitz & Connor, 1966; Isen, 1970; Isen & Levin, 1972; Isen, Horn, & Rosenhan, 1973; Levin & Isen, 1975; Moore, Underwood, & Rosenhan, 1973). Moreover, many of the converging studies have served to eliminate alternative interpretations of the findings. Thus, although never directly monitored or confirmed, the construct of mood, independent of other situational variables that might also lead to helping, is gradually receiving support as a mediating variable in helping through converging operations. Moreover, the relationship between *good* mood and desire to help is similarly being established by methods akin to those suggested by Campbell and Fiske (1959), Garner (1954), and Garner, Hake, and Eriksen (1956): both converging operations and discriminant validation (Isen & Levin, 1972). However, the postulating of nonobservable intervening variables is not without risk. For this reason, we feel that such hypothesizing is not justified by the comfort-

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[1] Longfellow ("A Psalm of Life," 1839, line 28).

able feeling of "understanding" that it may provide, but rather is warranted only insofar as it leads to further research and allows us to organize a broader array of behavior than would reference to the operations alone. Positive mood state seems a useful construct at this stage of investigation because it does promise, when understood, to direct research along new lines. Thus, we continue to feel that a most important question centers on the nature of the postulated relationship: Why and how does good mood produce its effect on helping?

A first step in studying this question is to establish some characteristics of the relationship between good mood and helping. One important aspect is how long the effect lasts. In our studies we have typically dealt with what would seem to be rather weak manipulations, and we have been surprised at the power that these simple everyday events have in producing kindness. For example, sensing that the mood induced by a cookie or a dime (Isen & Levin, 1972) might be fleeting, we have been careful in previous research to provide an immediate opportunity for subjects to help.[2] Recently, we have become interested in just how long such a mood might be effective, in part because this may provide some clue as to why or by what process this effect occurs, but also to get some idea of the amount of time with which we are dealing in these studies and to gauge the practical applicability of these findings. To some extent, but not entirely, the theoretical importance of the effect depends on its time course; however, the practical significance of the effect is even more dependent on its lasting some reasonable amount of time. Thus, the present experiments set out to determine the amount of time for which induction of good mood can be expected to produce increased "everyday" helping.

Study 1

Method

Subjects. Subjects were 8 males and 34 females who were at home between the hours of 9:30 a.m. and 4 p.m. and were residents of a suburbanlike area of Lancaster, Pennsylvania.

Design and procedure. The study consisted of four conditions: a control group, in which elation was not induced but subjects were simply given the opportunity to help, and three experimental groups, in which subjects were put in a good mood and then tested for willingness to help either immediately, after 5 minutes, or after 10 minutes. These times were selected in accord with our intuitive notion that the effect would last only a few minutes.

Good mood was induced by having subjects receive, in their homes, a "free sample" packet of stationery. This packet consisted of three note cards with envelopes, attractively tied together by a small piece of ribbon. The value of this packet was approximately 20¢. The stationery was given out by a female confederate, who went door to door, precisely following a prearranged time schedule for reaching each particular house. The confederate had no knowledge of the experimental condition into which a given house fell, since her schedule simply consisted of an address with a corresponding time at which she was to knock at the door. The definition of the experimental condition remained to be completed by the experimenter's making a telephone call that would provide the opportunity for helping; the confederate had no knowledge of when this call was to come.

Meanwhile, the experimenter was calling these same subjects according to her own prearranged schedule of telephone numbers and times. The two schedules were designed to dovetail in such a way that the experimenter would reach some subjects immediately after they had received the free sample, some subjects 5 minutes, and some 10 minutes after the confederate had come to the door. In all cases, following the confederate's knock at the door, 1 minute was allowed for the subject to answer the door and receive the free sample. Thus, in the immediate condition the phone call came 1 minute after the knock at the door; in the 5-minute condition the call came 6 minutes after the knock, and so on. (Prior to the session the experimenter's and confederate's timepieces had been synchronized and allowed to run together for 24 hours in order to ensure that their timing could be exact.) As was the case with the confederate, the experimenter was unaware of the condition of any subject at the time that she was interacting with him or her. She knew neither when nor whether the confederate had distributed stationery to the subject.

When the telephoning experimenter reached a subject, she used a modification of Gaertner and

[2] One study in which the helping may actually have occurred at some time substantially after the mood induction is the "letter" study, in which the matter of interest was the subjects' willingness, after having received a dime in the coin return of a public telephone, to mail an apparently forgotten letter (Levin & Isen, 1975). The case for persistence of the positive mood state is not strong in that study, however, because in order to help, subjects had to initiate the process immediately by taking the letter, and once having done so, they may have been committed to mailing it at some later time.

ckman's (1971) "wrong number technique" to ovide subjects an opportunity to help. As the nversation developed, the experimenter conveyed at she had accidentally reached the wrong house, at she must have been given the wrong number, d that she had spent her only change in the ocess. The situation was not presented as an emer- ncy, but she asked the subjects whether they uld look up the number, make the call, and con- y a message for her. The dependent measure was nether or not a subject agreed to make the call for e experimenter.

A second confederate was waiting at the correct mber to receive the calls. He simply listened to e subject's message and thanked him or her for lling. All three experimenters recorded the sex and y identifying characteristics of the person with hom they had interacted. This was done in order be able to eliminate cases where the person who eived the stationery, the person who answered the lephone, and the person who made the helping call re obviously different; but in fact such a lack of rrespondence occurred only very infrequently. By e use of this admittedly crude indicator, it seemed that in the majority of cases the person who answered the phone was the one who had received the stationery. All subjects who agreed to call actually did so, and there was never an apparent discrepancy between the person reached by the experimenter and the person who called Confederate 2.

Results

Figure 1 (dotted line) shows the percentage of subjects in each condition who helped, and (in parentheses) the number of subjects in each condition. It should be noted that only 1 control subject out of 11 helped, whereas a substantial percentage of subjects in the three experimental conditions helped. It should also be noted that the percentage who helped was greatest in the 5-minute condition. Tests for the significance of the difference between two proportions indicated that the level of helping in the control condition was significantly lower than that in every other condition (p

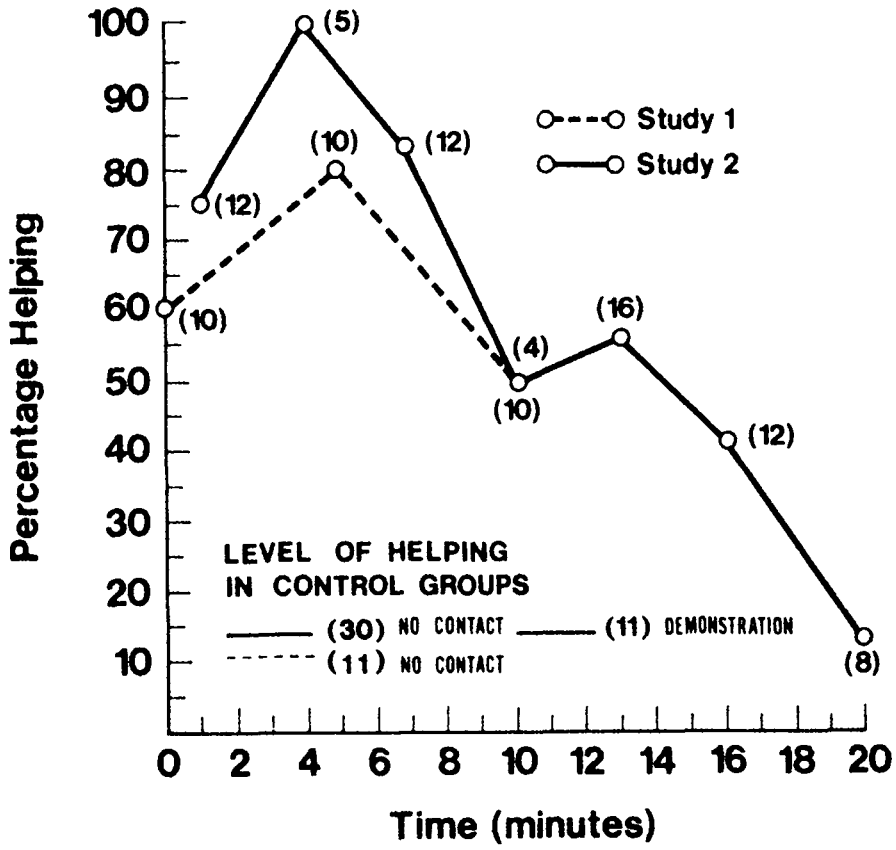

FIGURE 1. Percentage of subjects helping in each condition (n indicated in parentheses).

$< .025$). Subjects in the 5-minute condition tended to help more than those in the 10-minute condition ($p = .08$); however, the difference between the immediate and 5-minute conditions did not reach customary levels of significance ($p = .16$, two-tailed). Over all conditions, 62.5% of the males and 55.9% of the females helped.

Study 2

The results of Study 1 indicated that in our situation people who had received stationery helped more than those who had not, and the data seemed to suggest that less helping would occur after 10 minutes than after 5. However, subjects in even the 10-minute condition helped at a significantly greater rate than did those in the control condition. This suggested that our intuitive expectation that the effect would disappear after 5 minutes was incorrect. Thus, we designed a second experiment to study the effects of periods of time in excess of 10 minutes. Moreover, it appeared that differential units of 5 minutes might be too large. Thus, Study 2 includes conditions where helping is measured at 3 minute intervals up to 20 minutes after receipt of the free gift. Study 2 also introduces a second control group, in which subjects are called to the door by the confederate but do not receive a gift. This condition was instituted in order to control for the several possible effects associated with the confederate's presence (e.g., interaction with a person just prior to the request for help, distraction from previous activity, etc.). In most other ways Study 2 is similar to Study 1.

Method

Subjects. Subjects were 110 residents of suburban areas of Baltimore, Maryland (46 subjects) or Lancaster, Pennsylvania (64 subjects) who were at home between 9:30 am and 4 pm. Of the total, again, approximately 80% were female and 20%, male. Both blacks (21%) and whites (79%) participated in Study 2.

Design and procedure. The design of Study 2 was similar to that of Study 1, except that Study 2 was expanded to include additional time periods and to incorporate an additional control group. Subjects were called either 1, 4, 7, 10, 13, 16, or 20 minutes after receipt of stationery; the second control group was one in which the confederate did ring the bell and make contact with the subject but merely "demonstrated" what the new stationery looked like and asked for the subjects' opinions. She did not give them a free sample. People in this condition were telephoned either 4, 7, or 10 minutes later. Again, the confederate and the experimenter were unaware of the subject's condition when they interacted with him or her, except that the confederate knew which subjects were "demonstration" controls, as this could not be avoided. The experimenter, however, did not know which subjects were in that condition when she telephoned.

The confederate again gave out stationery, this time whole packages worth 39¢ each; her procedure was similar to that of the first study, except in the case of the demonstration control condition. There, the occupant was not given a free sample but was shown two types of stationery and told that the company was interested in having her (or him) see these two examples of its new line of stationery. The subject was asked which of the two she (he) preferred, and the confederate then nodded, smiled, and politely took leave of the subject. In all conditions, subjects occasionally expressed the expectation that the confederate was intending to sell the stationery to them. If this occurred, the subject was pleasantly assured that this was not the case.

While the confederate was making her way down a street, following her schedule of addresses and times, as in Study 1, the experimenter at the telephone was calling each number on her schedule at the exact appointed time. When a subject answered the phone, the experimenter asked for Victor. In a procedure similar to that of Study 1, when the experimenter was told that she had reached the wrong number, she haltingly said the following.

> Oh, no . . . my brother is at Victor's, and I'm supposed to pick him up there. He's waiting for me. . . . I'm in a phone booth and just used my last dime to make this call. . . . Do you think you could call him for me? Could you look the number up? Apparently Information has given me the wrong number.

A short pause after the statement that she was calling from a pay phone and had just used up her change gave subjects the opportunity to interrupt and volunteer to help. As in the earlier study, they occasionally did so, at which time the experimenter responded appropriately. If subjects did not interrupt to volunteer, the experimenter continued to the end of the statement and then paused to give the subject time to answer. (Once the experimenter had perfected her timing, before the start of the first study, no subject hung up on her before she had made her situation known.) Typically, at the conclusion of the statement, the subject did one of three things: hung up without a word, refused and gave an excuse, or agreed to help. If the subject's reply was negative, the experimenter simply said, "O.K. . . . never mind . . . sorry." If the subject agreed to help, however, the experimenter gave her "Victor's" full name and address so that the subject

ould look up the number and make the phone call. Then she thanked the subject, hung up, and recorded he subject's helping response (i.e., whether he or he agreed to call Victor). Estimates of each subect's age, race, and sex, as well as any notable char-.cteristics of voice or speech, were also recorded for urposes of identification, as in Study 1. There was ever an apparent discrepancy between the person eached by the experimenter and the person who alled the confederate, and again, as in the first tudy, all subjects who agreed to call actually did so.

Results

The amount of helping and pattern of re-ults obtained in Baltimore, Maryland, did ot differ from those obtained in Lancaster, 'ennsylvania. Therefore, the data from the wo locations were combined for analysis.

Figure 1 (solid line) shows the percentage f subjects in each condition who helped and in parentheses) the number of subjects per ondition.[3] Since the experimental conditions vere created by differential amounts of time aving been allowed to elapse before help vas sought, Figure 1 represents the amount f helping over time. Beginning with the 4-inute delay condition, amount of helping ppears to decline, and by about 20 minutes rom the time of mood induction, it has re-urned to the baseline (control group) level f about 12%.

In order to test for a decreasing trend in hese data, an analysis of variance, on the ichotomous data coded as 0 or 1, was per-ormed. This analysis revealed a significant ain effect, $F(6, 62) = 3.26$; $p < .007$, and he trend analysis (unweighted means) indi-ated a significant linear component with egative slope, $F(1, 62) = 15.15$, $p < .001$. Examining the data, we see that the 1-, 4-, nd 7-minute conditions appear to cluster to-ether at approximately an 83% rate of help-ng; the 10-, 13-, and 16-minute conditions, t 50%; and the 20-minute and control con-itions, at about 12%. Chi-square tests re-ealed these differences between the grouped onditions, (1, 4, 7) versus (10, 13, 16) and 10, 13, 16) versus (20, control, demonstra-ion control), to be significant ($\chi^2 = 5.85$, 2.10; $p < .02, < .001$, respectively). A fur-her indication that the free-sample conditions with the exception of the 20-minute condi-ion) differed from the control conditions is evealed by a Fisher exact test, which showed that the 16-minute condition differed from the control conditions ($p < .025$).

These data include subjects who were not originally assigned to the control condition, but who were reassigned to that condition, when we discovered that the confederate had not been able to deliver the stationery as intended, even though the experimenter had succeeded in reaching the subjects by telephone. In other words, subjects who were not at home (or who may have refused to answer the door) when the confederate rang the doorbell, but who did answer their telephones when the experimenter called, were reassigned from their originally intended conditions to the control condition. If examined without these reassigned control subjects, the data remain essentially the same (control $n = 20$, percentage helping = 10).

General Discussion

The results of these studies indicate that people who receive a free sample package of stationery are more willing to help a stranger by looking up a telephone number and making a phone call for her than are control subjects who have not been previously contacted or who have been contacted but have not received a free sample. The results also demonstrate that this relationship lasts about 20 minutes. That is, while the amount of helping appears to decline gradually over time, it is not until 20 minutes between receipt of the free gift and the request for aid that an experimental group fails to differ from the control groups.

We feel that these studies provide further support for the idea that being in a good

[3] As in the first study, subjects were randomly assigned to treatments. The unequal number of subjects per condition resulted from an uneven loss of subjects. Factors such as subjects being out when the experiment took place, subjects being on the telephone when the experimenter tried to telephone, or (occasionally) experimenter and/or confederate being unable to adhere to the prescribed timetable, were responsible for subject loss. In the first study, which was conducted over a number of weeks, only a few subjects were run each day. Thus, lost subjects could be replaced the following day. However, in the second study, many subjects were run each day, leaving insufficient time to equalize numbers of subjects in each condition.

mood can lead to helping, since they involved induction of good mood in still another way and again demonstrated its effect on help giving in a new situation. Equity considerations should have been at a minimum in this situation, as suggested by Latané and Darley (1970), because of the use of the commercial free sample. And the failure of the demonstration control group to differ from the no-contact group in helpfulness makes alternative hypotheses attributing increased helping to mere interaction with another person, or to change in focus of attention as a result of having been called to the door, seem less compelling than the mood interpretation. Again, however, we must emphasize that the important question is why good mood should lead to helping, because the answer to this question promises to direct research along new lines. We shall consider this issue below.

In examining the data of these studies, two points should be made. First, the similarity of the results of the two experiments should be noted. With regard to the specific values obtained for comparable conditions and the overall curve that emerged the two studies are consistent with one another. Second, it is worth pointing out that in both studies, most helping appeared to be obtained in the 4- or 5-minute condition rather than in the immediate or 1-minute condition, as might have been expected. Although this difference did not reach the customary .05 level of statistical significance in the first study, with 10 subjects in each condition (the Fisher exact test revealed $p = .16$, two-tailed), and probably would not have been significant if tested in the second study, with 12 and 5 subjects per condition, one cannot help but notice the tendency toward a difference and the persistence of the pattern in the two studies; some discussion of the issue may be of interest. One possible explanation for the pattern is that subjects whose phones rang within 1 minute of their interacting with the person at the door were physically more harried than subjects whose call came a few minutes later. Thus, the call and its request of them may have seemed more burdensome than it would have seemed 2 or 3 minutes later. Or, it may be that immediate and 1-minute subjects were still psychologically distracted at the time of the call, so that the request fell, to some extent, on "deaf ears." Another possibility is that the receipt of the stationery takes some small period of time to "sink in" and have its maximum effect. This time period, apparently something between 1 and 4 minutes, probably does not represent simply the time required for taking in the information and storing it in memory, since this requires at most a few seconds and since some substantial effect of the free gift is observed even in the immediate condition.[4] The information, we can assume, has already been processed by the time subjects in the immediate and 1-minute conditions have answered the telephone. An intriguing possibility is that the period of 2–4 minutes, which differentiates the immediate and 1-minute conditions from the 5- and 4-minute conditions, is used by subjects to rehearse cues or aspects of the events that have just happened, and that this rehearsal heightens the effect of the event and allows it to reach its maximum. There are several ways in which this might occur, and we would like to develop this issue further, in the context of the overall decline in helping.

One possible explanation for the observed decline, over time, in helping might be in terms of simple memory for the positive event: that after 20 minutes subjects no longer remembered that they had received a free gift. We suspect, on the contrary, that this was not the case; that if asked, subjects in the various conditions would have probably been equally capable of remembering that they had received a package of stationery. Rather, as suggested in earlier articles (Levin & Isen, 1975; Isen, Note 1), the differences between conditions (both the effect of having received the free gift and the decline of this effect over time) may be due to mood-based differences in what the person is actively thinking about, the categories for the processing of new information that are available or salient to him (or her), and his (or her) perception, on that basis, of costs and rewards for helping. Pilot studies indicate that a general optimism does seem to prevail during a

[4] Deese and Hulse (1967) reported that simple nonsense syllables are processed in something under 1 second.

good mood (Isen, Note 1; Isen, Clark, & Karp, Note 2; Isen & Walker, Note 3, Note 4), which lends support to our interpretation. That is, upon receipt of a free gift, a person may reflect on its positive implications and may find other positive associations more readily accessible than they otherwise would be. This induces and heightens the mood state. However, there is a limit to these implications and associations, the time available for thinking about them, or the ability to keep associations relevant; and after having reflected upon them for as long as they warrant or as is possible, a person's thoughts turn elsewhere. As this occurs, the good mood that has been induced gradually dissipates. In addition, so does desire to maintain it, all of those cognitive processes that result from it, and any behavior that follows from it.

Several questions about the dissipation of the helping effect over time are interesting to pursue. One such question is whether the intensity of the mood might affect the time course or pattern of the relationship between mood and helping. It is possible that greater elation could lead to a longer lasting inclination to help. It is also possible that the relationship is not sensitive to level of mood but that beyond a certain threshold level, feeling good leads to helping, and that once evoked, this relationship lasts for about 20 minutes.

In order to test such a proposition, one would have to have some means of inducing moods of varying intensity. One suggestion has been to distribute gifts of varying value and compare the helping reactions that follow. There are really two questions here. One involves the effect of intensity of mood on duration of the inclination to help. The other involves the determinants of intensity of mood. We presently know little about the relationship between the value of the gift and the intensity of the mood induced. Presumably, more valuable gifts make people feel happier; yet there may be other variables that intervene to complicate this relationship. (For example, if factors such as rehearsal or cue salience associated with the mood-inducing event, as mentioned above, play a role in level of mood induced, then attention simply to the value of the gift might be misleading. In addition, from another point of view, gifts of great value may induce a rather negative sense of inequity (Walster, Berscheid, & Walster, 1973, p. 168) or may result in suspicion or perception of ingratiation (Jones, 1964). These latter two states may lead to reactance (Brehm, 1966).) Thus, the relationship between value of the gift and level of mood induced should be studied separately from the question of the relationship between level of mood and duration of the tendency to help.

In light of our earlier discussion of mood as a cognitive process that is influenced by other cognitive activities such as rehearsal, several other factors suggest themselves as important in the relationship between mood and helping. If rehearsal, or thinking about positive associations, is crucial to mood maintenance, then the duration of the helping effect should be influenced by how much rehearsal an event induces, how large a network of pleasant associations it has, or the number of positive implications that it carries with it rather than by simply its value per se. Unexpectedness of the positive event and opportunity for rehearsal after such an event also emerge as potential variables of interest.

We would like to consider briefly an alternate interpretation of these studies: that the effect does not actually dissipate with time but that the passage of time allows for the subject to encounter opportunities to help, and that once a person has helped in these circumstances, he does not help again when the caller reaches him with her request. In order for this interpretation to account for our results, a substantial number of our subjects would have had to have encountered, accidentally, nonplanned additional opportunities to help within the time period studied. This does not seem likely to us. In addition, underlying this interpretation is the assumption that once a person has helped, he is unlikely to help again; however, the latter question is unresolved. There is at least some evidence supporting the opposite position. The early work by Freedman and Fraser (1966) on the "foot-in-the-door" technique tends to support the expectation that one who has helped would be more likely to help on a subsequent occasion. Likewise, a study by Weiss, Buchanan, Alstatt, and Lombardo (1971) found that altruism is reinforcing in

itself; this would imply that one who has helped might go on helping. And finally, a direct test of the question (Harris, 1972) showed that those who agreed to help on an initial task were also subsequently more helpful. Although there might be circumstances under which helping would reduce the inclination to help subsequently, such circumstances need to be delineated. Thus, given the state of the research on the topic and the improbability of subjects (in large enough numbers to account for the differences between the conditions) encountering opportunities to help within the time period studied, the argument that helping declines, not over time, but because of alternative opportunities to help, does not appear warranted.

Finally, we would like to suggest that knowledge of parameters such as duration of an effect or circumstances that alter relationships within it may prove helpful in understanding the nature of the effect. That is, it may be possible to distinguish between behaviors that appear similar but that in fact have different antecedents and consequences and are mediated by distinct processes. For example, in addition to the evidence that good mood leads to helping, there is also evidence that guilt, embarrassment, failure, or other "bad moods" can lead to helping, depending on the circumstances (Cialdini, Darby, & Vincent, 1973; Freedman, Wallington, & Bless, 1967; Isen, Horn, & Rosenhan, 1973; Regan, Williams, & Sparling, 1972; Staub, Note 5). However, helping that results from one of such bad moods may be the result of a unique process and may differ in specifiable ways from helping that results from good moods. Studies investigating parameters such as the duration of these effects and the extent or nature of the helping that results from each of these may shed light on this question.

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