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The Effect of Mere Presence on Social Facilitation: An Unobtrusive Test

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An unobstrusive experimental manipulation was used to test the hypothesis that the mere presence of others can influence an individual's performance. A task was employed for which there were no clear performance criteria, and which was very unlikely to engender evaluation apprehension. Performance times on this task (dressing and undressing in familiar and unfamiliar clothing) were compared for subjects working alone, in the presence of a passive inattentive person, and in the presence of an attentive spectator. In contrast with the Alone condition, both social conditions (Audience and Incidental Audience) enhanced performance on the well-learned aspects of the task (dressing and undressing with one's own clothing) and hindered performance on the more complex aspects (working with unfamiliar clothing). It is concluded that the mere presence of others is a sufficient condition for social facilitation and social interference effects.

The power of others to influence an individual's behavior is readily apparent in problems of imitation, conformity, competition, helping, and aggression. The physical presence of others makes the determinants of this power particularly salient; it dramatizes their ability to inflict injury, to win the spoils, to deliver praise, to lend assistance, or to serve as a source of information.

The power of the presence of others to produce social facilitation and interference effects cannot be completely specified by these very obvious factors alone, however. An individual's performance may be affected even though the factors and processes commonly associated with the presence of others (such as giving cues, delivering reinforcement, or lending help) are eliminated. This study examined the influence of the "mere" presence of others on behavior when the evaluative and directive properties of others' presence are minimized. Through the use of an unobstrusive experimental manipulation, the conditions of

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"mere" presence were approached to a greater extent than in previous research.

Zajonc (1965) hypothesized that the "present other" does not need to engage in any sort of behavior at all to produce effects of an individual's performance: The "mere" presence of the person is sufficient. Mere presence is what is left when the present other does not offer the chance for imitation or competition, cannot control the performer's reinforcement, and is unable to evaluate the performance or provide any relevant information. According to this theory of social facilitation and interference, the mere presence of others is a source of nonspecific and nondirective arousal that enhances the dominant responses of the performer. Support for this hypothesis was found by Zajonc and Sales (1966) using a pseudo-recognition task, by Martens (1969) using a complex motor task, and by Hunt and Hillery (1973) using complex and simple mazes. All of these studies indicated that in the case of simple or well-learned tasks, the mere presence of others strengthened the correct responses and resulted in a beneficial effect on performance. With complex tasks that were not well-learned, however, the effect of an audience was decidedly detrimental.

Cottrell (1968) was dissatisfied with the mere presence explanation of social facilitation effects. He proposed that the drive increment resulting from the presence of others is produced by the performer's concern that these others will be evaluating his performance. In other words, the increase in arousal is generated by evaluation apprehension. To investigate this hypothesis, the ability of the audience to evaluate the performer is manipulated. To decrease evaluation, the audience or spectator is blindfolded or in some other way prevented from appraising the performer's responses. To heighten evaluation apprehension, some particular expertise or status is attributed to the audience. Studies by Cohen (Note 1), Cottrell, Wack, Sekarak, and Rittle (1968), Gore and Taylor (1973), Henchy and Glass (1968), Paulus and Murdoch (1971), and Sasfy and Okun (1974) all support the evaluation apprehension hypothesis to one degree or another.[1]

With few exceptions (cf. Cohen & Davis, 1973), most investigators in the area of social facilitation have viewed the Zajonc and the Cottrell interpretations as contradictory theories. This need not be the case. Even among mere presence theorists, for example, there is no argument with the idea that evaluation apprehension can be a very significant factor in social facilitation in humans. To compare the various factors important in social facilitation/interference effects, however, it is necessary to isolate the independent contribution of mere presence. In recent years, there have been a number of studies designed to accomplish this, but their results have been equivocal. In several of these studies the

[1] See Geen (1977) for a complete review of these studies.

investigators failed to create a true "alone" condition for comparison with the presence conditions. And, in studies that did physically isolate the subject from others in the alone conditions, the tasks used required performance of a type normally associated with evaluation, thus making it difficult to rule out evaluation apprehension explanations completely (Chapman, 1974; Innes & Young, 1975; Marchand & Vachon, 1976).

To answer the question of whether mere presence can produce social facilitation effects, a number of methodological criteria must be met. First, the study should employ both simple and complex tasks that can be assessed or measured comparably. Second, these tasks should not spontaneously elicit evaluation, and neither the audience nor the subject should be moved to invoke standards against which the task performance could be compared. Best suited for this purpose are tasks for which there are no clear criteria for good or bad performance. The need for studies using such tasks has been suggested previously by Zajonc (Note 3) and Chapman (1974). However, with the exception of two studies that used preference for colors or lights as a dependent measure (Goldman, Note 2; Zajonc, Wolosin, Wolosin, & Loh, 1970), all social facilitation experiments have used tasks that are clearly subject to some type of evaluation (e.g., the pseudo-recognition task or the maze task). Finally, and most important, it is necessary to create a true "alone" condition that can be used as a baseline for comparison with the audience conditions. An alone condition is essential if one hopes to isolate the effects of mere presence. In virtually all experiments with humans, the subject in the alone condition is not "phenomenologically" alone, even when the experimenter is physically removed and out of sight. That is, he is quite aware of the experimenter and knows that his performance is being recorded, presumably for some present or future evaluation. This vulnerability to evaluation is arousing in its own right and precludes a true alone condition.

The criteria for creating mere presence have not all previously been met within a single experiment. The following experiment was designed to satisfy these criteria by using a task that is not usually subject to evaluation. In fact, the subjects had no reason to believe that their responses would interest or even concern the experimenter, let alone be recorded. The task, which was ostensibly incidental to later experimental participation, involved dressing into familiar and unfamiliar clothing. In the presence of others, the well-learned responses (putting on one's shoes and socks) were expected to gain in speed, while the new "transfer" responses (putting on unfamiliar clothing) were expected to be impeded.

METHOD

Subjects

Forty-five undergraduate males, who received course credit in introductory psychology for their participation, were timed one at a time.

Design and Procedure

The task selected for this study was dressing into familiar and unfamiliar clothing. Dressing, at least for most individuals, in a natural, highly routinized, and well-learned response. For adults, the task of tying one's shoes is not typically vulnerable to a close scrutiny by others and is not likely to invoke apprehension about being evaluated. The experimental situation was designed so that the subject would believe that this task was incidental to, and in preparation for, an actual group experiment in which he was to participate.

As subjects entered the lab, they were told:

> In this experiment you will be part of a group that will perform a task together. It is important that the members of each group have a uniform appearance. To make you as much alike as possible, I'd like you to take off your shoes, put these socks over your own socks, and then put on these shoes. They might be a little large, but we need to have a size that fits everyone. Also, put on this lab coat—it ties in the back—over your own clothes.

Subjects were given the clothes and were led to a large waiting room containing a coat rack, tables, chairs, reading material, and some pieces of apparatus taken apart for repair. Two other piles of clothes containing the same type of shoes, socks, and lab coats were placed conspicuously in the waiting room. These clothes were ostensibly to be worn by the other subjects in the "group" experiment. Subjects were told:

> Please put on the clothes and make yourself comfortable. I'll wait for the others and we will be ready to start as soon as they have all arrived.

All subjects were given a pair of large athletic socks, a pair of size 12 tennis shoes, and a large, long lab coat.

Both a simple and relatively complex task were defined within the activities required by each subject. Specifically each subject was required to (a) take off his own shoes, (b) put on the socks provided by the experimenter, (c) put on the shoes provided by the experimenter, (d) put on the lab coat, (e) take off the lab coat, (f) take off the experimental shoes, and (g) put on his own shoes. The simple task (a and g) involving well-learned responses, was dressing and undressing into one's own clothing. The complex task (b, c, d, e, and f), involving a transfer of old responses to new stimuli, was working with the unfamiliar and ill-fitting clothing. The dependent measure was the time required to complete a specified activity, such as taking off one's shoes, putting on the lab coat, etc. Each aspect of the dressing or undressing activity was timed separately. Time was measured by an assistant who observed the subject through a narrow, inconspicuous opening in the drapes that covered a one-way mirror.

Subjects were randomly assigned to one of three conditions: Audience, Incidental Audience, or Alone. In the Audience condition, an attentive confederate sat in the corner of the waiting room when the subject arrived, and watched the subject as he put on the experimental clothing. A second audience condition, labeled Incidental Audience, was an attempt to create a true "mere presence" condition. A confederate sat in a corner of the room facing away from the subject repairing a piece of apparatus. In the Alone condition, the subject was left entirely by himself in the waiting room. One of two male assistants served as the audience in the presence conditions. Each assistant worked in half of the Incidental Audience conditions and half of the Audience conditions.

After the subject had been timed for dressing into the experimental clothing, he was left sitting in the room for 10 min. Most subjects read during this time. In the audience conditions, the confederate stayed in the room during the 10-min period. The experimenter then entered the waiting room and explained to the subject that the others had not shown up, and that the experiment would have to be called off because three people

were needed. The subject was thanked and told that he would be contacted again if he would still like to participate. The experimenter then left the room, and the subject was timed while he took off the experimental clothing and put on his own clothes. After all the subjects were timed, each subject was called and debriefed over the phone.

RESULTS

None of the subjects expressed suspicion about the task, or indicated any difficulties or unwillingness to comply with it. Most subjects seemed genuinely eager to be part of the "experiment." No one, during either the experiment or the debriefing, indicated suspicion that dressing into the experimental clothes may have been anything else than a preparation for the later experiment, nor did anyone suspect being observed.

Performance times for the well-learned responses and the transfer responses are shown in Table 1. The results are straightforward. As expected, the main effect associated with task difficulty (well-learned vs transfer) was significant ($F(1,42) = 229.23$, $p < .01$) and there were no main audience effects. More importantly, however, there was a reliable interaction between audience and task difficulty ($F = (2,42) = 6.03$, $p < .05$). The presence of another person who faced away from the subject, worked on another task, and did not attend to the subject at all was sufficient to enhance performance on the well-learned tasks and to impede performance on the transfer tasks.

The components of the well-learned and transfer responses are shown in Table 2. Performance on all the components of the well-learned task was facilitated by the presence of an audience. In contrast, performance on the components of the transfer task, with one exception, was impaired by the presence of an audience. In nearly every case, the difference in performance time between the Alone condition and the Incidental condition is greater than that between the two Audience conditions. Although the differences between the Incidental and Audience conditions are consistently positive (see Tables 1 and 2) they are not significant.

TABLE 1

MEAN TIME IN SECONDS TO COMPLETE WELL-LEARNED AND TRANSFER RESPONSES[a]

	Alone (A)	Incidental audience (B)	Audience (C)	Difference (A) − (B)	Difference (B) − (C)
Well-learned responses	$16.46^{*}{}_{a}$	$13.49_{a,b}$	11.70_{b}	−2.97	−1.79
Transfer responses	28.85_{c}	32.73_{d}	33.94_{d}	3.88	1.21

[a] N = 15 observations per cell.

* Means with different subscripts are significantly different from each other at the .05 level by Newman–Keuls test.

TABLE 2

WELL-LEARNED RESPONSES
MEAN TIME IN SECONDS TO COMPLETE INDIVIDUAL TASKS

	Alone (A)	Incidental audience (B)	Audience (C)	Difference (A) − (B)	Difference (B) − (C)
Well-learned responses					
Off, own shoes[a]	13.46	11.57	11.19	−1.89	−.38
On,					
own right shoe	16.40	14.60	12.28	−1.80	−2.32
own left shoe	18.09	14.00	11.42	−4.09	−2.58
Transfer responses					
On,					
socks	20.50	26.20	27.70	5.70	1.50
right shoe	30.50	32.80	34.86	2.30	2.06
left shoe	29.80	32.70	34.80	2.90	2.10
lab coat	56.61	59.50	61.20	2.89	1.70
Off,					
lab coat	7.21	15.60	18.61	8.40	3.01
socks and shoes	29.20	25.30	26.90	−3.90	1.60

[a] Taking off one's shoes was considered a single activity. One of the many serendipitous findings about dressing and undressing behavior was that in taking off one's shoes many people follow the strategy of loosening the ties of one shoe, then the other, and finally kicking off both shoes nearly simultaneously. It was thus impossible to time each shoe as a discrete event.

This suggests that the arousal produced by factors other than mere presence was not particularly strong in this study.

DISCUSSION

The results of this study indicate that the mere presence of another person is sufficient to influence an individual's behavior. These results were obtained with a trivial incidental task that was not easily amenable to evaluation, and that the subject believed was only a preparation for the actual experiment. This, combined with the fact that the largest part of the observed increment or decrement in performance time occurred in the Incidental Audience condition, implies that evaluation apprehension is not a necessary condition for social facilitation/interference effects and that mere presence contributes significantly and independently to these effects. The Incidental Audience condition was carefully constructed to ensure that the confederate was in no position to evaluate the subject and was not in any way likely to elicit the anticipation of positive or negative outcomes. In addition, the Alone condition used for comparison with the Audience conditions more closely approximated a true alone condition than in any previous social facilitation experiment.

The differences in performance times in the Audience condition relative to the Incidental Audience condition, although not significant, indicated that an attentive audience produced an effect on performance that went beyond mere presence. Given the task, it is unlikely that the differential performance observed in the Audience condition was due to arousal produced by evaluation apprehension. However, subjects in this condition may have experienced some slight increment in arousal due to self-consciousness about their appearance in the experimental clothes. It might, of course, be possibly to apply this interpretation to the Incidental Audience condition as well, but it does not fit easily because the confederate in this condition was engaged in repairing the apparatus, was not attending to the subject, and was seated so that he could not see the subject. Also, if the arousal experienced by the subject was in the form of self-consciousness or embarrassment, one might expect a larger difference in performance times between the Incidental and Attentive Audience conditions. In the latter condition the audience actually viewed the subject while he dressed, which presumably would have augmented self-consciousness markedly, and should have clearly differentiated the two presence conditions.

Although this study did not attempt to measure the underlying drive construct, the results are entirely consistent with a drive formulation. Zajonc (Note 3) argues that the presence of others serves as a source of arousal because social stimuli, in contrast to physical stimuli, exert an influence on the individual that is less regular, less systematic, less redundant, and therefore much less predictable: "In the presence of others, some degree of alertness or preparedness for the unexpected is generated, not because there is the anticipation of positive or negative incentives, or threat of evaluation, but simply because one never knows what sort of responses—perhaps even novel and unique—might be required for the individual" (p. 16).

Interpretations of social facilitation effects that do not rely on a drive construct, such as the objective self-awareness formulation of Duval and Wicklund (1972), are not useful for this study because they cannot account for the divergent effects of an audience on the performance of simple and complex tasks. For example, if objective self-awareness was produced by the dressing task, one would expect those subjects who were most aware of themselves to be especially careful not to do anything that would make them appear foolish or clumsy. This reasoning would have caused subjects in the Audience conditions to perform slower on both the simple and the transfer tasks, and this prediction was not supported by the findings.

The results of this study are consistent, however, with predictions from the distraction/conflict interpretation of Sanders and Baron (1975). They suggest that the presence of conspecifics distracts the organism from ongoing activity. Distraction creates attention or response conflict, in

which orientations toward the task and toward the audience are brought into opposition. This type of response conflict is then hypothesized to be a source of drive. This interpretation is quite complex and involves several more assumptions than a mere presence explanation. For example, it must assume that the presence of others not only creates attentional conflict but that it heightens overall attention as well. For if this were not so, then in the case of simple tasks the subject could not *both* divert part of his attention away from the task and still improve his performance on it. Also, in this study, the Incidental Audience condition was designed to make it difficult for the subject to attend directly to the audience. And even if the subject did attend to the audience, it is not clear that doing so would directly conflict with the task orientation in the manner hypothesized by Sanders and Baron.

In sum, the mere presence explanation is the most consistent and parsimonious explanation for the social facilitation effects observed in this study. Although the influence of the mere presence of others can be easily concealed by many other complex social factors, it is one of the variables that contributes to the power of others to influence an individual's performance.

The drive theory of social facilitation stands in sharp contrast to many other current explanations of social behavior which, for the most part, stress the role of cognitive processes. In these approaches social behavior is seen as the result of the type and amount of information available to the individual and his ability to assimilate and operate upon that information. Obviously, complex forms of social behavior do involve inferences, attributions, judgments, and decisions. It is likely, however, that there is a vast sphere of social behavior that occurs at a more fundamental and unmonitored level. In animals, and probably in humans, much of this behavior may take place without a great deal of specific cognitive mediation (Zajonc, Note 3).[2] Social facilitation and interference effects that occur in the mere presence of others are examples of this fundamental type of behavior.

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[2] Such behavior may, of course, be monitored or evaluated by *subsequent* cognitive processes.

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