Modification of delay choices in institutionalized youthful offenders through social reinforcement[1]

JEROME S. STUMPHAUZER,[2] Florida State University, Tallahassee, Fla. 32306

Four inmates who demonstrated predominantly immediate gratification orientations served as Ss. Social reinforcement, "Good" or "Mm-hmm," was made contingent on either delayed or immediate self-reward choices in a series of 100 choices. Per cent delay choices did vary as a function of phases of the experiment: baseline, reinforcement of delay choices, reinforcement of immediate choices, and again reinforcement of delay choices.

The ability to work and wait for larger rewards, later in time, is stressed in virtually all discussions of normal child development. To learn to delay immediate gratification in favor of later, more valuable reward is an important part of the socialization process. Many juvenile delinquents and adult criminals represent a failure of this socialization. Empirical support for this contention is given by Mischel (1961). Very simply, he offered children a series of choices between something they could have immediately and something more valuable for which they would have to wait. If was found that the delinquents in the sample showed a preference for immediate, smaller rewards. Bandura & Mischel (1965) were able to modify delay of self-reward in fourth- and fifth-grade children by exposure to adult models who displayed the opposite delay orientations. In a preliminary study, Stumphauzer (in press) replicated and extended these findings by increasing the percentage of delay choices in four youthful offenders through exposure to peer models who displayed high-delay orientations. That study is currently being expanded to include more Ss, a control group, and measures of generalization.

Social reinforcement, the response-contingent attention and/or approval of another person, has been the topic of a good deal of recent experimental research and behavioral psychotherapy. Gewirtz & Baer (1958), for example, found that simple phrases like "Good" and "Mm-hmm" could control the frequency of a behavior in children. In a behavior-modification program, Stumphauzer (1969) was able to control eating behavior and cooperation in a 23-year-old hospitalized anorexic patient with the contingent social attention of an uncle. The present study attempted to control delay of self-reward through response-contingent social reinforcement. Since the E was a staff psychologist at the institution, it seemed particularly relevant to determine if the behavior of inmates could be controlled or modified by his contingent approval.

METHOD

Four 19-year-old inmates of the Federal Correctional Institution for Youthful Offenders in Tallahasse, Florida, served as Ss. This medium-security institution of 500 inmates serves the southeastern section of the country.

A list of 100 choices between something they could have immediately and something more valuable for which they would have to wait was developed for this population with the examples provided by Mischel (personal communication). Half of the choices were monetary (e.g., "Would you rather have 25c today or 50c in 3 weeks?"), and half were between small articles (e.g., "Would you rather have one pack of cigarettes today or two packs in 3 weeks?"). Ss, seen individually, were told that they would be given a series of choices and to choose carefully and realistically because they would actually receive four of their choices, although they would not know which until the very end. The 100 choices, on index cards, were administered in a random order to each S. During the baseline phase, or first 25 choices, the choices of the S were simply recorded. For the second 25 choices, delay choices met with approval from the E—either "Good" or "Mm-hmm." In the third, or reversal, phase of 25 choices, social reinforcement was contingent on immediate or "today" choices. For the final 25 choices, delay choices were again reinforced. At the end of the sessions, Ss were given four of the choices they had made.

RESULTS

During the baseline phase, all four Ss demonstrated an immediate-gratification orientation, with delay choices varying from 0% to 40% (see figures). In Phase 2, reinforcement of delay choices, delay choices were seen to increase from 60% to 100% in each S. In Phase 3, or reversal phase, reinforcement of immediate choices, delay choices decreased to 0% in all Ss by the last block of five choices. Finally, reinstatement of high-delay behavior was achieved in Phase 4 with delay responses reaching 80% to 100% in all four Ss.

DISCUSSION

Control of delay behavior, in this case per cent delayed self-reward choices, was achieved with contingent social reinforcement. This adds further evidence in support of contingent application of social approval for behavior change. The general class of behavior, delay of gratification, is seen as an important and socially relevant behavior for this population as they typically show hedonistic, immediate-gratification orientations. The approval of a psychologist did seem to be an effective reinforcer for this behavior change. Ss did not indicate any knowledge of the

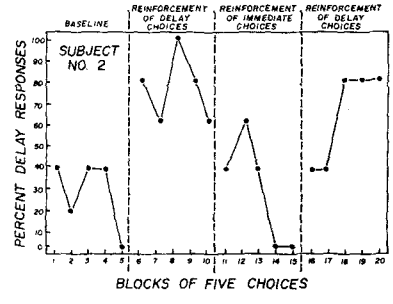

Fig. 2. Per cent delay responses as a function of phases of the experiment for the second S.

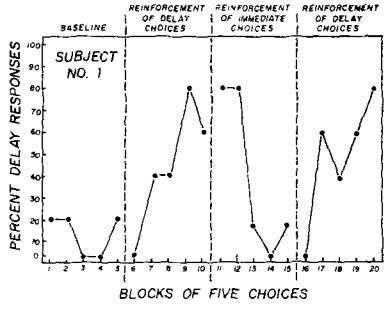

Fig. 1. Per cent delay responses as a function of phases of the experiment for the first S.

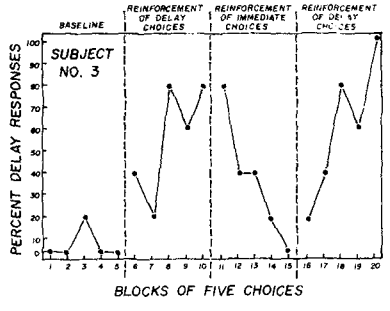

Fig. 3. Per cent delay responses as a function of phases of the experiment for the third S.

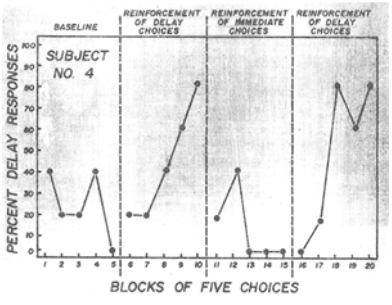

Fig. 4. Per cent delay responses as a function of phases of the experiment for the fourth S.

contingencies operating in this experiment. However, no claim for "learning without awareness" is made since no detailed postconditioning interview (e.g., Speilberger, 1962) was conducted.

Thus far, two behavior modification regimes have resulted in control of delaying behavior in these inmates: exposure to high-delay peer models (Stumphauzer, in press) and the present study using social reinforcement. It is suggested that a behavior-modification program aimed at increased delay of gratification in delinquents and youthful offenders would require repeated modeling of high-delay behavior by several models in a number of different situations. Further, social reinforcement, other more extrinsic reinforcers, and scheduling variables might be manipulated to achieve the generalized delay of gratification.

REFERENCES

BANDURA, A., & MISCHEL, W. Modification of self-imposed delay of reward through exposure to live and symbolic models. Journal of Personality & Social Psychology, 1965, 2, 298-705.

GEWIRTZ, J. L., & BAER, D. M. The effect of brief social deprivation on behaviors for a social reinforcer. Journal of Abnormal & Social Psychology, 1958, 56, 49-56.

MISCHEL, W. Preference for delayed reinforcement and social responsibility. Journal of Abnormal & Social Psychology, 1961, 62, 1-7.

SPIELBERGER, C. D. The role of awareness in verbal conditioning. In C. W. Eriksen (Ed.), *Behavior and awareness.* Durham: Duke University Press, 1962. Pp. 73-101.

STUMPHAUZER, J. S. Application of reinforcement contingencies with a 23-year-old anorexic patient. Psychological Reports, 1969, 24, 109-110.

STUMPHAUZER, J. S. Increased delay of gratification in four youthful offenders through exposure to a model. Crime & Delinquency Abstracts, in press.

NOTES

1. Based on a paper read at Florida Psychological Association, Orlando, May 3, 1969.

2. Now with the Department of Psychology, University of Southern California Medical Center, 1934 Hospital Place, Los Angeles, California 90033.

Selective attention to pure tones and speech

NEVILLE MORAY and MARY FEE, University of Sheffield, Sheffield, England

An experiment by Lawson (1966) has been repeated with more adequate controls. Contrary to her findings, listeners make more errors in responding to pure tones in speech messages when they occur in a rejected than in an accepted dichotic message, and the most common errors are omissions. This reopens the question as to whether or not verbal and nonverbal signals are treated differently when selectively processed by the brain.

An experiment by Lawson (1966) has played an important role in the theory of selective attention due to Treisman (Treisman & Geffen, 1967; Treisman, 1967), which maintains that undesired messages are "attenuated" early in the nervous system in such a way that their verbal content becomes relatively inaccessible to the listener. On the other hand, their physical characteristics are accessible (pitch, loudness, spatial position, etc.), implying that these are analyzed before the "attenuator." Lawson found that if pure tones were embedded in speech and the listener was required to respond to them by pressing one key if a pure tone arrived in the rejected message and another key if it arrived in the accepted message while repeating aloud the accepted message, then no pure tones were missed from either message, a result that supports Treisman's model. What few errors occurred were false alarms.

However, the following information is not given in Lawson's paper: whether the tone bursts used had a slow or fast rise time, the relative and absolute intensity of speech and tone bursts, and the speech rate of the verbal message. Hence, there might be several reasons for the high detectability of the tone signals, such as the presence of switching transients, cross talk between the ears, or bad intensity mismatch of speech and tone. The speech passage was very long, and the tone bursts added to the speech, so that even if they had been of equal intensity to the speech, occurrence of the tone burst would have increased the acoustic energy in the critical band centered on 750 Hz (Lawson's frequency) by 6 dB. The present experiment was, therefore, performed to check Lawson's results.

METHOD

The basic design was a copy of Lawson's with the following alterations and explicit values. Speech rate = 120 words per minute. Passage length = 240 words. One message was presented to each ear, and each message contained five tone bursts per message, randomly placed but with no two bursts occurring simultaneously on the two channels. Speech SPL = approximately 50 dB per channel re 0.0002 dynes/cm^2. Tone-burst duration was 350 msec, at 750 Hz. The rise time of the tone bursts was either 1 msec or 50 msec, and their intensity relative to the speech average intensity was −10, −5, 0, +5, or +10 dB. Presentation order was balanced for which passages were rejected or accepted, order of intensity conditions, and order of rise time conditions. Twenty listeners were used, all of them students. The listeners repeated one of the messages and responded to the occurrence of tones by pressing a left-hand key for a left-ear tone and a right-hand key for a right-ear tone. Unlike Lawson's experiment, the speech in a message was turned off when a tone sounded in that message and turned on again when the tone ceased, by means of a Grason-Stadler electronic switch.

RESULTS

One S was dropped from the analysis because of a very high rate of error in his detection of both accepted and rejected ear tone bursts; his qualitative pattern of results was similar to those of the remaining 19 Ss. (Note that he violates Lawson's claim that Ss show no omissions.) The pooled data of the Ss is shown in Table 1. Notice that (1) there are twice as many rejected message errors as there are accepted message errors, and (2) these are mainly omissions. These findings contradict Lawson's. Analysis of variance showed that the rejected/accepted channel error difference was significant at better than the 0.01 level of probability. The main effects due to rise time and intensity ratio of tone to speech were not significant sources of variance, but there was a significant interaction of rise time with intensity ($p < 0.01$).