*Music Perception*
Summer 1985, Vol. 2, No. 4, 459–470



# Mood-Optimizing Strategies in Aesthetic-Choice Behavior

STEVEN J. BRECKLER
*Johns Hopkins University*
ROBERT B. ALLEN
*Bell Laboratories*
&
VLADIMIR J. KONEČNI
*University of California, San Diego*

In two experiments, we examined the manner in which people sequence and chunk their exposure to artistic and nonartistic stimuli differing in pleasingness. A new forced-choice paradigm with fixed time allotments for five choice alternatives was used in both studies. In Experiment 1, subjects made repeated choices among four types of music and an aversive tone, whereas in Experiment 2, the choices were made among five types of slides ranging from nude females to assault victims. In both studies, subjects had to be exposed to 2 min each of the five alternatives, but the order and chunking, in 15-sec intervals, was up to them. For both auditory and visual stimuli, subjects chose the aversive ones early in the session and reserved the most pleasing stimuli for the end. Runs of aversive stimuli were interspersed with exposure to the moderately pleasing ones. For music, but not visual stimuli, the most pleasing type was chosen in the longest runs. The results were interpreted in terms of global and local aesthetic-choice strategies people use to optimize mood.

THE stream of everyday behavior is replete with self-exposures to aesthetic stimulation. Examples of such mundane "aesthetic mini-episodes" (Konečni, 1982) range from choosing among different radio stations or cassette tapes to listen to, and reading one book rather than another, to perusing one artistically conceived photograph in a magazine longer than another. The aesthetic material chosen in any given mini-episode may depend on many factors, such as preference determined by the frequency of

Requests for reprints may be sent to V. J. Konečni, Department of Psychology (C-009), University of California at San Diego, La Jolla, CA 92093.

exposure, idiosyncrasies of taste, peer pressure, and the degree of formal training in art and music, as well as on the complexity, novelty, pleasingness, interestingness, and soothingness of the available aesthetic options. A number of recent studies, however, point to the important function of the choice of aesthetic materials for purposes of mood and emotion optimization (Konečni, 1975, 1979, 1982; Konečni, Crozier, & Doob, 1976; Konečni & Sargent-Pollock, 1976).

The mood-optimizing nature of aesthetic behavior can be illustrated by studies that examine the effects of one's social environment on the choice of musical stimuli (cf. Konečni, 1982). In one study (Konečni et al., 1976), subjects were first insulted by an experimenter's accomplice. This procedure is known to induce heightened arousal and a state of anger. Subjects were then provided with repeated opportunities to listen to 10-sec intervals of computer-generated melodies. On each such trial, subjects could select between a simple (4.00 bits/tone) or a complex (9.17 bits/tone) melody. Pilot testing had shown that nonaroused subjects choose the two types of melodies equally often over trials. Insulted subjects, in contrast, strongly preferred the simple melodies and chose them on over 70% of the trials. Auxiliary evidence suggested that the observed choice behavior (preferring simple to complex melodies) was used to decrease the level of arousal and offset the aversive anger state.

Another study provided further support for the mood-optimizing function of aesthetic choice behavior. When subjects first arrived for this experiment (Konečni, 1979, Experiment 5), they were rudely insulted by the experimenter. Immediately following the insult procedure, one group of subjects listened for 3 min continuously to simple, soothing, computer-generated melodies, while a second group did not. It was assumed that the simple melodies would reduce the level of arousal in the former group. After a 15-min rest interval devoted to a nonarousing but engrossing activity, subjects were once again angered, but by a different person, using a different procedure. The critical part of the study came when the subjects were finally given the opportunity to listen to additional simple melodies. It was hypothesized that subjects who had the initial experience with musical stimulation would once again use the melodies to reduce their arousal. The expected pattern of choice behavior was indeed observed; subjects who had previously listened to the melodies listened to more of them, for longer periods of time, than the subjects who had not previously listened to the music. These results provide further support for the notion that aesthetic choices are often made for the purpose of mood optimization (various control groups ruled out alternative explanations in the above study).

The present studies represent further efforts to understand the functions of self-exposure to aesthetic materials. Using a new forced-choice paradigm with fixed time allotments for listening to (or viewing) the different choice

alternatives, these studies focused on the manner in which people structure their choices of aesthetic stimulation over time. A major purpose of the studies was to analyze the mood-optimizing strategies reflected in people's aesthetic-choice behavior. The subjects' tasks were to sample from a set of musical (Experiment 1) or visual (Experiment 2) stimuli that varied in pleasingness. The study specifically allowed us to examine the manner in which people chunk and sequence aesthetic materials differing in subjective appeal, and the way in which they may use such different materials to offset the effects of nonsocial aversive stimulation.

## Experiment 1

### *Method*

**Subjects** Ten undergraduate students from the University of California at San Diego participated in exchange for course credit.

**Overview of Procedure** Subjects were first given 30-sec samples of each of four kinds of music, as well as of a fifth type of auditory stimulation, an aversive tone. They were then instructed to listen to eight more 15-sec samples of each of these five types of auditory stimulation, but the listening order (sequencing and chunking) was left up to the subjects. They proceeded to make the selections on 40 trials by pressing console buttons corresponding to each stimulus type.

**Materials and Apparatus** The four types of music included "hard" rock 'n' roll,[1] "soft" rock 'n' roll,[2] eighteenth-century Baroque music,[3] and twentieth-century "serious" music.[4] The musical selections were presented over headphones at a comfortable listening level, 73dB-A. The music was selected on the basis of pilot work, to represent the cells of a 2 × 2, complexity × soothingness, matrix, as well as to represent a reasonably broad range of musical idioms. Pilot subjects rated the hard-rock music as noncomplex and nonsoothing, the soft rock as noncomplex and soothing, the Baroque music as complex and soothing, and the twentieth-century music as complex and nonsoothing. The fifth type of auditory stimulation consisted of a 350-Hz square wave tone presented at a loud listening level, 95dB-A. This was found in previous research (Konečni & Sargent-Pollock, 1976, 1977) to be quite unpleasant. Subjects made their selections via a console consisting of a metal plate on which

1. The hard-rock music consisted of selections from the following: Montrose, *Good Rockin' Tonite*, Warner Brothers Records, 1973; Outlaws, *Green Grass and High Tide*, Arista Records, 1975; Scorpions, *They Need a Millio*, Arista Records, 1975.

2. The soft-rock music consisted of selections from the following: Genesis, *A Trick of the Tail*, ATCO Records, 1976; Mott, *Ballad of Mott the Hoople*, Columbia Records, 1973; Rondstadt, *Faithless Love*, Capitol Records, 1974.

3. The eighteenth-century classical music consisted of selections from the following: Haydn, *Symphony #3*, Nonesuch Records, 71096; Vivaldi, *The Four Seasons*, Angel 35877; Bach, *Flute Sonatas*, Angel 36350.

4. The twentieth-century "serious" music consisted of selections from the following: Scriabin, *Complete Piano Music* (Vol. 2), VOX Records, SVBX 5462; Bartok, *Concerto for Orchestra*, Columbia MS 6815; Prokofiev, *Piano Concerto No. 5*, Deutsche Gramophon 2538078.

TABLE 1
**Mean Selected Position of Types of Auditory Stimulation**

| Type | Mean Position |
|---|---|
| 350-Hz Square Wave | 11.6 |
| Twentieth-century "serious" | 18.4 |
| Eighteenth-century Baroque | 19.2 |
| "Hard" rock 'n' roll | 20.8 |
| "Soft" rock 'n' roll | 32.0 |

NOTE. The lower the value, the earlier was a particular type of auditory stimulation, on the average, selected in the session.

five buttons were arranged in a circle. The programming of the music was controlled by electromechanical equipment located in an adjacent room.

**Procedure** Subjects were given 30-sec samples of each of the five types of stimuli to familiarize them with the range of the selections. They were then instructed to listen to eight more 15-sec samples of each of the five types. It was explained that each choice would lead to a 15-sec exposure to the selected type of auditory stimulation. It was made clear to subjects that the listening order was left up to them, but that they were required to listen to all 40 selections. Subjects were provided with a tally sheet to keep track of the number of each type already selected and the number of each type that remained. Each music category was paired with one button on the selection console. These pairings were randomized across subjects. They selected a melody by pressing the corresponding button and then listened to a 15-sec selected melody. Subjects were then allowed 5 sec to select the next melody. If a selection was not made within the 5 sec, a small light on the selection console was illuminated as a reminder. After listening to all 40 selections, a total of 10 min of listening, subjects rated each of the five melody types on a 100-mm pleasingness scale.

### *Results and Discussion*

**Choice Order** A "mean-position" statistic was calculated to summarize the way in which subjects chose to order their exposures to the 15-sec instances of various types of auditory stimuli. Types with a low mean-position value were those chosen relatively early in the session, whereas those with high values were selected relatively late in the session. Table 1 contains the mean selected position for each of the five categories of auditory stimulation. It can be observed that the aversive 350-Hz square wave tone was selected earliest in the session. Soft rock, classified as both soothing and noncomplex in the pilot study, was selected, on the average, at the end of the session. Since this type of music received the highest average preference ratings from the subjects in Experiment 1, it appears that people tended to get rid of the spinach first and leave dessert for the last.

In Figure 1, the data relevant to this issue are presented more completely

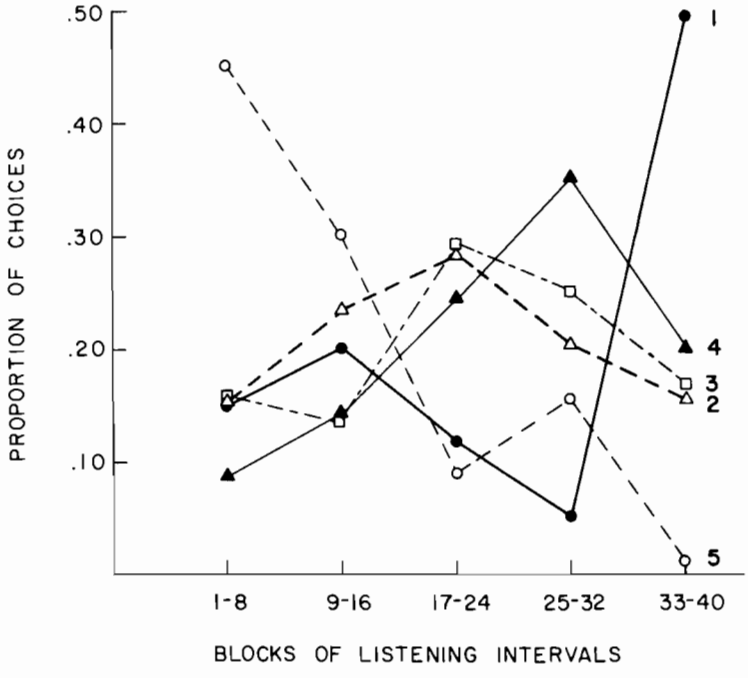


**Fig. 1.** Proportion of choices for each type of auditory stimulation. The melodies are ordered from the most pleasing (1) to the least pleasing (5). Each listening block includes eight selections.

and in a different manner. Because of some individual differences in the rated pleasingness of the four types of music, the rank order of the subjects' own pleasingness ratings was substituted for music type. Five blocks of listening intervals were constructed so that each block covered eight 15-sec intervals. It can be observed that the auditory stimulation rated as the least pleasant (which was the 350-Hz square wave tone for all subjects) was selected very early in the session. Indeed, by the last block of listening intervals, none of this type of auditory stimulation was left to be listened to. In contrast, the most preferred music (which, for most subjects, was soft rock) was saved until later in the session. Nearly 50% of the last block of listening intervals (the last 2 min of the session) was filled with the particular type of music that pleased an individual subject the most.

To formally evaluate this effect, mean position values were computed for the most pleasing type of music and the aversive 350-Hz tone, separately for each subject. The difference is a reliable one ($t\,(9) = 2.44, p < .05$).

**Clustering of Selections** Transition probabilities were calculated to evaluate the chunking of selections. The transition ratios represented the probability of selecting a given type of auditory stimulation, given the type

TABLE 2
**Mean Transition Probabilities between the Types of Auditory Stimulation Differing in Pleasingness**

| Relative Pleasingness of Auditory Stimulation Chosen on Trial *N* | Relative Pleasingness of Auditory Stimulation Chosen on Trial *N* + 1 | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 | .71 | .09 | .05 | .14 | .01 |
| 2 | .05 | .56 | .09 | .09 | .22 |
| 3 | .03 | .09 | .43 | .16 | .30 |
| 4 | .03 | .13 | .24 | .46 | .14 |
| 5 | .15 | .14 | .21 | .13 | .36 |

NOTE. The types of auditory stimulation are ordered from the most pleasing (1) to the least pleasing (5).

selected on the immediately preceding trial. The mean transition ratios (across subjects) are shown in Table 2. The high values along the entire top-left/bottom-right diagonal demonstrate that the subjects tended repeatedly to choose (chunk together) the 15-sec choices of a particular type of auditory stimulation; in other words, people listened to the different types of auditory stimulation in "runs." On the average, there was a .52 probability that a given choice was the same type of auditory stimulation as the one selected on the immediately preceding trial. This effect was evaluated by constructing contrast scores for each subject, in which diagonals of the transition probability matrix were weighted $+1$ and the off-diagonals $-1$. This contrast analysis indicated that on-diagonal transitional probabilities were greater than the off-diagonal ones ($t(9) = 3.40$, $p < .01$).

In addition, note that the transition probabilities along the diagonal generally decrease from the top left to the bottom right. This suggests that the more pleasing the music, the longer the runs (units in which a particular type is listened to uninterrupted by the other types). The exposure to the aversive 350-Hz square wave tone (5 in Table 2) involved the shortest runs. Thus, subjects chose to intersperse their exposures to the unpleasant tone with those to music. (These interspersed exposures to the music were brief, however, given the previously presented data that *all* of the required exposures to the 350-Hz tone were dealt with relatively early in the session). Also, note (bottom row of Table 2) that by no means were the exposures to the aversive tone offset predominantly by choices of the type of music a subject found the *most* pleasing (such music was typically left for later in the session); instead, it was the music subjects found moderately pleasing that they utilized in order to offset the aversive effects of the tone.

## Experiment 2

It was of theoretical interest to determine whether the results of Experiment 1 would generalize to the visual modality. In addition, with the exception of the aversive square wave tone and the highly pleasing soft rock, the musical stimuli used in Experiment 1 were relatively similar to each other in that they were all moderately pleasing for the majority of the subjects. Therefore, a broader range of stimuli was used in Experiment 2. To accomplish this, it was necessary to go beyond the strictly aesthetic domain and use more general visual stimuli differing sharply in hedonic terms. If the results of Experiment 1 were to be replicated under these conditions, considerable generality could be claimed for the underlying psychological principles.

### *Method*

**Subjects** Ten male undergraduate students from the University of California at San Diego participated in exchange for course credit.

**Overview of Procedure** The procedure was very similar to the one described for Experiment 1. Subjects were shown samples of each of five categories of visual content that had been pretested to vary a great deal in pleasingness. They were then instructed to view eight more examples of each of the five types of pictures, but the sequencing of the 40 pictures and their chunking by category was left up to subjects.

**Materials and Apparatus** The five categories were selected to represent a wide range of pleasingness. They were (1) pictures of nude females (taken from *Playboy* and *Penthouse* magazines), (2) amusing snapshots of unexpected scenes (Held & Reich, 1965; Reich, 1969), (3) black-and-white photographs of furniture (Aronson, 1938; Molesworth & Kenworthy-Brown, 1972), (4) black-and-white photographs of battles and plastic-surgery operations (Burian, 1968) and concentration-camp victims (UCSD library files), and (5) color photographs from police files of assault victims (Gresham, 1975). As in Experiment 1, subjects made their selections via a console consisting of a metal plate on which five buttons were arranged in a circle. The programming of pictures was controlled by electromechanical equipment located in an adjacent room. Pictures were displayed from a slide projector onto a wall 3 m in front of subjects.

**Procedure** Subjects were given 30-sec samples of each of the five picture types to familiarize them with the range of pictorial selections. They were instructed to view eight more examples of each of the five picture types. It was explained that each choice would lead to a 15-sec exposure to the selected slide. It was made clear that the viewing order was entirely up to subjects, but that they were required to view all 40 slides. Subjects were provided with a tally sheet to keep track of the number of examples of each picture type already selected and the number of each type that remained. Each picture type was paired with a button on the selection console. These pairings were randomized across subjects. They selected a slide by pressing the corresponding button and then viewed the selected example for 15 sec, before being given 5 sec to choose the next slide. If the selection was not made within the 5-sec period, a small light on the selection console was illuminated as a

reminder. After viewing all 40 slides, subjects rated each of the five picture types on a 100-mm pleasingness scale.

### *Results and Discussion*

Subjects were homogenous in their pleasingness ratings of the five picture types (as was expected on the basis of the pilot results). Nine of the 10 subjects rated the pictures in descending order, from nude females as most pleasing to the photographs of assault victims as least pleasing. (The remaining subject rated the amusing snapshots as more pleasing than the nude females.) As in Experiment 1, analyses were conducted on the slides ordered according to the subjects' subjective pleasingness ratings (in order to accommodate the one aberrant subject).

**Choice Order** The temporal ordering of the examples of the five pictorial types is illustrated in Figure 2. As in Experiment 1, five blocks of viewing intervals were constructed so that each block covered eight slide selections. It can be observed that the most unpleasant pictures (with a pleasingness rank-order of 5) were chosen earlier in the session, whereas the most pleasant pictures (pleasingness rank order of 1) were selected late in the session. An analysis of the mean position scores confirmed this effect ($t\,(9) = 4.02$, $p < .01$).

**Clustering of Picture Selections** The mean transition probabilities are shown in Table 3. As in Experiment 1, successive choices of the same picture type were more common than shifts to other picture types ($t\,(9) = 1.94$, $p < .05$). The probability of selecting the same picture type as the one immediately preceding it was .32. This effect, although statistically significant, is weaker than that observed for the melodies in Experiment 1.

Furthermore, whereas the runs of viewing the least pleasant pictures were of remarkably similar length to the runs of listening to the aversive tone (a .35 mean transition probability in Experiment 2, compared to a .36 probability in Experiment 1), the other four types of pictures, especially those rated the most pleasant (nude females), were viewed in considerably shorter runs than was the case with music in Experiment 1 (there is no perceptible decrease along the diagonal from the top left to the bottom right). Thus, whereas the main finding of Experiment 1—spinach first, dessert last—was strongly replicated with pictorial stimuli, Experiment 2 also pointed to some differences between the auditory and visual modalities and/or between artistic (music) and nonartistic (pictures in Experiment 2) materials.

## General Discussion

The paradigm used in these experiments made it possible to examine not only the subjects' overall choice strategy for the entire duration of exposure

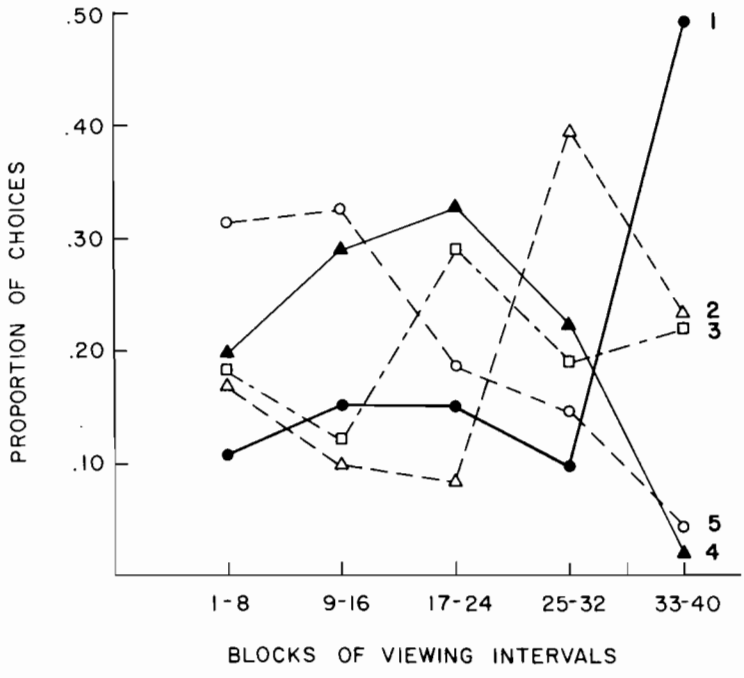


**Fig. 2.** Proportion of choices for each picture type. The pictures are ordered from the most pleasing (1) to the least pleasing (5). Each viewing block includes eight selections.

TABLE 3

**Mean Transition Probabilities between Pictures Differing in Pleasingness**

| Relative Pleasingness of Picture Chosen on Trial $N$ | Relative Pleasingness of Pictures Chosen on Trial $N+1$ | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1 | .41 | .17 | .22 | .12 | .05 |
| 2 | .18 | .26 | .25 | .08 | .24 |
| 3 | .15 | .25 | .20 | .20 | .20 |
| 4 | .06 | .22 | .18 | .40 | .16 |
| 5 | .20 | .10 | .15 | .20 | .35 |

NOTE. The picture types are ordered from the most pleasing (1) to the least pleasing (5).

(10 min), but also their local, moment-to-moment regulation of arousal and mood. The choice alternatives were somewhat limited in character, but that is not uncommon in everyday life; the impact of this criticism is further reduced by the rather broad hedonic range of the stimuli used in the two studies. The forced exposure to the entire duration of the available alternatives is somewhat analogous to attending a concert that one would like—but is too embarrassed—to sample as one pleases, by literally coming and going, so one ends up hearing all the pieces on the program. (Besides, at some concerts, at least some members of the audience would probably welcome the opportunity to sequence and chunk the musical events.) Finally, in the stream of everyday life, people's aesthetic choices and exposures to artistic and nonartistic stimuli differing in hedonic value are often interspersed with aversive events—toothaches, arguments, malfunctioning cars, the presence of inconsiderate concert or gallery attendees. Thus, the subjects' forced exposures to the aversive tone and the disturbing slides were of more than theoretical interest.

A long-standing principle in the lay and philosophical analyses of human behavior is that people strive to maximize pleasure and to avoid, or at least delay, pain. This theme, forcefully articulated by Bentham (1789/1879), has found its way into most versions of the "general learning theory" and the "self-control" literature (cf. Ainslie, 1975; Allport, 1954; Berlyne, 1971). In contrast, subjects in the present studies chose to experience the aversive stimulation—auditory and visual—quite early in the experimental session. Waiting for exposure to an aversive stimulus may itself be aversive, as has been suggested by some findings in the delay-of-gratification literature (Mischel, Grusec, & Masters, 1969). In the circumstances of the present experiments, furthermore, the additional, negatively labeled arousal (cf. Konečni, 1975; Schachter, 1964), induced by the waiting for, and the periodic exposures to, the aversive stimulus, would presumably "taint" the listening to (or viewing of) the hedonically most pleasing stimuli. Thus, the subjects' handling of the aversive stimuli can be interpreted as reflecting their overall strategy of taking into account the arousal fluctuations and how their impact and labeling would affect the overall mood-optimization goals.

The goals of getting rid of the aversive stimuli early (an overall strategy) and with the least possible moment-to-moment discomfort (a local tactical move) were presumably further served by interspersing the exposures to the aversive stimuli with short runs of the hedonically more pleasing music or pictures, but limiting these (in Experment 1) to the moderately, as opposed to the most, pleasing music.

Finally, in both studies, the most pleasing stimuli were saved for the end of the session. This, at least superficially, goes counter even to the delay-of-gratification theorizing (e.g., Mischel, 1974; Mischel et al., 1969), which assumes that the subjective value of a reward would decrease proportion-

ately with the duration of the anticipated delay in obtaining it. The inconsistency disappears, however, if one regards the above delay-of-gratification proposition as dealing only with a small and isolated aspect of people's choice behavior. Faced with a broad range of stimuli differing sharply in hedonic appeal, and a range of less-than-optimal choice alternatives and strategies, people seem to make trade-offs: The decrease in the appeal of the most pleasing stimuli through delay (if the delay-of-gratification proposition is correct) is presumably more than offset by not having such stimuli contaminated by the aversive ones and by insuring that one will leave the experimental session in a good mood. The choice paradigm used in the present studies thus perhaps more accurately reflects the aesthetic and hedonic dilemmas one encounters in the contexts of everyday life than does the oversimplified situation subjects face in most delay-of-gratification research.

Subjects in Experiment 2, unlike those in Experiment 1, used the most pleasing stimuli as often as the moderately pleasing ones to offset the impact of aversive stimulation. In addition, subjects in Experiment 1 listened to far longer runs of the most pleasing stimuli, in comparison to the viewing of the most pleasant pictures by subjects in Experiment 2. It is tempting to interpret the former finding as arising from the artistic/nonartistic difference between the stimuli used in Experiments 1 and 2, respectively, and the latter finding as reflecting the modality difference between the two studies (temporal versus spatial information processing and enjoyment). It would be worthwhile to disentangle these two dimensions in further research on aesthetic choice and people's construction of their temporary aesthetic environment.

However, the fact that the major findings were obtained in both studies lends our conclusions concerning the mood-optimizing strategies a considerable degree of degree of generality.[5]

## References

Ainslie, G. Specious reward: A behavioral theory of impulsiveness and impulse control. *Psychological Bulletin*, 1975, *82*, 463–496.

Allport, G. W. The historical background of modern social psychology. In G. Lindzey (Ed.), *Handbook of social psychology*. Cambridge, Mass.: Addison-Wesley, 1954.

Aronson, J. *The encyclopedia of furniture*. New York: Crown Publishers, 1938.

Bentham, J. *An introduction to the principles of morals and legislation*. Oxford: Clarendon Press, 1789/1879.

Berlyne, D. E. *Aesthetics and psychobiology*. New York: Appleton, 1971.

Burian, F. *The plastic surgery atlas*. New York: Macmillan, 1968.

5. J. A. Hammerbeck helped with the running of Experiment 1. The research was supported by a National Science Foundation Grant GS-42802 to V. J. Konečni.

Gresham, G. A. *Color atlas of forensic pathology*. Chicago: Yearbook Medical Publishers, 1975.

Held, H., & Reich, H. (Eds.) *Laughing camera*. New York: Hill & Wang, 1965.

Konečni, V. J. The mediation of aggressive behavior: Arousal level versus anger and cognitive labeling. *Journal of Personality and Social Psychology*, 1975, ***32***, 706–712.

Konečni, V. J. Determinants of aesthetic preferences and effects of exposure to aesthetic stimuli: Social, emotional, and cognitive factors. In B. Maher (Ed.), *Progress in experimental personality research* (Vol. 9). New York: Academic Press, 1979.

Konečni, V. J. Social interaction and musical preference. In D. Deutsch (Ed.), *The psychology of music*. New York: Academic Press, 1982.

Konečni, V. J., Crozier, J. B., & Doob, A. N. Anger and expression of aggression: Effects on aesthetic preference. *Scientific Aesthetics/Sciences de l'Art*, 1976, ***1***, 47–55.

Konečni, V. J., & Sargent-Pollock, D. Choice between melodies differing in complexity under divided attention conditions. *Journal of Experimental Psychology: Human Perception and Performance*, 1976, ***2***, 347–356.

Konečni, V. J., & Sargent-Pollock, D. Arousal, positive and negative affect, and preference for Renaissance and 20th-century paintings. *Motivation and Emotion*, 1977, ***1***, 75–93.

Mischel, W. Processes in delay of gratification. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 7). New York: Academic Press, 1974.

Mischel, W., Grusec, J., & Masters, J. C. Effects of expected delay time on the subjective value of rewards and punishments. *Journal of Personality and Social Psychology*, 1969, ***11***, 363–373.

Molesworth, H. D., & Kenworthy-Brown, J. *Three centuries of furniture in colour*. London: Michael Joseph Ltd., 1972.

Reich, H. (Ed.) *Laughing camera II*. New York: Hill & Wang, 1969.

Schachter, S. The interaction of cognitive and physiological determinants of emotional state. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 1). New York: Academic Press, 1964.