COGNITIVE PROCESSES MEDIATING THE EFFECT OF EXPECTATIONS ON THE PERCEPTION OF INTERPERSONAL BEHAVIOR

by

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE STUDIES

Department of Psychology

We accept this thesis as conforming to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA
October, 1982

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ABSTRACT

Theorists from diverse psychotherapy traditions converge in asserting that maladaptive expectations about interactions with other people play an important role in creating and maintaining clinical problems. While there is a consensus that the modification of these dysfunctional expectations is a vital aspect of effective therapy, there is also agreement that these expectations once established, are extremely resistant to change.

The present study was conducted to investigate the cognitive mechanisms which mediate the effect of expectations upon the perception of other people. The objective was to explore the nature of these cognitive processes in ordinary social perception, with the hope of providing clinicians with new insights regarding potential therapeutic interventions.

Subjects were given one of two sets of expectations about the interpersonal characteristics of a target male actor. They then viewed a videotape of a staged interaction between him and a female actor. Subjects were instructed to indicate subjectively salient events while observing the videotape, using a modified version of Newtson's (1973) unitizing procedure. This was employed as an index of selective encoding of interpersonal behavior.

Following the videotape, subjects were administered a memory recognition test which was designed to distinguish between selective memory retrieval and selective memory reconstruction. They then rated the male actor on a series of interpersonal adjective scales.
The results confirmed that subjects' impressions of the target person were biased in a manner which was consistent with their initial expectations. Evidence was obtained consistent with the hypothesis that this bias was mediated by the selective encoding of expectation congruent information. No evidence was obtained for the mediating effects of either selective memory retrieval or selective memory reconstruction. The potential clinical implications of these findings are discussed.
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There are a number of people who made important contributions to this project, and whose help I would like to acknowledge. Dimitri Papageorgis, Ray Corteen, and Jim Steiger; served as committee members, each contributing his own perspective on psychology and particular type of expertise. Jerry Wiggins, who chaired the committee, provided encouragement and support throughout the project, and nurtured whatever creative seeds were there. Daniel Kahneman, early in the development of my ideas, provided astute criticism which influenced the direction of my subsequent thinking. Special thanks are due to Debbie Abrami and Rene Weideman, who served as actors in the videotape vignette which was employed. Finally, I'd like to acknowledge the influence and support of Park Davidson. Although he did not live to see the final development of my ideas, his encouragement throughout the first portion of my graduate career, and during my earliest meanderings into the present area, helped set the stage for later developments.
"What are transferences? They are new additions or facsimiles of the impulses and phantasies which are aroused and made conscious during the progress of the analysis; but they have this peculiarity, which is characteristic for their species, that they replace an earlier person by the person of the physician. To put it another way: a whole series of psychological experiences are revived, not as belonging to the past, but as applying to the person of the physician at the present moment." (Sigmund Freud, 1905, p. 116)

"... These psychotic elaborations of imaginary people and imaginary personal performances are spectacular and seem very strange. But the fact is that in a great many relationships of the most commonplace kind - with neighbours, enemies, acquaintances, and even such statistically determined people as the collector and the mailman - variants of such distortions often exist. The characteristics of a person that would be agreed to by a large number of competent observers may not appear to you to be the characteristics of the person toward whom you are making adjudjusive or maladjustive movements. The real characteristics of the other fellow at that time may be of negligible importance to the interpersonal situation. This we call parataxic distortion." (Harry Stack Sullivan, 1954, p. 26)

"My experience is what I agree to attend to. Only those items which I notice shape my mind - without selective interest my experience is utter chaos." (William James, 1950, p. 402)
Dysfunctional Expectations and Maladaptive Behavior: Implications for Psychotherapy

In one of his most frequently quoted remarks, George Kelly (1955) stated over two decades ago that: "A person's processes are psychologically chanellized by the ways in which he anticipates events." (p. 46) With this statement, he not only established the fundamental postulate of his personal construct theory, but also anticipated the strong emphasis on the role of expectancy factors in psychological dysfunction and therapeutic change, evidenced by contemporary psychotherapy theorists and researchers (cf. Bandura, 1974; Beck, 1975; Bootzin, 1979; Carson, 1982; Mahoney, 1974; Wilkins, 1979; Wilson, 1980).

While Kelly has been credited recently for the prophetic nature of his insights (cf. Lanfield, 1980; Mischel, 1980) it is particularly humbling to note that there is an important sense in which the recognition of the incredible impact of expectations upon interpersonal relationships, as well as the therapeutic value of illuminating and modifying dysfunctional expectations was presaged by Freud.

As early as 1895, Freud (Breuer & Freud, 1895) had noted that patients in analysis often respond to the analyst as if he were someone else, and hypothesized that in such cases feelings which had initially been experienced towards some other individual were being "transferred" on to the
physician. He christened this process the transference phenomenon, and described procedures for dealing with it therapeutically. In so doing, he laid the foundation for the investigation of therapeutic transference; an activity which was subsequently to become pivotal to the entire enterprise of psychoanalysis. Freud believed that psychoanalytic treatment does not create transferences, but rather illuminates their existence. He maintained that transference arises spontaneously in all human relationships, and is not restricted to the context of analysis (Lang, 1976).

Although Freud initially saw the transference as an impediment to successful analysis, he soon began to see it as a valuable opportunity for gaining insight into the nature of the patient's intrapsychic conflicts, as earlier unwanted situations and painful experiences were relived in his interaction with the analyst (Freud, 1920). By 1940, Freud saw the interpretation of the transference as being one of the central therapeutic mechanisms in analysis. He believed that through this process the analysis could help the patient gain insight into the manner in which currently dysfunctional behavior was based upon distorted perceptions resulting from past experiences (Freud, 1940).

Freud shared an interest with contemporary cognitive therapists in understanding the manner in which the quality of life can be reduced through distorted perceptions of interpersonal events. His understanding of the mechanisms responsible for these distortions, however, was based upon his model of psychic energy. Transference was thus seen to result from the cathexis of libidinal energies on to the person of the analyst (Lang, 1976).
Sullivan's concept of parataxic distortion, while borrowed directly from Freud, was formulated in terms which are much more compatible with the contemporary cognitive metapsychology. Although Freud did acknowledge that transference was not exclusively a result of the analytic situation, Sullivan emphasized more clearly that parataxic distortions are a regular part of everyday social perception. They arise out of our early primitive attempts to structure our experiences about ourselves and significant individuals in our environment (Sullivan, 1940). Experiences are thus structured by forming expectations about what events are likely to take place in the future. To paraphrase Kelly (1955), these expectations subsequently shape all new experiences.

It is inevitable that our expectations about the future will be based upon important experiences in the past. It is thus not surprising that our expectations about people and interpersonal relationships are based upon our experiences with important figures in the past. Although expectations are a standard part of ordinary social perception, interpersonal therapists (e.g., Carson, 1982) hypothesize that neurotic individuals develop dysfunctional expectations which lead to distorted perceptions of other people. These distorted perceptions result in maladaptive behaviors. This simple reformulation recasts Freud's basic insight from within a cognitive perspective, and clearly implicates expectations and the structuring of experience as processes warranting further investigation.

If maladaptive expectations are instrumental in maintaining dysfunctional behavior, it would seem reasonable that helping clients to change their expectations might be a useful therapeutic tool. And in fact,
modifying clients faulty expectations is identified as a central thrust of diverse therapeutic approaches.

Frank (1961) spoke relatively early on about the importance of coming to understand and subsequently modifying the client's "assumptive world". Both Ellis (1977) and Perls (1973) have emphasized the therapeutic value of modifying the client's "catastrophic expectations" about the future. Beck (1976) argues that depression is maintained by a constellation of negative expectations about the self, one's experiences, and the future. Bandura (1977) has proposed that modifying expectations of personal efficacy is a common mechanism of all effective therapies. Wilson (1980) has recently reiterated the position that modifying the client's expectations is pivotal in the therapeutic enterprise. Carson (1982) maintains that dysfunctional expectations about the characteristics of other people are key factors in the perpetuation of neurotic behavior.

While there is a consensus about the importance of modifying dysfunctional expectations there is also agreement about the fact that these expectations are difficult to modify (cf. Chrzanowski, 1982, Coyne & Segal, 1982; Wachtel, 1982). One reason for this is that people typically elicit behaviors in others which confirm their expectations (Carson, 1982; Kiesler, 1982). This is essentially the notion of complementarity of behaviors in the two person interaction which is so central to the interpersonal perspective of personality (Leary, 1957; Sullivan, 1940). People in a sense create their own environments by eliciting predictable patterns of behavior from others. The depressed individual makes it difficult for others to be friendly and intimate with him; the aggressive individual elicits hostility
in other people. There is thus an "unbroken causal loop between social perception, behavioural enactment, and environmental reaction" (Carson, 1982). Given the self-perpetuating nature of such recursive loops, it would seem vital for the therapist to have some way of breaking into this vicious circle. Wachtel (1982) among others, asserts that it is essential for this reason that therapists employ enactive strategies which guide the client in making specific behavioural changes in the real world. The assumption is that changes in the client's behavior will lead to changes in the manner that individuals typically react to him, thus disconfirming his negative expectations. This, Wachtel believes, provides an important impetus for seeking a rapprochement between psychodynamic and behavioural therapies.

While the fact that individuals actively influence social interaction sequences through their own behavior may contribute to the creation and maintenance of self-fulfilling prophecies (Darley & Fazio, 1980), there is evidence that beliefs about social events, once established, tend to resist disconfirmation even without this environmental reaction aspect of the loop. In a series of experiments, Lee Ross and colleagues have demonstrated that subjects will maintain a belief which is based upon false information even after this information has been discredited (Nisbett & Ross, 1980). Ross, Lepper & Hubbard (1975), for example, provided subjects with false feedback regarding their abilities to distinguish between authentic and nonauthentic suicide notes. They found that this feedback significantly influenced subjects' self evaluations of their own abilities on this task even after they had been told that the feedback was false. Moreover, and particularly relevant to the present discussion, subjects who observed the first set of subjects performing the task, formed impressions about their
discrimination abilities which were even more resistant to change than the impressions of the actively participating subjects. More recently, Anderson, Lepper and Ross (1980) demonstrated that subjects who had been induced to develop beliefs about the relationship between risk taking and success as a firefighter, maintained these beliefs even after the information they had initially been given was discredited.

These findings converge with evidence emerging from the areas of clinical judgment, probability estimation, and decision making that people are reluctant to abandon inappropriate judgment strategies in the face of evidence that their judgments are incorrect. Even after receiving negative feedback, they maintain the illusion that their judgments have been accurate (Einhorn & Hogarth, 1978). Given the importance of expectations to the entire field of psychotherapy, as well as the apparent resistance of expectations to disconfirmation, it would seem potentially valuable to clarify our understanding of the cognitive mechanisms through which expectations exert their influence upon experience. While the statement that expectations shape experience may have some explanatory power, there is a sense in which it is lacking in informativeness.

It is clarifying here to draw upon the "structure-process" distinction which is employed in experimental cognitive psychology (Anderson, 1976, 1978; Estes, 1978). The expectation that an individual has at any given point in time can be thought of as the cognitive structure through which past experience is represented for him. It is only through the existence of this cognitive structure that past experience can affect future behavior. As Anderson (1978) points out, it is meaningless to speak about cognitive
structures without specifying the processes through which these structures are accessed and manipulated. This is important on both a theoretical and a practical level. On a theoretical level, as Anderson suggests, without an understanding of the processes through which these structures are accessed and changed, we have only a partial or incomplete understanding of the phenomenon of interest, since different processing assumptions will lead to different predictions. On a practical level, an understanding of the processes which access and manipulate the cognitive structures of interest will potentially provide the clinician with new insights into how to go about modifying clients' dysfunctional expectations.

Cognitive therapists, while eager to rid themselves of the theoretical constraints imposed by a radical behaviourist metapsychology, have been somewhat slower to avail themselves of both theoretical and empirical developments taking place in the field of cognitive psychology. While the situation is beginning to change (cf. Arnkoff, 1980; Bower, 1978; Goldfried, 1979) this type of synthesis is still in its infancy (cf. Landau & Goldfried, 1981). A better understanding of the cognitive mechanisms through which expectations normally influence the perception of interpersonal behaviour will potentially provide therapists with new insights into how to go about modifying social perceptions when they become distorted. In the next section some of the relevant literature on perception and cognition will be reviewed in order to provide a theoretical framework which will then guide an empirical investigation of the cognitive mechanisms through which expectations influence social perception.
Expectations in Pattern Recognition

An initial clue as to the process through which expectations interface with the environment can be found in recent cognitive approaches to the problem of pattern recognition. Models of pattern recognition have been strongly influenced by artificial intelligence technology. One of the earlier and more influential pattern recognition programs was developed by Selfridge (Selfridge & Neisser, 1960). He was concerned with the problem of how written letters are recognized. The model he proposed involved an active cognitive search for critical features in the environment to decide between competing hypotheses about the identity of a letter. More recent models (cf. Rumelhart, 1977) hold that expectations play a vital role in this search for critical features. Expectations are assigned a formal role in Rumelhart and Siple's (1974) model in the following manner. When a letter to be recognized is encountered, it is immediately analyzed for the presence of critical features. These critical features are combined with any expectations which exist as to what the letter may be in order to construct a hypothesis as to what the word may be. This hypothesis subsequently guides any further search which is required for critical features. This process can continue indefinitely until a satisfactory identification takes place.

Expectations thus function as hypotheses as to what the pattern means, and play a central and indispensable role in the normal process of pattern
recognition. In the process of letter recognition, these expectations are derived from a variety of sources such as neighbouring letters and neighbouring words. A well known example employed by Neisser (1967) involves the recognition of the symbols "THE C H T". Most readers will have little trouble interpreting the second letter as "H" and the fifth letter as "A", despite the fact that the two letters possess identical features. A variety of studies have demonstrated that expectations in letter and word recognition are activated by both letter predictability and semantic considerations (Estes, 1975; Meyer, Schvanveldt, & Ruddy, 1974; Miller, Bruner, & Postman, 1954; Schvanveldt & Meyer, 1973; Tulving, Mandler, & Baumal, 1964). In other contexts expectations are derived from past experience, present context, and whatever other information sources are available (Rumelhart, 1977). It should be fairly clear by this point that in pattern recognition, expectations, far from functioning as an artifact, play a regular and crucial role. Pattern recognition can be conceptualized as an ongoing problem solving activity which is guided by expectations.

In the same sense that appropriate expectations are a prerequisite for accurate perception, inappropriate expectations can distort perceptions. A study conducted by Bruner and Potter (1964) illustrates this point. A series of slides of familiar objects were shown to subjects. In one condition, the slides were initially out of focus. The focus was gradually sharpened until the subjects were able to recognize the objects. In the other condition, the slides were in focus from the beginning. Subjects in the first condition took much longer to recognize the objects than subjects in the second condition, even after the slides were in focus. The authors interpreted the results to suggest that subjects in the unfocused condition
developed expectations as to what the object was before it was clearly in focus. When the expectations were inaccurate ones, correct identification of the objects was impeded even after they were identifiable under normal circumstances.

Selective Attention and the Encoding of Information

Although the recognition of simple patterns such as letters or physical objects, may appear somewhat remote from the type of interpersonal cognition of interest to the clinician, there is a trend in modern cognitive theory to eliminate the classical distinction between lower level perceptual processes and higher level cognitive processes. There is an increasing tendency for cognitive psychologists to be concerned with the cognitive strategies or mental activities that the individual actively engages in while processing information. This emphasis upon control processes (Atkinson & Shiffrin, 1968) appears to be replacing more traditional structural models of human psychological processes.

The role assigned to expectations in the pattern recognition model described is that of guiding the search for critical features in the perceived stimulus. This process of perceptual search determines which data are utilized for further processing and which data are excluded. In more general terms, this process is usually discussed under the heading of selective attention. Early models of selective attention were structural in nature (Broadbent, 1958; Deutsch & Deutsch, 1963; Treisman, 1969). A hypothetical cognitive filtering mechanism was postulated to be responsible for admitting some data for higher level cognitive processing and excluding
others. The major theoretical controversy centered around the question of which stage in the processing of information the filtering mechanism resided. This type of theoretical debate implicitly assumed that perception and cognition were two distinct cognitive processes and that information processing proceeded sequentially from lower level perceptual processing to higher level cognitive processing. (Deutsch & Deutsch's (1963) model was somewhat of an exception to this rule.)

More recent theoretical developments challenge the traditionally held distinction between perception and cognition and the sequential view of information processing. Neisser's perceptual cycle model emphasizes the fact that perceptual activity takes place at a number of different levels of abstraction simultaneously and that the mechanisms through which these different levels of perceptual activity operate are similar in nature (Neisser, 1976). In this model, perception is viewed as a continuous, ongoing cyclical process through which the perceiver interacts with the environment. The process of perceptual search is directed by expectations or cognitive schemata which in turn are modified on an ongoing basis by feedback from the environment. The modified schemata subsequently constitute a new set of expectations regarding what is most likely to occur, and in this manner continue to guide perceptual exploration. Schemata thus direct information pickup like continuously modified format statements in computer programs. To quote Neisser (1976), the schema is:

"...that portion of the entire perceptual cycle which is internal to the perceiver, modifiable by experience, and somehow specific to what is being perceived. The schema accepts information as it becomes available at sensory surfaces and is changed by that information. It directs movements and exploratory activities that make more information available by which it is further modified." (p. 54)
Schemata of varying levels of generality and abstraction are embedded within one another in a hierarchical manner and operate simultaneously. Thus to return to the initial example of word recognition, perception of individual letters takes place at the same time as perception of whole words. Moreover, these two levels of perception are completely interdependent and support one another. Palmer (1975) has discussed this phenomenon as it occurs in visual processing and refers to it as the "part-whole context". The central thrust of his argument is that the visual recognition of parts is impossible without the context of the whole they are embedded in and by the same token the visual recognition of the whole is impossible without the context of the parts which are embedded within it.

Similarly, the perception of abstract social meaning must always take place within the context of the perception of more concrete stimuli. The mechanism of perception is the same however, and one type of perceptual cycle must be embedded within the other. As Greene (1976) has noted, a potentially useful perspective from which to view the perception of social meaning is to regard it as a problem solving task. In contrast to the conventional problem solving task, however, social perception requires the solution to an "ill structured problem" in the sense that there is never one optimal and unique solution. There are, however, functional and dysfunctional social perceptions. The depressed individual who consistently perceives acquaintances as rejecting has a maladaptive style of social perception. The socially anxious individual who always reads disapproval in the faces of his peers tends to engage in dysfunctional perceptual activity.
Although Neisser's perceptual cycle model is typically applied to the description of physical object perception, there is no reason that it cannot be generalized to the perception of abstract meaning. Greenberg & Safran (1982) provide a simple illustration of the manner in which the model can be employed to describe the dysfunctional perception of interpersonal behavior characteristic of the neurotic individual. The example they give describes the cognitive-perceptual activity of a socially anxious male client who telephones a female acquaintance to ask her out on a date:

"... After much procrastination he finally summons up the necessary prerequisite courage and dials her telephone number. At this point in the interaction he already has a certain network of expectancies regarding the set of events which are likely to occur, formed on the basis of past experiences and present context, which serve to automatically direct his perceptual activity from the very beginning. Having completed dialing he attends to the dull sound of the dial tone and waits for her to pick up the phone at the other end. As soon as he hears her voice, he engages in particular automated perceptual search strategies. He begins to scan the tone and content of what she is saying for cues of rejection. He directs his attention towards the note of surprise in her voice as she recognizes him. Having sampled this cue from the environment, guided by his schema anticipating rejection, he begins to construct a representation of her behavior in a manner which is meaningful to him and then seeks further information to fill out the construction. He next selectively attends to the hesitancy in her response to his invitation, and encodes this as a rejection rather than as thinking about her schedule. This information is transformed into confirmation that she doesn't wish to go out with him and is trying to figure out how to get rid of him."

The preceding example demonstrates the manner in which dysfunctional expectations may at least in part resist change because of a generalized information processing strategy which results in the search for confirming information. Indeed there is evidence in the area of abstract problem solving that disconfirming evidence tends to be disregarded as a byproduct
of this general information processing strategy (Wason, 1968, 1969; Einhorn & Hogarth, 1978). It is hypothesized here that these same principles generalize to the realm of social perception.

Memory

The Selective Retrieval of Information

In the traditional structural model of memory, information is seen to be read out of sensory memory into short-term memory, and then transferred to long-term memory through rehearsal. The durability of the memory trace is seen to be a function of the memory system in which it is contained. As Neisser (1980) points out, this linear, passive model of human information processing seems to have little scope for accounting for a variety of phenomena of interest to the clinician. In particular, it is difficult to account for the impact of expectations on the perception of interpersonal behavior within this framework.

An influential perspective on memory which provides an alternative to the traditional structural model has been articulated by Craik and colleagues (Craik & Lockart, 1972; Craik & Tulving, 1975). In this "depth of processing" model, the durability of the memory trace is seen to be a byproduct of the manner in which information is encoded, rather than the memory system in which it is currently deposited. Consistent with the perceptual cycle model previously discussed, perception in this approach to memory is conceptualized as a cognitive process through which stimuli are analyzed at a number of different levels.
simultaneously. These levels range from analysis of simple physical features at one extreme to complex semantic analyses at the other. An important feature of the depth of processing model is the recognition of the fact that in the process of perceptual analysis, logically prior stages of analysis do not necessarily precede logically subsequent stages of analysis. In other words, in a given perceptual act the relevant stimulus may be analyzed at a relatively sophisticated semantic level prior to the analysis of simple physical features.

A number of studies (Bobrow & Bower, 1969; Craik & Lockhart, 1972; Craik & Watkins, 1973; Treisman & Tuxworth, 1974) have demonstrated that by modifying the manner in which stimuli are perceptually processed, the durability of the resulting memory trace can be influenced. A representative study by Craik & Tulving (1975) for example, found that when exposed to a list of words for a limited time period, subjects who were asked whether words fit into specific categories demonstrated better memory on a recall task than subjects who had been asked questions about typescript. Task demands which induce subjects to process words semantically can thus be seen to produce better word retention than task demands which require processing at the level of physical features. Craik & Tulving (1975) hypothesize that the memorability of an event is a function of the elaborateness with which it is initially encoded. In other words, returning to the perceptual problem solving model outlined earlier, retention will increase in proportion to the degree of elaborateness and depth of perceptual analysis engaged in.
There are at least two ways in which a specific expectation might result in selective memory for interpersonal behavior which is consistent with that expectation. The first hypothesis is that information which is inconsistent with the expectation is not as deeply or elaborately encoded as schema consistent information. As Kahneman (1973) has noted, this does not mean that the inconsistent information is completely neglected, but rather that fewer attentional resources are allocated to it. In this manner unexpected information becomes less consistent with the overall organization of information on memory and is thus less easy to retrieve. The second, related possibility is that the expectation functions not only as a processing guide at encoding, but also as a retrieval schema during memory retrieval. It is thus theoretically possible for expectations to induce selective retrieval, independent of any events which take place at encoding.

Selective Reconstruction

A final cognitive process through which expectations may affect the perception of interpersonal behavior is through the reconstructive aspects of memory. Not only can cognitive schemata selectively retrieve fragments of information from memory, they can also fill in missing values (Minsky, 1975). Bartlett's (1932) initial work on memory for stories demonstrated that individuals will actually change or distort stories in a manner which is consistent with the general state of their world knowledge. The information is thus actually assimilated over time to existing schemata. More recently, Mandler (1978) has demonstrated that such changes or distortions follow predictable rules for story
schemata. Perhaps one of the more dramatic demonstrations of the reconstructive aspects of memory comes from Piaget (1973). He demonstrated that children who were asked to reproduce a row of seriated sticks which they had seen some months earlier, arranged the sticks consistent with their current concept of seriation rather than with the earlier reproductions which had been obtained from them.

Finally, in an important study, Loftus & Palmer (1974) demonstrated that subjects who were asked to describe a car accident they had witnessed were influenced in their recollection by the manner in which the questions were phrased. Subjects who were asked: "How fast were the cars going when they smashed into one another", remembered the cars as having gone faster than subjects who were asked: "How fast were the cars going when they hit one another". Apparently information fragments which are stored in memory function as only one source of information employed in reconstructing a memory. Context and all available represented knowledge potentially relevant to a given event are also employed. In the same manner, general expectations about the social environment may guide the reconstruction of interpersonal events. People may remember events, which although consistent with their expectations, did not necessarily transpire.
In the preceding section three cognitive processes were described which may potentially mediate the influence of expectations upon the perception of interpersonal behavior: (1) Selective encoding, (2) Selective retrieval, and (3) Selective reconstruction. In recent years there has been some attempt to explore these possibilities empirically. In the present section I will describe some of the more relevant investigations.

In one of the first of such attempts Zadny & Gerard (1974) demonstrated that actions relevant to the intentions attributed to an actor were better recalled than irrelevant actions. Subjects observed a skit in which a student stumbled and dropped a number of items on the ground. Prior to viewing the skit, subjects were told that the student was a chemistry major, a music major, or a psychology major. On a subsequent memory test, subjects were better able to recall dropped items which were consistent with the student's discipline of major (e.g., a slide rule for the chemistry major). In a second experiment (Zadny & Gerard, 1974), it was demonstrated that information regarding the actor's intentions tended to bias memory more when it was delivered before observation of the skit than when it was delivered after. These results were interpreted to support the view that selective memory arises from selective encoding rather than selective retrieval.

Rothbart, Evans & Fulero (1979) found that subjects had significantly better recall for the behavior descriptions which were consistent with
traits initially ascribed to groups of men, than for both inconsistent and unrelated behavior descriptions. They also found a greater effect when the expectancy was induced prior to presenting the descriptions rather than after. It should be noted that this paradigm differed from Zadny & Gerard's (1974) in two major respects. First, Rothbart, et al. (1978) employed a social stereotype paradigm, i.e., they were interested in social perception of groups of men, rather than individuals. Second, they assessed memory for behavioural descriptions rather than for concrete items. Nevertheless, their results essentially paralleled Zadny & Gerard's. Hastie and Kumar (1979) investigated selective memory for behavioural descriptions as well. They had subjects study lists of behaviours which were congruent, neutral, and incongruent with respect to traits which were initially ascribed by the experimenter to fictional characters. In contrast to the two previously described studies, recall was highest for behaviours which were incongruent with the initially ascribed trait. One parameter which may account for this contradictory finding is that subjects were warned in advance that they would be asked to recall behaviours. Given the task instructions it seems likely that they would employ whatever memory strategies were available to them during exposure to the stimulus materials. In this context the initially ascribed trait would be more likely to function as a mnemonic than as a schema for perceptual search. The task demands would tend to encourage attention to distinctiveness rather than the search for confirming evidence.

This possibility highlights the importance of employing an experimental paradigm which faithfully captures the essential characteristics of the phenomenon of interest. A memory recall task may require a very different cognitive strategy than an impression formation task. Moreover, forming impressions about fictitious characters on the basis of lists of discrete
behaviours may be different in nature than impression formation in real life. For this reason, Cohen (1981) attempted to design a more ecologically valid study. She had subjects view a videotape of a woman who had previously been described as either a waitress or a librarian. The videotape consisted of a staged interaction between the woman and her husband, which had been designed to portray features consistent with both waitress and librarian stereotypes. These features were both directly observable (e.g., wears glasses) and inferrable on the basis of the conversation (e.g., travelled in Europe). Subjects were found to have better recognition for stereotype consistent features than for inconsistent features.

While the studies discussed to this point provide some evidence for selective memory for expectation consistent information, it is unclear whether this memory bias results from selective retrieval or selective reconstruction. Cantor & Mischel (1977) investigated the reconstructive aspects of memory in the following manner. They labelled fictitious characters as being either extraverted or introverted, and then described these characters with a series of other adjectives. Some of these adjectives were conceptually related to the initially ascribed trait, while others were unrelated. On a memory recognition task, subjects were biased towards recognizing conceptually related, but nonpresented adjectives. Cantor & Mischel reason that this memory bias results from the use of the availability heuristic (Tversky & Kahneman, 1974). Subjects incorrectly infer that an adjective was presented because it is easily retrievable in conjunction with the overall schema activated by the initially ascribed trait. While this study does not clarify the relative importance of selective retrieval versus selective reconstruction, it clearly demonstrates
that selective reconstruction can bias the processing of social information. Whether or not this finding would generalize to a more ecologically valid context, remains unanswered.
The studies which have been reviewed provide some evidence that various types of expectations can bias the manner in which information about other people is cognitively processed (cf. Carver & Scheier, 1981). There are, however, a number of gaps in the literature reviewed. These are as follows:

1. While the studies reviewed do provide some evidence that expectations bias the manner in which certain types of information are processed, none of these studies has directly demonstrated that a concomitant bias in impression formation results in such cases.

2. As discussed earlier, the studies cited for the most part, are lacking in ecological validity. Processing lists of behavioural descriptions (cf. Hastie & Kumar, 1979) or adjectives (cf. Cantor & Mischel, 1977) may require a different type of cognitive activity than the type of information processing required by real life social perception. Information presented in written form omits much of the information which is available in real social interactions, such as nonverbal cues and social settings (Cohen, 1981). Moreover, any behaviour which takes place in a real social setting is always embedded within the context of those events which take place before and after. Events unfold themselves through a temporal dimension. For these reasons the social perceiver in real life may have more retrieval cues available to him when attempting to recall a social interaction, thus facilitating better memory for specific interpersonal behaviours. A second concern raised
by Cohen (1981) is that information provided to subjects in social perception research is typically simple and one-dimensional in nature. Since more information is available to the perceiver in real life than that which is typically provided in the experiment, it is possible that a variety of different schemata are activated. The effect of one specific expectation may thus be minimized or cancelled out.

3. A related concern is that the type of expectancy manipulations typically employed are not completely germane to the type of social perceptual process delineated as a target for concern in the first section of this manuscript. In everyday life the expectations which guide the processing of social information are typically generated by the individual himself. They are thus self-generated hypotheses which in theory guide the solution of an ill-defined problem (Greene, 1976). This is somewhat different from the expectation created by telling subjects that the target person is a chemistry major (Zadny & Gerard, 1974) or a waitress (Cohen, 1981). Of course in all fairness to the authors cited, the expectancy manipulations employed were in some cases completely relevant to the context of the specific investigation (e.g., Rothbart, et al. (1978) were interested in social stereotyping and thus described groups of men as either friendly or intelligent). However, in order to better simulate the real life situation in which the individual generates his own expectations about the characteristics of the target person, it would be more appropriate to provide subjects with a certain amount of information about the individual's past behaviour, on the basis of which they could generate their own hypotheses about future behaviour.
4. None of the studies reviewed has evaluated whether or not any memory bias is the result of selective retrieval, selective reconstruction or some combination of the two. The implication of different cognitive processes may have different clinical implications (Kihlstrom & Nasby, 1981).

5. None of the studies reviewed has employed independent indices of encoding activity and memory. Selective attention, in the social cognition literature, has typically been inferred on the basis of selective memory. The strategy of contrasting the performance of a group which has received expectancy information before seeing the stimulus material to that of a group which receives the information afterwards has been useful (cf. Cohen, 1981: Zadny & Gerad, 1974). It permits the experimenter to rule out the possibility that an information processing bias takes place only at the time of recall. It does not, however, permit the assessment of the possibility that an information processing bias takes place only through selective encoding.

It is possible that an individual attends selectively to certain interpersonal behaviours, and that this selective attention biases impression formation without biasing memory for specific behaviours. Interpersonal judgments are likely to have a strong affective component, and as Zajonc (1980) has demonstrated, affective judgments are not necessarily represented cognitively. It is thus conceivable that an individual might selectively attend to certain behaviours and form an affective impression on this basis without the mediating effect of selective memory for surface information. Without an independent index of encoding activity, however, such a phenomenon would elude detection.
It is not all that surprising that independent indices of encoding activity have not typically been employed since it is a cognitive activity which for obvious reasons is difficult to assess directly. Perceptual activity is an ongoing, dynamic process (Neisser, 1976). Any attempt to have the subject report on this activity retrospectively is subject to the biasing effects of memory, while it would seem that an attempt to have the subject report on the focus of his attention on an ongoing basis would be sufficiently obtrusive to interrupt the naturally occurring perceptual cycle. In light of these apparent methodological problems, an intriguing possibility is suggested by Massad, Hubbard, and Newtonson (1978). They attempted to demonstrate the influence of subject expectations upon the selective encoding of events using Newtonson's unitizing methodology to investigate perceptual organization. All subjects viewed a short animated film in which three cartoon characters (a large triangle, a small triangle, and a circle) interact. The film was ambiguous enough to support two contrasting interpretations. In one interpretation, the large triangle is seen as a bully and the small triangle and small circle are seen as victims. In the second interpretation, the small triangle and small circle are seen as thieves and the large triangle is seen as a victim. Subjects in two conditions were initially provided with two different interpretive sets supporting these two interpretations. They then viewed and unitized the film. Following this, they rated the cartoon characters on semantic differential scales. The results showed subjects with different interpretive sets both interpreted and unitized the cartoon differently. Furthermore, a subsequent reversal in instructional set resulted in a reversal in both overall construal of the film and a tendency to unitize differently.
While the Massad et al. (1978) study has some potentially interesting implications, a number of questions are left unanswered. What is the precise theoretical significance of unitizing data? What does a difference in unitizing mean? How much of a difference in unitizing is necessary to make a difference? Can we legitimately extrapolate from the Massad et al. (1978) study to the context of everyday perception? In the next section, we will review some of the more important aspects of Darren Newton's research program on unitizing in order to shed more light on these issues.
Newtson and colleagues in a series of studies have demonstrated that subjects can segment ongoing behavioural sequences in a manner which is subjectively meaningful to them and that these subjectively partitioned units play an important and systematic role in the overall interpretation of the entire action sequence. The procedure through which this subjective partitioning or "unitizing" (Newtson, 1973) data are obtained is a relatively simple one. A videotape of the behavioural sequence of interest is played for the subject who is instructed to observe the videotape and to indicate whenever he feels that "one meaningful behaviour has ended and another one has begun" by pressing a button. The button is attached to an event recorder which records both frequency and location in time of responses. Reasonably high test-retest reliability has been found to exist for both frequency of units marked by subjects as well as for the precise location of unit markings for subjects (Newtson, 1976; Newtson, Note 1).

Newtson maintains that these subjectively partitioned units are accurate reflections of the manner in which individuals encode behaviour in everyday life. A consistent finding has been that subjects can vary the frequency of unitization at will and that moreover, they shift to using smaller, more frequent units of segmentation when an unpredictable event is inserted in the film (Newtson, 1973; Newtson, 1976; Newtson, Note 1). Newtson argues that this shift to smaller units reflects the fact that unpredictable behaviour possesses greater informational value for the observer and is consequently encoded at a finer level of analysis.
Points in the film which tend to be segmented most frequently by subjects are referred to as "breakpoints" since these are the points at which the sequence is broken into parts (Newtson & Enquist, 1976). These breakpoints have been demonstrated to possess a number of interesting properties. Newtson and Enquist (1976) demonstrated that subjects were more likely to detect deletions in the film when these deletions were made at breakpoints rather than at nonbreakpoints. Furthermore, they found that subjects viewing a series of breakpoints which had been extracted from the film were able to more accurately formulate descriptions of action than subjects who were shown a series of nonbreakpoints. They also rated the sequence as more intelligible. In another study, Newtson (1976) demonstrated that subjects were better able to recognize breakpoints extracted from films they had previously seen than nonbreakpoints extracted from the same film. On the basis of the above results and a series of other studies, Newtson, Rinder, Miller & LaCross, 1978, Newtson, Enquist, & Bois, 1977; Wilder, 1978), Newtson and colleagues have concluded that breakpoints do possess a psychological reality and are meaningfully related to the perception of ongoing behavioural events.

What are breakpoints?

At what level of abstraction does the encoding of social interaction take place?

Newtson assumes that the encoding of social interaction normally takes place at the level of concrete behavioural events. While this assumption has characterized his work from the beginning, the most clear-cut
articulation of this principle can be found in Newtson, Enquist, and Bois (1977). In this study they coded videotapes of simple action sequences using the Eshkol-Wachman movement notation (Eshkol, 1973) and proceeded to identify the features which subjects were monitoring at breakpoints. Examples of features identified are: (1) right arm, right forearm, and (2) left upper arm. They concluded that perception of behavioural sequences in their study consisted of the selection of successive breakpoints in the film. Each breakpoint consisted of a simple anatomical feature such as those mentioned above. Perception consisted of the monitoring of change in location of those features from breakpoint to breakpoint. This is consistent with Newtson's overall theoretical conception of the role of breakpoints in behavioural perception which can be summarized in the following statement:

"In this view, actions are perceived by the discrimination and/or selection of successive "points of definition" in the behavioural stream. These points of definition - breakpoints - would also be boundaries of action units, because the occurrence of the defining information for one action provides a basis for its discrimination from the preceding action. Inspection of breakpoints themselves is consistent with this interpretation. A series of breakpoints provides an almost comic strip summary of ongoing action sequences" (Newtson, Enquist, & Bois, 1977).

The view that perception consists of the linking of a series of perceptual units which are concrete in nature may be accurate when subjects are assigned the task of monitoring simple behavioural sequences. It should be noted that all of Newtson's research has focused upon the utilization of such simple action sequences, without any true social interaction or verbal exchange. In a typical study, for example, subjects unitized sequences in which a man paced impatiently and intermittently answered a telephone, a woman set a table with plates and food, or a man systematically removed
stacks of magazines from a table and reshelved them (Newtson, Enquist, & Bois, 1977). The assumption that the same units of perception are employed in everyday social perception however, is more questionable (cf. Trierweiller, Note 2). Newtson argues for a continuity between the type of behavioural perception he investigates and social perceptual processes in the following manner: "Insofar as persons must infer other's traits, sentiments, or intentions from what others do, the processes of person perception must begin with the perceived actions of other persons." (Newtson, et al., 1977).

As Craik and Lockhart (1972) have argued however, perceptual encoding can occur at a variety of different levels of abstraction. Relatively sophisticated analyses of meaning are not necessarily preceded by the perceptual analysis of the relevant stimulus at a simple concrete level. Moreover, the level at which perceptual processing occurs is influenced by the task in which the observer is engaged. Thus, it is not surprising that a subject who is instructed to break a simple behavioural sequence into smaller chunks or units, would attend to relatively simple concrete features. The requirements of everyday social perceptual processing however, would seem to demand a different type of perceptual processing. It would presumably be non-adaptive to segment a complex social interaction into changes in the position of physical features and to then infer meaning from these changes, if the perceiver has the ability to encode the information at a deeper level of meaning initially. Although the type of stimulus materials employed by Newtson and colleagues in their investigations may be of theoretical interest in and of themselves, they possess a limited degree of generalizability to the type of everyday social perception in which the psychotherapy researcher is interested.
Unfortunately, the application of Newtonson's methodology to the study of more ecologically valid stimulus contexts has been virtually non-existent. (One exception is an unpublished methodological study by Trierweiler (Note 2)).

Perceptual Units or Salience Data?

There is a subtle inconsistency in the manner in which Newtonson interprets the breakpoint concept. On the one hand, he sees the breakpoint as constituting the boundary of demarcation between two perceptual units. A good example of this conceptualization can be found in Newtonson and Enquist (1976):

A series of breakpoints conveys almost comic strip quality, in that they appear to summarize an event very well. Nonbreakpoints on the other hand, appear highly ambiguous, in that a large number of alternative constructions of the event appears to be consistent with them. It is possible therefore, that greater sensitivity to deletions at breakpoints occurred because the deletions interfered with unit formation. If unit formation occurs at breakpoints, then a series of breakpoints extracted from a film and viewed in succession should provide a more adequate and understandable summary of the action sequence than a comparable series of nonbreakpoints. (Newtonson & Enquist, 1976).

The assumption here is that the breakpoint's informational properties and consequent influence upon overall perception, stems from its segmentation properties. This emphasis upon segmentation follows naturally from Newtonson's early interests in Barker's psychological ecology (Barker, 1963). (There are, however, some important differences between the primary interests of Barker and of Newtonson, which we shall discuss in a moment.)
On the other hand, Newtson seems to interpret breakpoints as foci in the stream of events which receive more attentional allocation and more elaborated encoding. Breakpoints are thus those aspects of a behavioural sequence that are most salient to observers. This perspective is well reflected by Newtson (1977), wherein he attempts to ground the breakpoint concept in Neisser's (1976) perceptual cycle theory. In this perspective, breakpoints are the "points of definition" that are monitored for change by the observer. Newtson (1977) attempts to reconcile these two conceptions of unitizing data by asserting that breakpoints are both "the boundaries between action units and the points in the stimulus at which action units are defined". In this conception, however, the notion of perceptual unit appears to be superfluous.

It is instructive to remember that Newtson's original interest in unitizing processes was strongly influenced by Barker's psychological ecology (Barker, 1963). Barker and his colleagues were interested in describing the "natural" units that constituted an individual's behaviour in his environment. The belief was that these units were unambiguously present in the data and that observers could be trained to recognize them reliably. The concern was thus not with the manner in which the naive subject naturally encodes data but rather with the categorization of information by trained researchers into meaningful units. Consistent with these interests the coders were not asked to chunk or parse ongoing behaviour in a social context, but instead were given as much time as was required to reliably categorize data recorded in narrative form. It is thus important to realize that Newtson has adapted a methodology which originated in one context and has applied it in a very different context. Along with this adaptation have
come some questionable assumptions about the nature of the task that the subject is engaging in when unitizing. For one thing, Newtson's subjects are not trained observers.

Moreover, Newtson's subjects are being asked to unitize ongoing social behaviour rather than recorded transcripts. This difference may have some important consequences. The subject who is asked to segment data recorded in narrative form has as much time as is required to make a considered decision about where one unit ends and another unit begins. This decision can be made in the context of the entire narrative. Thus both preceding and subsequent information can influence decisions regarding unit boundaries. This type of task is conceptually not dissimilar from the parsing of narratives (Mandler, 1978). In both of these contexts, it may be reasonable to assume that the subjects can segment the transcript into units which naturally cohere together in a meaningful manner. The individual perceiving a typical social interaction however, has less time to think about where the unit boundaries should be in the ongoing interaction. Each potential unit of data can only be contrasted with the preceding units. For this reason, the process of segmenting the interaction into meaningful units would be considerably more difficult. It may, in fact, be the case that subjects in the unitizing task are marking salient events on the videotape rather than dividing the sequence into perceptual units. Recent research on salience effects on attributional processes (Taylor and Fiske, 1978; Smith and Miller, 1979) certainly suggests that complex social judgments may be dramatically affected by, or even be exclusively the product of salience effects.
It is interesting to note that Newtson, despite his avowed interest in perceptual organization and segmentation, provides subjects in his more recent research with unitizing instructions that lend themselves quite easily to interpretation as salience instructions (e.g., "Whenever in your judgment a meaningful action occurs, that is, whenever the person does something, press the button" (Massad, Hubbard, and Newtson, 1979)). One has only to change the word "meaningful" to "important" (bearing in mind that the two words can in some contexts be considered synonymous) to demonstrate how easily the above phrase can be interpreted as an instruction to mark events which are subjectively salient. These instructions contrast quite markedly with the instructions which were employed in Newtson's earlier research:

I am going to show you a 5-minute videotape of another subject in a different experiment. Now, what I am interested in here are the units people use to classify other's behaviour. By that I mean that people can vary the level at which they break up other's behaviour. For example, I could turn around, walk over, push the door closed, turn around, and walk back. Each of these actions could be seen as a discrete event, or they might be classified into one larger unit, such as "closing the door" (Newtson, 1973).

Subjects were then told to "press the button when in your judgment one unit ends and another unit begins".

Some of this conceptual confusion appears to have been inherited by other researchers. Cohen and Ebbesen (1979) for example, while instructing subjects to segment an action sequence into units, subsequently equate unitizing with the allocation of attention to selected features in the environment. Subjects were
instructed to break up the tape into "units or chunks which you find most helpful in trying to form an impression of the person". While these instructions apparently request the subject to segment the tape into units, the unitization data are interpreted as follows: "... it seems reasonable that one observer, noting and presumably unitizing (italics mine) a slight frown on the actor's face, began to regard her as an unhappy person and thus attended to additional negative social features". (Cohen & Ebbesen, 1979). Apparently "unitizing" is equated with "noting" here. If unitizing consists of marking the boundary between two events, how can one unitize a frown?

Of course, subjects may well have interpreted the instructions as a mandate to indicate their focus of attention during the film, particularly given the context in which the previously quoted instructions were embedded (i.e., "We're interested in how you get out the information that you're trying to remember from these behaviour sequences" and "In this way, you can show us where you get information from the behaviour sequences"). If this is the case, however, the instructions to break the tape into units are misleading to the reader and potentially to the subjects as well. This second possibility may introduce unnecessary error variance in the unitizing data.

Tracking Subjectively Salient Events

The above review suggests that Newtson's unitizing methodology may be useful for purposes of investigating the relationship between expectations
and the encoding of interpersonal behaviour, provided certain conceptual and methodological considerations are kept in mind. In the previous section, I've discussed two central conceptual problems with Newtonson's unitizing methodology. The first issue that was addressed was whether people normally encode social interaction at the level of molecular concrete behaviours or the level of more abstract events. The second issue which was addressed was whether or not subjects normally break up social interaction into units or attend to selected aspects of the interaction. With regard to the first issue, I argued that the encoding of real social interaction in all likelihood takes place at the level of abstract events. With regard to the second issue, I argued that considerable confusion exists as to whether subjects are marking perceptual units or tracking subjectively salient events. I concluded that a subjective salience conceptualization of breakpoint data is more consistent with Newtonson's overall theoretical framework, and more likely from a perspective of cognitive economy and psychological feasibility.¹ It would seem important for the task instructions to reflect explicitly this conceptual clarification. To the extent that task instructions can be clarified, brought in line with more naturally occurring encoding strategies, and made easier to implement, reliability will be increased.

For these reasons, it would seem desirable to provide subjects with instructions which explicitly ask them to mark subjectively salient events

¹ This conceptualization is also more consistent with the self-report of subjects who participated in pilot studies which were conducted.
rather than to segment the vignette into concrete behavioural units. Given this clarification in conceptualization of both task instructions and task behaviour, the term unitizing becomes somewhat of a misnomer. For this reason, I shall hereafter use the more appropriate term, tracking to refer to the tracking of subjectively salient events.
THE PRESENT INVESTIGATION

The present study was designed to investigate the cognitive processes which mediate the impact of expectations upon the perception of interpersonal behaviour. The intention was to specifically redress certain methodical shortcomings common to a number of the potentially relevant studies which have been conducted. To reiterate in brief, these are:

1. failure to assess whether or not expectations do indeed bias impression formation.
2. lack of ecological validity.
3. labelling the target person, rather than inducing subjects to generate their own expectations.
4. failure to distinguish between selective retrieval and selective reconstruction.
5. failure to provide an independent index of memory and encoding activity.

Overview

All subjects viewed a videotaped husband and wife interaction. While they observed the interaction, they were asked to track events that were salient to them using a modified version of Newton's unitizing procedure. Frequency and location in time of button presses were recorded. Prior to viewing the vignette, subjects were given one of two expectancy sets regarding the husband's typical interpersonal behaviour. Following the film, subjects were asked to rate the husband's behaviour along a series of adjective scales. In addition, memory for events in the film was assessed.
It was hypothesized that subjects would attend selectively to events in the vignette which were consistent with the information provided to them prior to the film. This hypothesis was evaluated by comparing the salient events marked by subjects in the two expectancy conditions. It was further hypothesized that this selective attention would result in both selective memory for events consistent with subjects' expectations, as well as impression formation which is consistent with the biasing information. A recognition memory test format was employed which would distinguish between the effects of selective retrieval and selective reconstruction.

**Developing the Expectancy Manipulation:**

**Traits as Normative Conceptual Schemata**

An important objective in developing the expectancy manipulation was to provide subjects with a certain amount of information about the target person, on the basis of which they would have the opportunity for generating their own hypotheses. In order to accomplish this it was necessary to have some theoretical guide for establishing in advance what specific information would induce the subjects to establish predictable, specific information processing schemata.

Cantor and Mischel (1977) have argued recently that a fruitful perspective from which to conceptualize the personality trait is in terms of its role as a cognitive heuristic for the observer. In this view, personality traits function as normative conceptual schemata which guide the cognitive processing of information about other people. When, for example, we attribute the trait of extraversion to a person, we expect him to display behaviours consistent with this trait. These expectations direct both the
manner in which we encode his behaviour as well as the manner in which we recall it. This perspective is consistent with Alston's (1975) frequency concept of dispositions, which maintains that the attribution of a given disposition to a person is equivalent to asserting that this person will emit a high frequency of behaviours which are consistent with that disposition.

In the same vein, Buss and Craik (1980; 1981) have recently argued that interpersonal traits can be fruitfully conceptualized as higher level categories which allow people to predict certain regularities in interpersonal behaviours which are category members. Their research draws upon the concept of prototypes which was developed initially by Rosch and colleagues (Rosch, Mervis, Gray, Johnson, and Boyes-Braem, 1976) to clarify the manner in which people group together members of a category. The essential notion is that cognitive categories consist of "fuzzy sets" which are ill-defined in that there is no necessary set of attributes that defines category membership. This contrasts with the traditional, logical notion of category membership which asserts that categories can be defined in terms of necessary and sufficient criteria. Rosch maintains that the cognitive process through which people really judge whether or not an element is a member of a category, operates on the basis of perceived resemblance to some central or prototypical category member about which people consensually agree. The standard example is that people consensually agree that the robin is extremely "birdlike" or prototypical for the category of bird, whereas other birds such as ostriches, are seen as less prototypical, or more peripheral to the category. The basic methodology involves instructing subjects to rate various potential category members for degree of perceived
centrality to that category, and then assessing which category members are reliably seen by subjects as prototypical. Using this methodology, Buss and Craik (1980; 1981) have been able to generate lists of behaviours which subjects reliably perceive as prototypical for a number of interpersonal traits.

Their research suggested to us a useful methodology for activating schemata to guide the search for information in the context of the present study. By providing subjects with behavioural information about an actor which is prototypical for an individual with a given personality trait, one can presumably activate that trait as a working hypothesis in the subsequent encoding of information about that actor. This methodology has the distinct advantage of providing a clear theoretical guide for the experimental manipulation of subject expectations.

The two interpersonal traits which were selected to be employed for expectancy manipulation purposes were dominance and agreeableness. These two traits mark the two principal orthogonal vectors in the Wiggins (1979) taxonomy of interpersonal behaviour and also correspond to two main dimensions of power and affiliation which emerge repeatedly in empirically developed taxonomies of interpersonal behaviour (Leary, 1957; Wiggins, 1982). Moreover there is evidence that these two interpersonal dimensions of power and affiliation, or agency and communion, are universal in man's conceptualization of interpersonal behaviour (White, 1980). There is thus some assurance that the dimensions that were manipulated were in a general sense theoretically important.
In order to gain a concrete appreciation of the potential relevance of these dimensions to the therapeutic context, imagine the situation in which a client has the expectation that people will always attempt to dominate her. Typically she finds herself responding to this perceived attempt at domination by vacillating between two types of behaviour. She alternates between responding with anger, indignation, and an attempt to dominate the other person in order to protect herself; and responding with overly compliant and submissive behaviour. The latter type of behaviour is typically followed by self-recriminations, and subsequent withdrawal or hostility. The model of self-fulfilling prophecy discussed earlier suggests that because she is focused on the interpersonal dimension of power, dominant (or submissive) behaviours will be most salient to her. The possibility that an individual is engaging in an affiliative response will have less impact upon her, even if objectively he emits an equal number of dominant and agreeable behaviours. The range of potentially different types of interactions she can have with other people will consequently be restricted, and her interpersonal relationships will be impaired.

In the same manner, one can imagine a client who anticipates that others will reject him (the warm-cold and agreeable-quarrelsome dimensions are typically combined in the Wiggins (1979) system since the utility of a finer distinction has not been established). As a result of his expectations he perceives rejection where others might see neutrality or even warmth and agreeableness. He responds to this perceived rejection by withdrawing, thus ensuring that no gratifying interpersonal contact is made.
Pretesting the Expectancy Manipulation

The dominant and agreeable expectancy manipulations were designed using David Buss' act frequency analysis protocols to provide behavioural exemplars of the relevant traits. For each of the two expectancy conditions, seven acts were selected from the list of twenty-five most prototypical behaviours (Buss & Craik, 1980; 1981) appropriate to that condition. These seven acts were combined with four neutral acts in order to prevent the character from appearing too implausible. The same four neutral acts were employed in both conditions.

The expectancy manipulations were pretested for their ability to activate the appropriate prototypes or schemata in the following manner. Ninety psychology undergraduates were employed as a pretest sample. Of these, thirty were males and sixty were females. Subjects were told that they would be given information which described a fictitious person. They were randomly assigned to either the dominant or the agreeable condition and then given a written version of the manipulation appropriate to their condition. The following task instructions were employed:

On the sheet in front of you there is a list of 11 acts. Each one of these items describes a behaviour that a fictitious person named David, has engaged in over the last two weeks. I'd like you to read them over carefully. When you've finished I'd like you to rate the type of person you would expect David to be, on the scales which have been provided.

When they had completed reading the information the Wiggins' interpersonal adjective scales (Wiggins, 1979) were administered.
A 2 x 2 x 2 (expectancy condition x adjective scale x sex) repeated measures ANOVA confirmed the existence of a significant interaction between the expectancy conditions and the dominant and agreeable adjective scales, $F(1,86) = 393.08, p < .001$. Subjects who had been given the dominant manipulation rated the character as more dominant and less agreeable than subjects who had been given the agreeable manipulation (see Table 1). There was no main effect for sex, and no interactions with the sex factor, thus confirming that male and female subjects were affected in a similar manner by the expectancy manipulations. The pretest thus confirmed that the expectancy manipulations were functioning in the desired manner (see Appendix 1 for copies of the manipulations).
# TABLE 1

Group Means for Expectancy Manipulation Pretest

<table>
<thead>
<tr>
<th>EXPECTANCY MANIPULATION</th>
<th>Dominant</th>
<th>Agreeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>X (SD)</td>
<td>N</td>
</tr>
<tr>
<td>Dominant</td>
<td>44</td>
<td>53.25 (5.65)</td>
</tr>
<tr>
<td>Agreeable</td>
<td>46</td>
<td>30.41 (7.25)</td>
</tr>
</tbody>
</table>
Developing the Videotape Vignette

While studies examining the effects of expectations upon the processing of social information have often employed a list of behaviours or traits for stimulus materials (Cantor & Mischel, 1977; Hastie & Kumar, 1979; Rothbart, Evans, & Fulero, 1979) the present study employed a videotape of a staged social interaction in order to increase the ecological validity of the investigation. The videotape consisted of a 10-minute scene in which a husband and wife are shown interacting with one another. The scene was developed with the objective of providing equal support for dominant and agreeable perceptions of the husband.

A script for the scene was developed in the following manner. In the first stage, the twenty-five most prototypical acts for dominance and the twenty-five most prototypical behaviours for agreeableness from Buss' investigations (Buss & Craik, 1980; 1981) were examined for behaviours which would be appropriate to a husband and wife interaction. Many of the acts had to be excluded for various reasons, such as taking place in a group rather than a dyadic context (e.g., He took the lead in livening up a dull party), or simple inappropriateness to the specific context (e.g., He offered an older person a seat on the bus). A second criterion for exclusion was that acts which had been employed in the expectancy manipulations were not included, in order to avoid the possibility of directing subjects to look explicitly for a given act in the vignette. On the basis of the acts that were retained an initial script was written in which the husband displayed an approximately equal number of dominant and agreeable behaviours. An attempt was also made to intersperse these acts
with acts presumed to be neither dominant nor agreeable in nature in order to decrease dramatic changes back and forth between dominant and agreeable behaviours which would render the character less plausible and realistic, as well as exceeding subjects' reaction time capabilities when it came time to track the vignette.

This first version of the script was then shown to a panel of psychologists and psychology graduate students for an initial global appraisal of the extent to which the husband was perceived as being equally dominant and agreeable. On the basis of their reactions, a second version of the script was devised which attempted to balance further the perception of dominant and agreeable behaviours. This second version of the script was then shown to a group of undergraduate psychology students who were asked to perform two tasks: They were first instructed to read the script quickly and to then rate the husband's global interpersonal behaviours on two six-point adjective scales: 1) dominant, and 2) agreeable. They were then instructed to go through the script a second time and to categorize each of the husband's speech acts as either: dominant, agreeable, or neutral. This constituted the first of a series of iterations through which the script was gradually refined until it demonstrated the following characteristics: 1) no significant difference between global ratings of dominance and agreeableness; and 2) an equal number of perceived dominant versus agreeable speech acts for the husband. For the second characteristic a minimum of eighty percent intersubject agreement in item categorization was established as a criterion.
After a number of iterations, the above characteristics were finally demonstrated. The final version of the script was shown to an independent sample of fifty-eight psychology undergraduates. There were twelve males and forty-six females in the group. Global ratings of dominance and agreeableness were analyzed, using a 2 X 2 (sex X adjective rating) between - within ANOVA design with repeated measures on the adjective rating factor. There were no significant differences between global ratings of dominance and agreeableness, \( F(1,56) = .977, \ p > .327 \), and there was no significant interaction between sex of subject and ratings of dominance and agreeableness, \( F(1,56) = .136, \ p > .714 \) (see Table 2). Although one might anticipate sex differences in the perception of dominance and agreeableness, the present analysis provided no evidence of such differences in the vignette which had been designed.

Subjects categorized eight dominant intervals with greater than eighty percent agreement and eight agreeable intervals with greater than eighty percent agreement. Because there was less agreement about which intervals were neither dominant nor agreeable, the lower limit reliability criterion for neutral intervals was established as seventy percent. Eight neutral intervals to be employed in subsequent research, were selected on this basis. The lowered reliability criterion here was not considered to be a problem since it was not considered essential that subjects recognize these intervals as neutral, but only that they did not reliably categorize these intervals as either dominant or agreeable. The twenty-four transcript intervals of interest are marked in Appendix 2.
TABLE 2a
Group Means for Global Adjective Ratings
of Husband in Vignette Transcript

<table>
<thead>
<tr>
<th>Dominant</th>
<th>Agreeable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>X  (SD)</td>
</tr>
<tr>
<td>58</td>
<td>3.95 (.93)</td>
</tr>
</tbody>
</table>

TABLE 2b
Interaction of Subject Sex with Global Adjective Ratings

<table>
<thead>
<tr>
<th>ADJECTIVE SCALE RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
At this point, the script was staged and videotaped. The husband and wife were portrayed by actors. The videotaped scene was shown to an independent sample of twenty psychology undergraduates who were instructed to rate the husband's overall behaviour on the Wiggins (1979) interpersonal adjective scales in order to evaluate whether or not the desired balance had been maintained on the videotape. The subjects saw the husband as significantly more dominant than agreeable.

A second version of the scene was subsequently videotaped in which the husband's behaviour was modified slightly without changing any of the behaviours which had been categorized with over eighty percent reliability in the written script. This new videotape was shown to an independent sample of eighteen psychology undergraduates (seven males and eleven females) who once again rated the husband's overall behaviour on the adjective scales. The data were analyzed using a 2 X 2 between-within (subject sex X adjective scale) ANOVA. This time subjects saw the husband as equally dominant and agreeable, F(1,16) = .007, p > .935. There was no main effect for subject sex, F(1,16) = .277, p > .606, and no sex X adjective rating interaction, F(1,16) = 2.388, p > .142. Thus, there were no differences between male and female subjects (see Table 3). Since this version of the stimulus scene met the criterion of being balanced for dominant and agreeable perceptions of the target person, it was used in the subsequent research (see Appendix 2 for vignette transcript).
**TABLE 3a**

Group Means for Global Adjective Ratings
of Husband in Videotape Vignette
(final version)

<table>
<thead>
<tr>
<th>Dominant</th>
<th>Agreeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>X (SD)</td>
</tr>
<tr>
<td>18</td>
<td>21.61 (4.98)</td>
</tr>
</tbody>
</table>

**TABLE 3b**

Interaction of Subject Sex with Global Adjective Ratings

<table>
<thead>
<tr>
<th>ADJECTIVE SCALE RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominant</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>
The vignette was divided into unequal sized intervals with each interval corresponding to one speech act. These intervals constituted the windows or reference intervals with respect to which subject tracking of subjective salience was evaluated. Although this is a departure from Newtson's standard methodology in which the film is, arbitrarily divided into equal sized intervals (Newtson, 1976), it was presumed to be an improvement for the following reason. The criterion for deciding the length of a reference interval should maximize the possibility that meaningful similarities and differences between individuals are not obscured. If a completely arbitrary reference interval length is assigned, it increases the possibility that two individuals who actually press the button within the same interval of meaning are coded differently. Conversely it increases the possibility that two subjects who, in reality, attend to different units of meaning, are coded within the same interval. The speech act is only one index of the units of meaning within a social interaction, since within any given speech act there can still be transitions in meaning as a function of both shifts in the content of communication as well as shifts in the metamessage which is being communicated. The latter is strongly influenced by nonverbal behaviours which are not necessarily bounded by speech act units.

While it is true that the speech act is only one guide as to the units of meaning, it has the distinct advantage of being easily and reliably identifiable, and in any event is certainly preferable to selecting reference intervals on an arbitrary basis. The following procedure was employed for coding the reference intervals. The videotape scene was shown
to two independent judges, who were also provided with a written transcript of the vignette. Both judges were advanced psychology undergraduates. One was male and the other was female. The judges were first shown the videotape scene an initial time from beginning to end, without interruptions. They were then shown the videotape a second time, during which they were asked to follow along with the transcript. Whenever the husband completed a speech act, the videotape was stopped, and they were asked to categorize the speech act as either dominant, agreeable, or neutral. They were permitted to review relevant sections of the videotape as many times as they needed to, in order to feel confident about their codings.

Overall inter-rater agreement for all intervals categorized was only fifty-nine percent. However, on intervals which subjects had previously categorized as either dominant or agreeable with over eighty percent agreement using only the written transcript, the independent judges achieved one hundred percent agreement, both between themselves, and with the previous ratings. Similarly, intervals which had previously exceeded the criterion for classification as neutral intervals were categorized by the independent raters as neutral with one hundred percent reliability.

Memory Recognition Test

As previously discussed, an important objective in designing the recognition memory test was to devise a format which would enable us to distinguish between selective memory due to biased retrieval processes and selective memory due to biased reconstructive processes. This necessitated
the inclusion of dominant, agreeable and neutral items which were actually drawn from the vignette (true items) as well as statements which the husband might plausibly have made, but which were not drawn from the vignette (false items). With this type of format, biased retrieval would manifest itself as selective recognition accuracy for true items consistent with the expectancy condition, whereas biased reconstruction would manifest itself as a tendency to incorrectly recognize false items consistent with the expectancy condition. The true memory items were selected simply on the basis of the vignette intervals which had previously exceeded the minimally acceptable reliability criteria. There were twenty-four such items.

There were two important constraints in developing the false memory items. First, they had to appear plausible within the context of the vignette from which they were supposedly drawn. Second, they had to be reliably identifiable as dominant, agreeable, or neutral. An initial pool of false memory items was created by generating seventy-two statements which would have been meaningful responses in context of the vignette but which had never actually been made. Twenty-four of these statements were designed to appear dominant in nature, twenty-four were designed to appear agreeable in nature, and twenty-four were designed to be neutral. To illustrate the manner in which these responses were devised, consider the following example:

In one section of the vignette, the wife, Susan, asks her husband, David, if she can borrow the car. In the vignette, David responds: "Sure, I'll take the bus to work." This interval was categorized as agreeable. The following false alternative responses were devised:
1. false dominant: "No ... I need the car all day tomorrow."
2. false agreeable: "Sure ... you know I'm always happy to lend you the car if you need it."
3. false neutral: "Do you need the car in the morning?"

The next step involved the selection of a subset of those items, which could be reliably categorized as dominant, agreeable, or neutral. A new sample of forty-seven psychology undergraduates were instructed to read the vignette. When they had completed this task, they were given a list of the seventy-two false items presented in random order, and instructed in the following manner:

"For each of these statements, ask yourself the following question: "If the husband had made this statement during the vignette that I just read, would it have been: 1) a dominant statement, 2) an agreeable statement, or 3) neutral." On this basis I would like you to categorize each statement as either dominant (D), agreeable (A), or neutral (N)."

The subjects categorized twelve dominant items and twelve agreeable items with greater than eighty percent inter-rater agreement. They also categorized twelve neutral items with greater than seventy percent inter-rater agreement. This subset of thirty-six false memory items was

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2 See Appendix 3
then combined with the twenty-four true memory items, to form a memory recognition test with a total of sixty items.  

Interpersonal Adjective Scales

In order to evaluate subjects' perception of the husband's interpersonal behavior in the vignette, a set of eight adjective scales was administered. These eight scales were selected from amongst the sixteen adjective scales developed by Wiggins (1979) to mark the principal dimensions in his circumplex taxonomy of interpersonal traits. Although only the dominant and agreeable scales were employed in subsequent analyses it was considered desirable to embed these two scales within a larger set of adjective scales in order to render these two dimensions less salient, thus reducing the possibility that subjects would be responding to any demand characteristics which might exist (see Appendix 5).
EXPERIMENTAL PROCEDURE

Subjects

All subjects were psychology undergraduates attending the University of British Columbia. Participation in the study was completely voluntary, and there was no form of credit or financial remuneration given. Subjects were told in advance that the experiment was designed to investigate the manner in which people form impressions of other people, and that it would involve watching some videotape scenes in which people were interacting, and subsequently answering some questions about the people they had seen. One hundred subjects participated in the study. Of these, sixty-nine were female, and thirty-one were male. Subjects were randomly assigned to either the dominant or the agreeable expectancy conditions. There were thus fifty subjects in each condition. An attempt was made to balance the experimental conditions with respect to sex. There were thirty-five females and fifteen males in the dominant condition, and thirty-four females and sixteen males in the agreeable condition.

Practice Trials

Subjects were run in groups ranging in size from one to five. Upon arrival, all subjects were asked to read and sign a consent form (see appendix 6). They then received two practice trials on the tracking task prior to the commencement of the experiment proper. It has been argued elsewhere (Trierweiller, Note 2) that no practice trials should be employed
in unitizing studies since to do so would be to create an artificial
situation which might not yield a faithful picture of the manner in which
unitizing takes place in real life. It would seem, however, that tracking
subjectively salient events with a pushbutton is a somewhat unfamiliar
activity to begin with, even if individuals do normally process information
selectively. The novelty of the tracking task might thus result in a
decrement in reliability which conceivably could be reduced through
practice. Indeed, despite the fact that Newtson (Note 1) has demonstrated
good reliability in unitizing, it has been demonstrated that good
reliability with more complex and realistic social stimuli is difficult to
achieve in the absence of practice trials (Trierweiller, Note 2).

The practice trials consisted of viewing and tracking two videotape
vignettes in which a husband and wife were seen interacting with one
another. Each vignette was approximately five minutes in length, and
contained a different set of actors. This precaution was employed in order
to reduce the possibility that subjects would develop an impression bias
with regard to either of the actors in the experimental vignette on the
basis of previous experience. Subjects were asked to track the behaviour of
the wife on both practice vignettes in order to reduce the possibility that
a bias in the perception of male characters would be developed. They were
introduced to the tracking task in the following manner:

We're interested in the impressions you form of different
people. We're also interested in finding out where you
get the information which you use in forming these
impressions. In a moment I'm going to show you a short
film in which a husband and wife are interacting with one
another. I'm interested in the impression you form of
the wife. I also want to find out where you get the information which you use to form an impression of her. While you are watching the film, I would like you to press the button whenever she says something which is helpful to you in forming an impression of her. The button is attached to some equipment which will keep a record of when you press it. There is no right way or wrong way to do the task. We just want to know what information is helpful to you in forming your impression.

Subjects were also instructed not to look at one another or to communicate amongst themselves in any manner while the experiment was on, in order to prevent them from influencing one another. The event recorder was set up in a different room to eliminate the possibility that the noise of the pens would function as a cue. Subjects were instructed to hide their pushbuttons from one another, and the buttons themselves did not emit any noise when pressed.

Following the instructions, subjects viewed and tracked the first practice scene. When they were finished they were reassured that they were performing the tracking task correctly. This assurance was designed to increase the probability that subjects would develop a consistent tracking strategy which was subjectively meaningful to them and to reduce random responding which might result from a lack of confidence in their ability to perform the task. At this point the relevant instructions were repeated to prepare subjects for the second trial and they were then shown the second vignette. No record was kept of the tracking for either of the two trial scenes. Following the completion of the second trial, the subjects were once again reassured, and the experiment proper commenced.
Procedures

All subjects were given the following instructions:

In a moment I'm going to show you another scene in which a man and his wife are interacting. The husband's name is David and the wife's name is Susan. This time I'd like you to watch the film, and to press the button whenever the husband, David, says something which is helpful to you in trying to form an impression of him. Before we begin, however, I'm going to give you some information about David in advance. I'm going to show you some pictures of him and describe to you a number of different things that he has done in the last two weeks.

Subjects were then read the information which was appropriate to their expectancy condition (Appendix 1). While this information was being read they were shown a series of colour slides which had been taken of the actor who portrayed David in the film. This was done in order to increase the impact of the expectancy information by anchoring it to visual images, thus making it more vivid and less abstract (Nisbett & Ross, 1980). The same slides were presented in the same order, in both conditions.

Following the presentation of the expectancy information, subjects viewed and tracked the stimulus vignette. A record of the tracking was kept, using the event recorder. When they had finished tracking the film a ten-minute delay interval was introduced prior to the administration of the recognition memory test. The purpose of this delay interval was to decrease the probability that subjects would be able to retrieve information from short-term memory (Kintsch, 1975; Smith & Miller, 1979). During this delay interval subjects were given a filler task in order to prevent the employment of any memory rehearsal strategies. Since it was important to
avoid arousing suspicions that a memory test would follow, a filler task was devised which would appear plausible in context of the rest of the experiment. Subjects were given a handout upon which were printed a series of brief descriptions of individuals, and were asked to match these descriptions to ten pictures of individuals, which were shown on the slide projector. For each slide, the experimenter waited until all subjects felt they had identified the appropriate description on their answer sheets, before proceeding to the next slide. At the end of the ten minute delay interval the filler task was ended, regardless of how many slides had been identified (see Appendix 7 for a copy of the filler task).

When the filler task had been completed, the memory recognition test was administered. The following task instructions were employed:

On the handout in front of you are a series of statements. Some of these statements were made by David, in the last film that you saw, and some of them were not. For each statement, I would like you to put a number ranging from 1 to 6, indicating how confident you are that David did or did not make that exact statement in the film. Remember, a 1 means you're completely confident that David did not make the statement. A 6 indicates that you're completely confident that David did make the statement. 2, 3, 4 and 5 indicate varying degrees of confidence between those two extremes. Remember that I want to know if he made that exact statement in the film.

A copy of the rating scale was provided to the subjects and they were given as much time as they required to complete the memory task. When they were completed, the memory test forms were taken away from them and the adjective scales were administered. Subjects were given copies of the adjective scales and then issued the following instructions:
I'd like to find out your impression of David's behaviour in the last film that you saw. For each group of adjectives, please circle the number which best indicates how accurately those adjectives summarize your impression of David. Please think back to the film while doing this.

The rating scale which was employed ranged from 1 (extremely inaccurate) to 8 (extremely accurate) and a copy of this rating scale was included in the handout. Following the completion of the adjective scales, subjects were debriefed, thanked for their co-operation, and then dismissed.
RESULTS

Impression Formation

The hypothesis that the expectancy information would bias subjects' impression of the husband in an expectation consistent manner was evaluated by comparing the mean ratings of the two experimental conditions on the dominant and agreeable adjective scales. These data were analyzed with a 2 X 2 X 2 (expectancy condition X sex X adjective scales) between-within ANOVA design with repeated measures on the adjective scales. There was a significant interaction between the expectancy conditions and the two adjective scales, $F(1,96) = 40.842, p < .001$. As predicted, subjects given the dominant expectation rated the husband higher on the dominant adjective scale and lower on the agreeable adjective scale. This pattern was reversed for the agreeable subjects (see Table 4). The absence of a main effect for the sex factor, $F(1,96) = .001, p > .971$, indicates that male and female subjects saw the husband as equally dominant and agreeable. Moreover, there were no significant interactions between: sex X expectancy, sex X adjectives scales, or sex X expectancy X adjective scales, $F(1,96) = 2.398, p > .125$, $F(1,96) = 2.315, p > .131$, and $F(1,96) = .015, p > .904$ respectively. These results confirm that the experimental manipulation was equally effective for male and female subjects. There were significant main effects for both expectancy condition, $F(1,96) = 7.870, p < .01$, and adjective scale rating, $F(1,96) = 15.965, p < .001$. These results indicate that subjects given the dominant expectation rated the husband higher on both adjective scales than did agreeable subjects and that subjects overall saw the husband as more agreeable than dominant.
### TABLE 4

Group Means for Impression Formation Data

<table>
<thead>
<tr>
<th>EXPECTANCY MANIPULATION</th>
<th>ADJECTIVE SCALE RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dominant</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Dominant</td>
<td>50</td>
</tr>
<tr>
<td>Agreeable</td>
<td>50</td>
</tr>
</tbody>
</table>
Tracking Data

The main analysis of the tracking data was conducted using Hotelling's T-Square statistic (Myers, 1979). This was accomplished in the following fashion. Twenty-four intervals of the film were selected for analysis in the manner previously described. For each interval, the number of subjects who had pressed the button within each expectancy condition was tabulated. In this manner, the proportion of subjects who tracked intervals one through twenty-four was obtained independently for a) dominant, and b) agreeable expectancy conditions. After the tracking had been tabulated the intervals were divided into three subsets of eight intervals: 1) dominant, 2) agreeable, and 3) neutral. Separate Hotelling's T-Squares were employed to analyze these three subsets.

4 Sometimes a given subject pressed the button more than once during a given interval. In this case only one button press was counted for that subject. A decision was made to tabulate the tracking data in this manner since the theoretical question of interest had been phrased in a dichotomous or all or nothing manner, i.e., "Does the subject find the interval helpful in forming an impression or not?" In addition it seemed that if the data were tabulated in this manner, the group means would clearly indicate what proportion of the subjects in each group had designated that interval as important. On the other hand, it could be argued that tabulating the data in this manner makes use of only part of the data available, and thus potentially misrepresents the true state of affairs. For this reason a separate analysis was conducted in which all button presses for every subject were tabulated. The results of this analysis are reported in Appendix 8. The general pattern of results obtained using the two different tabulation procedures was identical.
For each subset, the eight intervals were considered to be separate dependent variables. The analysis for each subset thus addressed the multivariate question: "Are the mean vectors of the dominant and agreeable expectancy conditions significantly different?" Since the data entry for each subject in any given reference interval was restricted to one or zero, the group mean for any given interval represents the proportion of subjects in the group who tracked that interval.

On the dominant reference intervals there was an overall significant difference between dominant and agreeable subjects, $T^2 = 30.017$, $F(8,91) = 3.484$, $p < .005$. As predicted, dominant subjects tracked dominant intervals to a greater extent than did agreeable subjects (Table 5). While this was true for every one of the dominant intervals, a multiple comparison procedure which set experiment-wise error rate to $p < .05$ (Myers, 1979) failed to find significant differences on any of the individual mean comparisons.

The analysis of agreeable intervals yielded a complementary pattern of results. The mean vectors for dominant and agreeable subjects were significantly different, $T^2 = 23.112$, $F(8,91) = 2.683$, $p < .01$, with agreeable subjects tracking agreeable intervals more frequently than dominant subjects. Once again multiple comparisons failed to yield any significant individual comparisons despite the fact that agreeable subjects consistently scored higher than dominant subjects on every agreeable interval (Table 6).
TABLE 5
Group Means on Tracking Task
(Dominant Intervals)

<table>
<thead>
<tr>
<th></th>
<th>Dominant</th>
<th>Agreeable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X (SD)</td>
<td>X (SD)</td>
</tr>
<tr>
<td>1. Susan ... could you call Terry back ... I'm expecting an important call.</td>
<td>.66 (.48)</td>
<td>.32 (.47)</td>
</tr>
<tr>
<td>2. No ... you'll have to call her back Susan ... I don't want to miss this call.</td>
<td>.62 (.49)</td>
<td>.48 (.51)</td>
</tr>
<tr>
<td>3. Look ... just make up your mind and give them a call.</td>
<td>.86 (.35)</td>
<td>.68 (.47)</td>
</tr>
<tr>
<td>4. I'm just not in the mood for Merv Griffin tonight. Common ... let's have a drink.</td>
<td>.52 (.51)</td>
<td>.42 (.50)</td>
</tr>
<tr>
<td>5. Listen Susan. We owe them a dinner and I really want to have them over.</td>
<td>.64 (.49)</td>
<td>.44 (.50)</td>
</tr>
<tr>
<td>6. Don't go storming off Susan. Sit down ... That's better.</td>
<td>.66 (.78)</td>
<td>.46 (.50)</td>
</tr>
<tr>
<td>7. No. I just can't afford the extra time it would take to go to New York.</td>
<td>.80 (.40)</td>
<td>.48 (.51)</td>
</tr>
<tr>
<td>8. Don't pick up that glass with your hands Susan. Use the broom and dustpan.</td>
<td>.80 (.40)</td>
<td>.74 .44</td>
</tr>
</tbody>
</table>

p < .005
<table>
<thead>
<tr>
<th></th>
<th>Dominant</th>
<th>Agreeable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} ) (SD)</td>
<td>( \bar{X} ) (SD)</td>
</tr>
<tr>
<td>1. Well that sounds good to me too. We can go out for Chinese food another time.</td>
<td>.64 (.49)</td>
<td>.88 (.33)</td>
</tr>
<tr>
<td>2. Okay honey. I'll try to make it the way you like it this time.</td>
<td>.66 (.48)</td>
<td>.70 (.46)</td>
</tr>
<tr>
<td>3. Sure. I'll take the bus to work.</td>
<td>.68 (.47)</td>
<td>.72 (.45)</td>
</tr>
<tr>
<td>4. That's a good idea. It's a really nice dish.</td>
<td>.28 (.45)</td>
<td>.34 (.48)</td>
</tr>
<tr>
<td>5. Okay honey. I'm happy to go along with whatever.</td>
<td>.58 (.50)</td>
<td>.70 (.46)</td>
</tr>
<tr>
<td>6. Sure. I'd be glad to help your sister move.</td>
<td>.64 (.49)</td>
<td>.90 (.30)</td>
</tr>
<tr>
<td>7. Okay honey. I can always call from the restaurant.</td>
<td>.50 (.51)</td>
<td>.76 (.43)</td>
</tr>
<tr>
<td>8. Okay honey. I'll go the the gallery with you after dinner.</td>
<td>.50 (.51)</td>
<td>.76 (.43)</td>
</tr>
</tbody>
</table>

\( p < .01 \)
<table>
<thead>
<tr>
<th>Response</th>
<th>Dominant $\bar{x}$ (SD)</th>
<th>Agreeable $\bar{x}$ (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It was actually quite bad.</td>
<td>0.08 (0.27)</td>
<td>0.08 (0.27)</td>
</tr>
<tr>
<td>2. Oh ... when did he get back into town?</td>
<td>0.00 (0.00)</td>
<td>0.04 (0.20)</td>
</tr>
<tr>
<td>3. Oh ... I see it. We're almost out, you know.</td>
<td>0.04 (0.20)</td>
<td>0.02 (0.14)</td>
</tr>
<tr>
<td>4. Yeah ... I've got it.</td>
<td>0.02 (0.14)</td>
<td>0.00 (0.00)</td>
</tr>
<tr>
<td>5. That's encouraging. I hope it's accurate.</td>
<td>0.08 (0.27)</td>
<td>0.14 (0.35)</td>
</tr>
<tr>
<td>6. Not exactly. How about you?</td>
<td>0.04 (0.20)</td>
<td>0.06 (0.24)</td>
</tr>
<tr>
<td>7. What type of art does it have?</td>
<td>0.02 (0.14)</td>
<td>0.02 (0.14)</td>
</tr>
<tr>
<td>8. Okay ... I'll be waiting outside.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I want to clean the windshield.</td>
<td>0.10 (0.30)</td>
<td>0.16 (0.37)</td>
</tr>
</tbody>
</table>
The T-square analysis on neutral intervals could not be computed since the variance-covariance matrix could not be inverted. An examination of Table 7 indicates that more than one of the interval means were identical. The variance-covariance matrix could therefore not be inverted due to linear dependencies in the data. In order to compare the tracking of neutral reference intervals to the tracking of dominant and agreeable intervals a cumulative mean score for each of the three subsets of intervals was obtained by summing the individual interval means within each subset. These three cumulative indices were then analyzed as repeated measures in a 2 X 2 X 2 (expectancy condition X sex X interval type) between-within repeated measures ANOVA.

There was a significant main effect due to interval type, \( F(2,192) = 240.577, p < .001 \), and a significant interaction between expectancy condition and interval type, \( F(2,192) = 20.406, p < .001 \). Post hoc comparisons on cell means were conducted using Bonferonni t-tests (Myers, 1979). All t-tests were two-tailed. These comparisons demonstrated that overall, subjects tracked both dominant and agreeable intervals significantly more frequently than neutral intervals, \( t(99) = 22.50, p < .0001 \) and \( t(99) = 20.82, p < .0001 \) respectively. There were no significant differences overall between dominant and agreeable intervals \( t(99) = 1.14, p > .257 \) (Table 7).

Subjects in the dominant expectancy condition tracked dominant intervals more frequently than did subjects in the agreeable condition, \( t(98) = 4.16, p < .0001 \), and subjects in the agreeable condition tracked agreeable intervals more frequently than did subjects in the dominant condition, \( t(98) = 3.01, p < .05 \). There were however, no significant differences between
subjects in the two conditions on neutral intervals, $t(98) = .75, p > .226$
(Table 8). Subjects in the dominant expectancy condition tracked dominant
intervals significantly more frequently than agreeable intervals, $t(49) = 2.89, p < .05$. Conversely, subjects who received the agreeable manipu-
lation tracked agreeable intervals significantly more frequently than
dominant intervals, $t(49) = 5.08, p < .0001$ (Table 8).

There was no significant main effect due to subject sex, $F(1,96) = 1.142, p > .288$, and no significant interaction between sex, expectancy condition,
and interval type, $F(2,192) = 1.719, p > .182$. There was a significant inter-
action between subject sex and interval type, $F(2,192) = 3.83, p < .05$. Male
subjects tracked dominant intervals more frequently, whereas female subjects
tracked agreeable intervals more frequently.

Correlational Analyses

A final question which was asked with regard to the tracking data was: to
what extend could the subjects' ratings of dominance and agreeableness be pre-
dicted on the basis of their tracking behaviour? To answer this question,
Pearson $r$ correlations were computed between the cumulative mean scores for
each of the three subsets of reference intervals and subjects' ratings of a)
dominance, and b) agreeableness. Collapsing across both expectancy conditions,
the correlation between dominant intervals and ratings of dominance was $r = .34,$
$p < .0001$, while the correlation between tracking dominant intervals and ratings
of agreeableness was $r = -.39$, $p < .0001$. The correlation between tracking
agreeable intervals and ratings of dominance was $r = -.25$, $p < .01$, while the
TABLE 8
Group Means on Tracking Task
(Intervals Summed)

<table>
<thead>
<tr>
<th>INTERVAL TYPE</th>
<th>EXPECTANCY MANIPULATION</th>
<th>Dominant</th>
<th>Agreeable</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X (SD)</td>
<td>X (SD)</td>
<td>X (SD)</td>
<td></td>
</tr>
<tr>
<td>Dominant Subjects</td>
<td>5.56 (1.57)</td>
<td>4.48 (2.35)</td>
<td>.38 (.73)</td>
<td></td>
</tr>
<tr>
<td>Agreeable Subjects</td>
<td>4.02 (2.10)</td>
<td>5.76 (1.87)</td>
<td>.52 (1.09)</td>
<td></td>
</tr>
<tr>
<td>All Subjects</td>
<td>4.79 (2.00)</td>
<td>5.12 (2.21)</td>
<td>.45 (.93)</td>
<td></td>
</tr>
<tr>
<td>All Subjects</td>
<td>(average interval)</td>
<td>59.50</td>
<td>64.00</td>
<td>.056</td>
</tr>
</tbody>
</table>
correlation between tracking agreeable intervals and ratings of agreeableness was \( r = .29, p < .005 \). The correlations between tracking neutral intervals and ratings of dominance and agreeableness were \( r = -.13, \text{n.s.} \), and \( r = -.09, \text{n.s.} \), respectively (Table 9).

Thus, as expected, subjects who frequently tracked dominant intervals were likely to rate the husband as dominant and unlikely to rate the husband as agreeable, whereas subjects who frequently tracked agreeable intervals tended to perceive the husband in an opposite fashion. Again as expected, there was no significant relationship between tracking neutral intervals and rating the husband as dominant or agreeable.

A second analysis was conducted to correlate subjects' tracking behaviour to their ratings of dominance and agreeableness, within expectancy conditions. In the dominance expectancy condition, there was a significant negative correlation between tracking agreeable intervals and rating the husband as dominant, \( r = -.31, p < .05 \). In the agreeable expectancy condition there was a significant negative correlation between tracking dominant intervals and rating the husband as agreeable, \( r = -.37, p < .005 \). These results suggest, that subjects whose tracking behaviour was not biased by the expectancy information, were unlikely to rate the husband in an expectation-consistent fashion.

Within expectancy conditions, the correlations between tracking expectation-consistent information and rating the husband in an expectation-consistent fashion were not significant. The fact that these correlations were not significant suggests that they may have been spuriously inflated by collapsing across expectancy conditions.
TABLE 9
Correlations Between Tracking Behavior
and Adjective Ratings

<table>
<thead>
<tr>
<th>TRACKING (INTERVAL TYPE)</th>
<th>DOMINANT</th>
<th>AGREABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominant</td>
<td>0.34 ***</td>
<td>-0.39 ***</td>
</tr>
<tr>
<td>Agreeable</td>
<td>-0.25 *</td>
<td>0.29 **</td>
</tr>
<tr>
<td>Neutral</td>
<td>-0.13</td>
<td>-0.09</td>
</tr>
</tbody>
</table>

* p < .01
** p < .005
*** p < .0001
Memory Data

As previously discussed there were two distinct subsets of memory items: a) true items, and b) false items. These two item subsets were analyzed independently of one another.

True Memory Items

For every subject, overall accuracy indices for dominant, agreeable and neutral items, were obtained by summing confidence ratings for the eight dominant items, eight agreeable items, and eight neutral items, respectively. These three accuracy indices were then analyzed as repeated measures in 2 X 2 X 3 (expectancy condition X subject sex X memory item type) between - within ANOVA. There was a significant main effect for memory item type, F(2,192) = 65.887, p < .001. Bonferroni t-tests indicated that collapsing across conditions, subjects were significantly more accurate in both dominant and agreeable items than they were on neutral items, t(99) = 10.39, p < .0001, and t(99) = 7.37, p < .0001 respectively. Subjects were also significantly more accurate on dominant than on agreeable items, t(99) = 4.24, p < .0001 (Table 10). There were no other significant effects in the analysis. Thus, no evidence was found of selective accuracy for memory items which were consistent with expectancy conditions or for differential accuracy between sexes.

False Memory Items

Overall confidence indices for dominant, agreeable, and neutral items were calculated by summing the appropriate individual items. These data
were also analyzed with a 2 X 2 X 3 (expectancy condition X subject sex X memory item type) repeated measures ANOVA. There were no significant effects in this analysis (Table 11). Thus no evidence was found for expectation consistent memory reconstruction.
TABLE 10
Group Means for True Memory Items

<table>
<thead>
<tr>
<th>MEMORY ITEM TYPE</th>
<th>EXPECTANCY CONDITION</th>
<th>Dominant</th>
<th>Agreeable</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$X$ (SD)</td>
<td>$X$ (SD)</td>
<td>$X$ (SD)</td>
</tr>
<tr>
<td>Dominant Subjects</td>
<td>43.04 (6.42)</td>
<td>41.54 (5.73)</td>
<td>38.02 (5.51)</td>
<td></td>
</tr>
<tr>
<td>Agreeable Subjects</td>
<td>44.12 (4.12)</td>
<td>41.90 (4.61)</td>
<td>37.08 (5.09)</td>
<td></td>
</tr>
<tr>
<td>All Subjects</td>
<td>43.58 (5.40)</td>
<td>41.72 (5.18)</td>
<td>37.55 (5.30)</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 11

**Group Means for False Memory Items**

<table>
<thead>
<tr>
<th>EXPECTANCY CONDITION</th>
<th>MEMORY ITEM TYPE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dominant</td>
<td>Agreeable</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\bar{X}$ (SD)</td>
<td>$\bar{X}$ (SD)</td>
<td>$\bar{X}$ (SD)</td>
<td></td>
</tr>
<tr>
<td>Dominant Subjects</td>
<td>29.76 (11.59)</td>
<td>30.52 (8.20)</td>
<td>30.22 (7.76)</td>
<td></td>
</tr>
<tr>
<td>Agreeable Subjects</td>
<td>28.08 (8.47)</td>
<td>31.32 (8.82)</td>
<td>30.20 (7.57)</td>
<td></td>
</tr>
<tr>
<td>All Subjects</td>
<td>28.92 (10.13)</td>
<td>30.92 (8.48)</td>
<td>30.21 (7.63)</td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

General Discussion

The present study clearly demonstrates that expectations can bias the formation of interpersonal impressions and implicates the selective encoding of interpersonal behaviour as a mediating mechanism. Subjects tended to track intervals of the film which were consistent with the expectations which had been induced and subsequently formed impressions of the target person which were consistent with both the expectation which had been induced as well as the type of intervals they had tracked.

The analysis of between group differences in the tracking data supported the major hypothesis that subjects would be more likely to find helpful and to use information which was consistent with their initial expectations than information which was not. Subjects who had received the dominant expectancy manipulation tracked dominant intervals of the interaction significantly more frequently than subjects who had received the agreeable expectancy manipulation. Conversely subjects who had received the agreeable expectancy manipulation tracked agreeable intervals significantly more frequently than did subjects who had received the dominant expectancy manipulation. While this pattern emerged consistently for all intervals which had been categorized as dominant or agreeable, none of the between group differences on individual intervals reached significance when a conservative multiple-comparison procedure was employed. This fact, in addition to simple inspection of the interval means of the two groups (Tables 5 & 6), suggests that the selective encoding by no means entailed a
complete exclusion of information which was not consistent with expectations, but rather entailed consistent and significant preference for information which was expectation-consistent. This preference ranged in magnitude from fairly sizeable differences on some intervals (e.g., thirty-two out of fifty dominant subjects compared to sixteen out of fifty agreeable subjects tracked the first dominant interval), to moderately sized preferences on others (e.g., thirty-three out of fifty dominant subjects compared to twenty-three of the fifty agreeable subjects tracked the sixth dominant interval) to negligible between-group differences on a few of the intervals (e.g., thirty-five out of fifty agreeable subjects compared to thirty-three of the fifty dominant subjects tracked the second agreeable interval) (Tables 5 & 6).

It appears then that information which was unanticipated was still picked up by the subjects, albeit not as frequently as information which was expected. This finding is consistent with Neisser's (1976) position that "... perception is directed by expectations but not controlled by them." (p. 43). The lack of significant between-group differences on the neutral intervals suggests that encoding differences were specific to relevant information. Since one would expect selective encoding of relevant information but not of irrelevant information, this finding provides further evidence that the tracking procedure provided a valid index of encoding activity. The finding that subjects in both conditions tracked significantly fewer neutral intervals than either dominant or agreeable
intervals suggests that both schema consistent and inconsistent information were more salient to subjects than schema irrelevant information (cf. Hastie & Kumar, 1979).

Although the traits of dominance and agreeableness are theoretically orthogonal (Wiggins, 1979) subjects in the present study saw the two as significantly negatively correlated, $r = -0.47$, $p < 0.0001$. This departure from expectations may have resulted from the fact that in the present context subjects were ascribing traits to another individual rather than to themselves, whereas Wiggins' (1979) taxonomy of interpersonal traits is derived from self-ratings. The ascription of traits to others may follow a different set of rules than the ascription of traits to the self. It is also possible that the perceived negative relationship between dominance and agreeableness in the present study may result from the contrived nature of the vignette. In contrast to real life interactions in which a variety of interpersonal behaviours falling along various vectors of the circumplex may occur, the vignette in the present study was designed to highlight dominance and agreeableness almost to the exclusion of other interpersonal behaviours. By narrowing the range of interpersonal behaviours available to subjects for comparison purposes, dominant and agreeable behaviours may have appeared to be more negatively correlated than they might in a more naturalistic setting.

A final potential factor contributing to the relative lack of salience of neutral intervals is that in addition to being irrelevant with respect to the traits of dominance and agreeableness, the neutral acts in the vignette were quite noninformative with respect to any type of interpersonal judgment. Thus, statements such as: "Yeah, I've got it," and "What type of art does it have?" would not be particularly diagnostic, and were therefore not particularly salient to the subjects in the present study.
The results of the correlational analyses were consistent with the analysis of between group differences. Collapsing across expectancy conditions, subjects who frequently tracked dominant intervals tended to see the husband as a dominant person and were unlikely to see him as agreeable. Conversely, subjects who frequently tracked agreeable intervals tended to see the husband as an agreeable person and were unlikely to see him as dominant. There were no significant relationships between the tracking of neutral intervals and ratings of dominance or agreeableness.

Within both expectancy conditions, subjects whose tracking behaviour was not biased by the expectancy information, were unlikely to rate the husband in an expectation-consistent fashion. These findings, together with the analysis of between group differences in tracking data, provide a coherent and theoretically predictable pattern of results. Although the correlational analyses provide evidence regarding the relationship between selective encoding of interpersonal behaviour and impression formation, no causal inferences can be drawn on this basis. Any such inferences would require the direct manipulation of encoding activity itself.  

There is evidence in other contexts that the direct manipulation of stimulus salience affects both memory and subsequent attributions about interpersonal behaviour. Taylor and Fiske (1978), for example, have demonstrated in a number of studies that subjects are more likely to attribute causal responsibility to individuals who are more visually salient in the dyadic or group interaction. They argue that simply manipulating visual salience increases the ease with which information about the stimulus person is encoded and thus increases the availability of information about the person in memory. Reyes, Thompson, & Bower (1980), have demonstrated that simply increasing the vividness of written information can increase the likelihood that information will receive disproportionate attention and will subsequently be weighted more heavily than other information when making legal decisions.
While the tracking data were consistent with the experimental hypotheses, there was no evidence of either selective memory retrieval or selective memory reconstruction consistent with subjects' expectations. The absence of any such evidence stands in contrast to a number of studies which have demonstrated a memory bias consistent with initial expectations (cf. Hastie & Kumar, 1979; Rothbart, Evans, & Fulero, 1978; Zadny & Gerard, 1974), and may possibly be accounted for by the increased ecological validity of the stimulus materials employed in the present study. Just as in real life interactions, the information which subjects were subsequently asked to remember, was initially embedded within the context of a complex social interaction containing theme, structure, and a complex array of verbal and visual information. This context may have minimized expectation consistent retrieval and reconstruction by providing subjects with sufficient retrieval cues to cancel out any such effects.  

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7 While Cohen (1981) did find an expectancy consistent memory bias even when using more ecologically valid stimulus materials than have been common, it should be noted that there is an important difference between the stimulus materials employed in her study and those employed in the present study. Cohen had subjects watch a videotape in which a woman interacted with her husband and then evaluated memory for various features which were either consistent or inconsistent with the stereotypes of waitress or librarian. These features were either subtly slipped into the tape (e.g., artwork was placed on the wall), or integrated into the conversation (e.g., she mentioned playing the guitar, or travelling to Europe).

In the present study the stimulus materials did not, in the same manner, consist of a variety of different features, but rather, exclusively of interpersonal acts. Any given statement that the husband made was meaningfully embedded within a specific interaction sequence, and in turn was meaningful only within the context of that interaction.
A second way in which the increased ecological validity of the present study may have militated against the emergence of a memory bias is that subjects may have been more likely to encode events at the level of abstract meaning since the interaction they observed in the present study was more lifelike and conducive to the consideration of abstract interpersonal issues than is typically the case. If the preferred mode of processing was at a fairly abstract level it is possible that any memory selectivity would be more likely to emerge at this level rather than at the level of surface detail.

Although no expectation-consistent memory bias occurred, it is possible that such an effect would have emerged if the delay interval between exposure to the stimulus vignette and the memory recognition test had been increased in length. This effect would occur if consistent and inconsistent information decayed at different rates.

7 (Cont'd.)

sequence. Thus, for example, when the husband says: "I'm just not in the mood for Merv Griffin tonight ... come on ... let's have a drink", it only makes sense in context of the interaction the husband and wife are having about whether or not they should watch T.V. In turn, when one recalls the statement, one automatically recalls the relevant interaction sequence.

In contrast, the type of stimulus features employed by Cohen (1981) are not necessarily embedded within a specific interaction context. Thus one can recall that there was a picture on the wall, or recall that the woman plays a guitar, without necessarily recalling an interpersonal context in which these features were embedded in the film. In short, there appears to be a greater degree of embeddedness or interrelatedness between stimulus features and context, in the present study than in Cohen's (1981), and this greater embeddedness may have provided more retrieval cues for subjects.
Although this possibility was not ruled out in the present study, it is noteworthy that the predicted impression formation bias did emerge after the ten minute delay interval without the apparent mediation of any memory bias. It would appear then that although biases in memory retrieval and reconstruction may result from the schematic processing of social information, they are not necessarily the mediating mechanisms through which expectations influence the perception of interpersonal behaviour. Furthermore, there is some evidence that lengthening the delay interval does not necessarily increase the degree of expectation-consistent memory bias resulting from schematic processing (Cohen, 1981).

Although there was no evidence of expectation consistent retrieval or reconstruction in the present study, subjects in both expectancy conditions were more accurate in retrieving both dominant and agreeable items than they were in retrieving neutral items and more accurate in retrieving dominant items than they were in retrieving agreeable items. The superior recognition for both dominant and agreeable items relative to neutral items parallels the findings that both dominant and agreeable subjects tracked significantly fewer neutral intervals than either dominant or agreeable intervals. An examination of group means on the tracking task (Tables 5, 6 & 7) indicates that indeed the neutral intervals received much less attention from the subjects than either dominant or agreeable intervals. Inspection of the last row of the data presented in Table 8, indicates that the average neutral interval was tracked by less than 1 of the 100 subjects (.056 to be precise). This compares with 59.5 of the one hundred subjects who tracked the average dominant interval, and 64 of the 100 subjects who tracked the average agreeable interval. This virtual absence of any
attention whatsoever to neutral acts may account for the relatively poor retrieval of neutral intervals.

The finding that subjects showed more accurate recognition memory for dominant than for agreeable memory items was not paralleled by the tracking data. There is thus no evidence to support the hypothesis that dominant acts were more salient to subjects than agreeable acts. A possible explanation for the superior memorability of dominant items is that they tended to be more thematically heterogeneous and thus more distinctive than the agreeable items. The dominant acts tended to be quite varied in nature in the sense that some involved giving advice (e.g., Look ... just make up your mind and give them a call), some involved forbidding the wife to do something (e.g., Don't go storming off, Susan ... sit down), some involved dominating a decision about a mutual activity (e.g., I don't really feel like watching t.v. ... let's have a drink before dinner instead), and so on.

In contrast, the agreeable items were relatively homogeneous in nature in the sense that they all involved simply going along or accommodating (e.g., Okay honey, I'm happy to go along with whatever; or, Okay honey ... I'll go to the gallery with you after dinner). Also note that four of the eight agreeable items actually start with exactly the same words (i.e., Okay honey). Because of this lack of distinctiveness, these items may have been less easily retrieveable from memory since they may have had fewer distinctive retrieval cues associated with them. Whether dominant interpersonal acts are inherently more memorable than agreeable acts or were only so because of the particular acts employed in the present study, is an empirical question.
It is noteworthy that while subjects in both expectancy conditions showed more accurate recognition for dominant than agreeable memory items, they did not see the husband in the vignette as more dominant than agreeable. Quite the contrary, in fact, they saw the husband as significantly more agreeable than dominant. This discrepancy highlights the fact that in the present study no consistent relationship was found between the impressions that subjects formed of the husband, and either memory retrieval or memory reconstruction.

Selective Encoding or Selective Memory?

The above pattern of results suggests that when complex, ecologically valid stimulus materials are employed, expectations may influence the perception of interpersonal behaviour more through a process of selective encoding than through biased memory for events. How is it possible for selective encoding to bias impression formation without the mediating mechanism of selective memory for events? One possibility is that subjects discount expectation inconsistent information rather than forgetting or distorting it. This discounting may take the form of simply deciding that a given piece of information is irrelevant to the task of impression formation, or it may take a more sophisticated form in which the subject attributes expectation inconsistent behaviours to suspect motives. Subjects when queried about their thought process during the debriefing session would often make comments such as: "I thought that the husband was basically a dominant person, who did agreeable things in order to get his own way". Future research should investigate the possibility of this type of discounting process.
A related possibility is that although there were no expectation consistent biases in memory for the dialogue of the vignette, as previously discussed, subjects may have encoded and subsequently recalled events at the level of abstract meaning. The statement: "Don't pick up that glass with your hands, Susan", may simply have been encoded as: "He's really being bossy now", while the statement: "Sure, I'd be glad to help your sister move" may have been encoded as: "He's being really accommodating and agreeable". As Neisser (1976) asserts:

"In reading or in listening, one perceives the meaning of words and sentences, the drift of an argument, or the undertone of feeling that may be represented. These perceptions often seem very direct, in the sense that we become aware of the meanings without seeming to notice the physical details that provide evidence for them." (p. 71)

With both of the above possibilities, tracking biases in the study may have represented a selective weighting of expectation consistent information rather than a complete inattention to inconsistent information. If this was the case, it might be argued that the tracking index reflects a higher level cognitive process rather than selective encoding. As repeatedly emphasized in the introductory section of this study, however, the distinction between perceptual and cognitive processes may be more apparent than real. As Smith & Miller (1979) have argued, attributional processing can take place "at the time of encoding and storage of a stimulus as well as at the time of its retrieval". This interpretation is not at all incompatible with contemporary theories of attention which conceptualize selective attention in terms of degree of attentional allocation (Kahneman, 1974; Norman & Bobrow, 1975) and depth of processing (Craik & Tulving, 1975) rather than selective filtering of information.

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A final possibility is that when a subject tracked a given interval, he registered an affective impression associated with that interval. Zajonc (1980) has recently reviewed evidence supporting the position that cognition and affect are under the control of two partially independent systems and that affective reactions are not necessarily represented cognitively. Affective judgments can be made independently of the types of cognitive processes typically presumed to precede affective reactions, yet at the same time can influence judgments in a variety of contexts. It seems likely that social judgments are particularly likely to have an important affective component, and it is possible, for example, that judgments about the husband in the present study were made along a simple dimension of good - bad, and then translated into more complex adjective dimensions.

Clinical Implications

Regardless of which hypothesis or combination of the above hypotheses most accurately accounts for the data, the fact that subjects exhibited no expectation consistent bias in either memory retrieval or memory reconstruction may have some interesting clinical implications. It suggests that the client who has formed a dysfunctional impression of a social interaction, may still have available in memory the surface information upon which the initial distortion was based. In such cases it may be useful for the therapist to help the client retrieve the appropriate information from memory and to then assess for any dysfunctional discounting of information or misinterpretation of its meaning or significance.
A second potential clinical implication of the above pattern of results is that it may be therapeutically useful for the clinician to help the client to become aware of the manner in which he selectively encodes expectation consistent information and to then begin to modify this encoding activity. This process can presumably be accomplished in a number of ways. One possibility consists of prescribing exercises in vivo to help the client develop greater awareness of his encoding activities. The therapist can instruct the client to ask himself what his expectations are in any given interpersonal situation, and to then pay attention to the events which appear to confirm those expectations. Once the client has become adept at this process the therapist can instruct him to change the procedure and to begin to actively seek events which disconfirm his expectations. In this manner the client can compare the two encoding styles and the social perceptions which result from them and gain a sense of the manner in which he actively influences his own experience.

Another possibility consists of using the therapeutic relationship as a mini laboratory in which the therapist can stop the client at strategic points to inquire as to which therapist behaviours are being selectively weighted. Group therapy situations would be ideal for this type of exploration, since the therapist could potentially help the client to become aware of the manner in which he selectively encodes the interpersonal behaviour of a variety of different target people. Group exercises in which partners take turns pinpointing the interpersonal acts which they find most helpful in forming an impression of the other person could be used for this purpose.
While the type of interventions described here tend to focus on what interpersonal information is encoded by the client, there is no reason for them not to focus on how the client encodes information, as well. It may be useful to stop clients at strategic points during social interactions to explore the abstract meaning which they extract from a specific event. One possibility, for example, might involve videotaping therapy sessions with dysfunctional marital couples, and subsequently reviewing the tape with the couple. Using this procedure, the therapist could stop the tape at various points to assess which events the two spouses deem significant, as well as the meaning abstracted by both partners from those events.

While the pattern of results emerging in the present study leads to some intriguing speculation about potential therapeutic interventions, it must be remembered that the extent to which these findings would generalize to a clinical population remains unanswered. It is possible that expectations which are based upon more global belief systems or more enduring assumptions about the world would have a qualitatively different impact upon the processing of social information, than the expectations which were manipulated experimentally in the present investigation. It also seems likely that affective and motivational considerations have a greater impact upon social cognition in a clinical context than in the present study and might potentially result in information processing biases which did not emerge in the present study.

Finally, it is probable that the precise nature of the information processing bias in social perception is dependent upon the particular type of psychological disorder. Magaro (1980), for example, argues that
paranoids and paranoid schizophrenics employ "top - down" processing strategies which bend all incoming information to confirm existing schemata. It seems likely that the extent to which schemata will accommodate in the face of inconsistent information varies as a function of the severity of the disorder. There is thus an important sense in which the present investigation, while providing evidence about the cognitive mechanisms which mediate the effect of expectations upon social perception in general, must be considered only a preliminary step in the delineation of cognitive processes involved in clinically dysfunctional social perception.

General Implications

Although the present study was conducted specifically with an eye towards clinical implications, there are a variety of other contexts in which a refinement of our understanding of the cognitive mechanisms through which expectations influence the perception of interpersonal behaviour may be important. The impact of expectations upon social stereotyping has long been a topic of interest to social psychologists. Another relevant phenomenon is the influence of teachers' expectations upon student behaviour in classroom situations. Similarly, courtroom settings and personnel decisions are contexts in which expectancy-biased information processing may plan an important role. Finally, returning to the context of clinical psychology, neither the diagnostician, nor the therapist are exempt from the effects of expectancy-biased information processing. The impression that a diagnostician forms of a patient may be biased by prior information provided by diagnostic labels. Expectations based upon previous experiences
in the therapist's personal life may bias his perception of his clients. This brief list provides some indication of the ubiquity of expectancy effects in important interpersonal situations and underscores the value of clarifying the nature of the relevant cognitive mechanisms.

Since the failure of the present study to confirm the mediating role of biased memory for surface information, stands in contrast with other research as previously described, replication of this result is essential. As Hogarth (1981) has recently noted, however, judgment research which focuses upon discrete incidents may yield a faulty picture of the accuracy of judgmental processes which normally operate upon continuous information in the real world. Analogously, social perception research using discrete stimulus materials such as lists of behaviours may yield an inaccurate reflection of the cognitive processes involved in everyday social perception. For this reason, future studies investigating the cognitive processes mediating expectancy effects would be well advised to employ ecologically valid stimulus materials which more closely reflect the complexity of real life social interactions than has typically been the case. The present study was an initial step in this direction.

Tracking Subjectively Salient Events:
A Methodological Note

The results of the present study suggest that the tracking methodology employed can be a useful procedure for purposes of exploring the perception
of interpersonal behaviour. The network of relationships which emerged between the tracking data and other variables was consistent and theoretically meaningful, thus providing a form of construct validation of the procedure. This is important since the unitizing procedure upon which the methodology was based has typically been employed in the context of very simple, artificial stimulus materials. The fact that the predicted pattern of results emerged in the tracking data despite the fact that this was not paralleled by the memory data, demonstrates the importance of employing independent indices of encoding and memory in social perception studies, and points to the tracking procedure as a promising candidate for this purpose.

The fact that subjects' adjective ratings could be predicted on the basis of their tracking behaviour suggests that the tracking procedures may potentially be useful in correlational studies, designed to investigate differences in encoding behaviour between clinical and normal groups. Another potential application of the tracking methodology may be as a clinical diagnostic tool which can be employed to assess and pinpoint characteristically dysfunctional encoding activities in clients. A procedure could for example, be devised in which a standard set of videotaped vignettes dealing with common interpersonal themes such as domination, submission, expression of approval, affection, rejection, etc.

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8 See Appendix 10 for further discussion of the relationship between tracking and other variables.
are developed. The client would then be asked to identify with one of the individuals in the vignettes and to track events which are helpful to him in forming an impression of the other individual. The clinician would then be able to use the tracking data to isolate the type of interpersonal behaviours to which the client is particularly prone to attend. In this manner, the procedure could be employed as a form of cognitive TAT (Meichenbaum, 1977) which yields information about cognitive style rather than more traditional personality or motivational variables.

A final issue warranting consideration, is the possibility that the tracking data results in the present study, represent the operation of demand characteristics, rather than subjects' true encoding patterns. An alternative hypothesis which might account for the results obtained, is that subjects were attempting to respond to perceived task demands by tracking intervals which were consistent with the information presented in the expectancy manipulation. Although this possibility cannot be ruled out completely, it would seem unlikely, since at no point in the experiment was it made explicit that consistent information would be more appropriate than inconsistent information. It would nevertheless be advisable for future studies to control for this possibility more carefully.
REFERENCE NOTES


REFERENCES


- 102 -


Treisman, A. & Tuxworth, J. Immediate and delayed recall of sentences after perceptual processing at different levels. Journal of Verbal Learning and Verbal Behaviour, 1974, 13, 38-44.


APPENDIX 1

Expectancy Manipulations

A. Dominant

1. He persuaded the others to accept his opinion on the issue.
2. He told his co-worker how to do his job.
3. On the auto trip, he decided which directions to take when they got lost.
4. He bought himself a new summer jacket. (N)*
5. He monopolized the conversation.
6. He ordered a cheeseburger for lunch. (N)
7. He stubbed his toe on the kitchen table. (N)
8. He took a stand on the issue without waiting to find out what others thought.
9. He played a game of tennis with a friend. (N)
10. He issued orders to get the group organized.
11. He took charge of things at the committee meeting.

B. Agreeable

1. He remained patient when the car ran out of gas.
2. He asked others what they would like to do at the Sunday picnic.
3. He readily did the dishes after dinner.
4. He bought himself a new summer jacket. (N)
5. He tried a new food at the restaurant because his friend suggested it.
6. He ordered a cheeseburger for lunch. (N)
7. He stubbed his toe on the kitchen table. (N)
8. He danced when asked even though he disliked the music.
9. He played a game of tennis with a friend. (N)
10. He offered an older person his seat on the bus.
11. He stopped at the post office for a friend even though he was in a rush.

*Neutral items designated by "N".*
APPENDIX 2

Vignette Transcript*

H = Husband
W = Wife

H 1: (walks into house and says to wife) Hi Susan ...
W - (gives husband a hug) Hi David ... How was your day?
H 2: (returning hug) Oh ... it was okay ... I suppose ... the air conditioner broke in the office ... and it made it really difficult to work this afternoon.
W - I can imagine ...
H 3: Anyways ... they're supposed to be fixing it for tomorrow (sits down and begins to look at the newspaper).

** W - David ... that makes me really angry when you start reading the newspaper the second you come home.
H - (putting newspaper away) I'm sorry honey ... that wasn't very nice of me. I guess I'm feeling kind of stressed.
W - What are you feeling stressed about?
H - Well ... it was a difficult day at work today.

(telephone rings ... wife answers it)

W - Oh ... Hi Terry ... how are you ... (pause) ... not bad ...
D H 4: (interrupts) Susan ... could you call Terry back ... I'm expecting an important phone call.
W - (to friend on phone) Could you hold no a minute please Terry? (to husband) We'll just be a few minutes, David.

* D = dominant items with > 80% intersubject agreement in categorization
A = agreeable items with > 80% intersubject agreement in categorization
N = neutral items with > 80% intersubject agreement in categorization

** This segment of the film was not included in the main analyses. For further discussion see Appendix 9.
APPENDIX 2

Vignette Transcript
(Cont'd.)

D H 5: No ... you'll have to call her back Susan ... I don't want to miss this call.

W - (to friend on phone) Terry ... I'll have to call you back ... David's expecting an important phone call ... okay ... I'll talk to you later ... goodbye.

H 6: Thanks.

W - Who are you expecting a call from?

H 7: Oh ... I told an out of town client that he could reach me at home after work.

W - Is he a new client?

H 8: Yeah ... He just opened up an account with the firm last week ... (pause) ... Listen ... While I'm waiting for the call, we can decide where we want to go for dinner.

W - Where would you like to go?

H 9: Well ... I'm kind of partial to Chinese food, myself.

W - I'd rather go out for Greek food ... we haven't done that in a long time ...

A H 10: Well ... that sounds good to me too ... we can go out for Chinese food another time. Where would you like to go?

W - How about that Greek restaurant that we went to with your brother that time?

H 11: Sure ... that sounds fine. Do you want to go for a late or an early dinner?

W - How about 7:30?

H 12: (glancing at watch) Okay ... so we can relax for a while first.

W - Um hm ... How was the traffic on the way home?

N H 13: It was actually quite bad ...

W - I thought it might be ... I heard on the news that there had been a bad traffic accident on the bridge.

H 14: Yeah ... it was a 5-car pile-up in the middle of rush hour traffic. Commuting to work in this city is really getting to be a drag ... By the way ... Have you decided whether or not you're going to take that part-time job?
W - No ... not yet.
H 15: You should take it ... it would be good for you ...
W - I know ... but I can't make up my mind.
H 16: The longer you think about it ... the harder it will get ...
look ... just make up your mind ... give them a call ... and
you'll feel 100 times better afterwards.
W - You know something ... you're right ... okay ... I'll call them
tomorrow.
H 17: Good ... (pause) ... were there any calls for me today?
W - Your brother called.
H 18: Oh ... when did he get back into town?
W - Just last night.
H 19: Did he have a good time?
W - He says he had a great time ... He also said he'd invite us
over to his place when the slides are developed.
H 20: You know ... it seems like he just left on his trip a few days
ago ...
W - I know ... this last month has passed really quickly ...
H 21: Well ... I'm looking forward to seeing him again ...
W - So am I ... (pause) David ... what time is it?
H 22: (glancing at his watch) 7:00.
W - I'd like to watch Merv Griffin on T.V.
H 23: I don't really feel like watching T.V. Let's have a drink
before dinner instead.
W - But I'd like to watch T.V.
H 24: I'm just not in the mood for Merv Griffin tonight ... come on ...
... let's have a drink.
W - Well ... okay.
H 25: Good ... I'll make them (husband gets up and makes drinks while
they continue talking) ... I'm really feeling kind of stresses
tonight ... maybe a drink will relax me a bit ... How are you
feeling?
APPENDIX 2
Vignette Transcript
(Cont'd.)

W - Well I'm actually feeling kind of tired. I didn't sleep very well last night.
H 26: Anything wrong?
W - No ... you know I just get insomnia from time to time ... you're lucky ... you never seem to have that problem.
H 27: That's true ... I haven't for quite a while.
W - I don't know what causes it ... maybe it's because I haven't been getting any exercise ...
H 28: That could be it.
W - David ... don't make the drinks too strong this time ... you always make them too strong (spoken in a chiding irritated fashion).
A H 29: (warmly) Okay honey ... I'll try to make it the way you like it this time. I always forget and assume you like it the same way as I do. Where's the tonic?
W - It's in the back left hand corner of the fridge.
N H 30: Oh ... I see it ... we're almost out, you know.
W - No we're not ... there's another bottle in the cupboard.
H 31: Oh ... 
W - Can you find it?
N H 32: Yeah ... I've got it.
W - Is there a bottle of 7-up there as well?
H 33: Um hm ... 
W - Good ... Oh, by the way, David ... I need the car tomorrow during the day ... okay?
A H 34: Sure ... I'll take the bus to work (brings the drinks and sits down beside her) Here's your drink.
W - Thanks (tastes it) ummm ... that's good ...
H 35: I put a drop of lemon juice in it.
W - So that's the magic ingredient.
H 36: Um hm.
W - Where did you learn that?
APPENDIX 2

Vignette Transcript

(Cont'd.)

H 37: I know a guy who drinks it that way.
W - Well ... it's a nice taste.
H 38: (takes a sip of drink) ... You know ... we should have Phillip
and Kathy over for dinner next week.
W - Oh David ... I don't want to ... I find them so boring.
H 39: I know ... but they're my friends and we owe them a dinner.
W - Oh ...
D H 40: Listen Susan ... we owe them a dinner and I really want to have
them over ... it won't be that bad.
W - Well okay ... when do you want to have them over?
H 41: Friday.
W - Okay
H 42: Good ... I'll give Phillip a call.
W - Well, I suppose it won't be so bad having them over ... we
haven't seen them in a while.
H 43: We don't have to make a long evening of it either.
W - That's true ... I think I'll cook that chicken dish that I make
... you know ... the one with the wine and the bacon?
A H 44: That's a good idea ... it's a really nice dish.
W - But you know ... come to think of it ... I don't think that
Phillip likes chicken.
H 45: Oh, don't worry ... I'm sure he'll eat it.
W - Well ... I don't want to take the chance.
A H 46: Okay honey ... I'll be happy to go along with whatever.
W - Maybe I'll make fish. Are there any good places to buy salmon
this time of year?
H 47: They usually have pretty good fish at that little market by the
beach, don't they?
W - That's true. Well ... I'll see if they have any good fresh
salmon and if they do ... we can barbeque it.
H 48: Okay ... (pause) ... (takes a sip and says) So how did you
spend your day today?
APPENDIX 2

Vignette Transcript
(Cont'd.)

W - I finished reading that novel.
H 49: You mean, "Riders in the Chariot"?
W - Um hm.
H 50: What did you think of it?
W - Well ... I thought it was well written ... I enjoyed it ... what did you think?
H 51: (hesitantly) Well ... to be honest ... I didn't like it.
W - (testily) What was wrong with it?
H 52: Well ... I found it kind of pretentious.
W - How was it pretentious? (becoming more irate)
H 53: Well ... I just thought the author was trying too hard to be scholarly.
W - (angry ... getting up to leave) Well that's your opinion! I'm going to take a shower!
H 54: Don't go storming off, Susan ... sit down.
W - (sits down)
H 55: That's better. Now what are you so upset about?
W - Oh ... I don't know ... I guess I'm just in an irritable mood.
H 56: Just because we have different opinions about something, it doesn't mean that one of us is wrong and the other one right, you know ... and it doesn't mean that I like you any less.
W - (calmer now) Yeah ... I know ... you're right ... I'm sorry if I overreacted.
H 57: Do you want me to make you another drink?
W - No ... that's okay ... thanks ... I'm still working on this one.
H 58: You okay now?
W - (sincerely) Yeah ... I feel better ... I guess I could use a vacation.
H 59: Yeah ... I think I could use one myself ... It seems that by this time of the year I really start to feel tired. (pause) Remember how good we both felt after our trip to California last year?
APPENDIX 2

Vignette Transcript

(Cont'd.)

W - Yeah ... that was nice ...
H 60: I was thinking about it just the other day. It was fun camping ... wasn't it.
W - Um hm ... remember that beautiful lake that we swam in?
H 61: Yeah ... the water was crystal clear ... and a perfect temperature.
W - All that swimming was great for the appetite.
H 62: Yeah ... there's also something about cooking outdoors which makes food taste better (pause) ... You know ... we have to decide where we're going on holidays this year. We've got to finalize our travel plans within the next two weeks.
W - (agreeably) Okay.
H 63: Let's spend the first four days in Toronto, and then spend two days browsing around Montreal.
W - Well ... I'd rather go to New York than Montreal.
H 64: No ... I just can't afford the extra time it would take us to go to New York ... we'll have to do that some other time.
W - Well ... okay ... do you want to make the reservations or should I?
H 65: I'll do it ... I'm looking forward to this vacation ... I hope the weather's nice.
W - So do I ... I don't think Montreal will be as much fun in the rain. I think they're predicting good weather though.
H 66: Where did you hear that?
W - I heard a long range forecast on CBC radio this morning.
H 67: That's encouraging ... I hope it's accurate.
W - Well ... they've been pretty accurate so far this year.
H 68: That's true ... (pause)
W - By the way David ... have you got any plans for Saturday?
H 69: No ... not really ...
W - My sister called up to ask if you would be able to help her move into her new apartment.
A H 70: Sure ... I'd be glad to help your sister move.
W - That's really nice of you.
H 71: No problem ... I'd forgotten she was moving this week.
W - Well ... she was originally supposed to move a couple of weeks later ... but the previous tenant vacated early.
H 72: I see ...
W - You should see it ... it's really a large place (wife gestures with her hands in the process, accidentally knocks over her glass and breaks it) Oops (she begins to pick up the broken glass with her hands)
D H 73: Don't pick up that glass with your hands, Susan - Use the broom and dustpan.
(wife does so)
H 74: That's better (pause while wife completes task)
W - I think we've broken almost every glass in that set now.
H 75: I know ... it's a shame too ... because they're really nice glasses.
W - Oh well ... we can always get some more ... what time is it?
H 76: (looks at watch) About 7:15.
W - I'd like to be going ... I'm hungry.
H 77: What about my call?
W - I don't know about that ... but I'm starved.
A H 78: (hugs wife) Okay honey ... I suppose if you really want to go now ... I can always try to call them from the restaurant.
W - Do you remember how to get to the restaurant?
N H 79: Not exactly ... how about you?
W - Sort of.
H 80: Well I'm sure between the two of us we can find it.
W - You know what I'd really like to do afterwards?
H 81: What?
APPENDIX 2
Vignette Transcript
(Cont'd.)

W - I'd like to see that new art gallery that opened up downtown. I know you don't really like browsing around galleries, but how about indulging me tonight?

A H 82: Well ... okay honey ... I'll go to the gallery with you after dinner.

W - Thanks David ... I appreciate it ... I hear that it's supposed to be really interesting. Terry was there the other day and really enjoyed it.

N H 83: What type of art does it have?

W - Well it's supposed to be quite varied ... but a lot of it is apparently new art which is being produced in Quebec ... Anyways I'll get my coat ...

N H 84: Okay ... I'll be waiting outside ... I want to clean the windshield.
APPENDIX 3

False Memory Items

Dominant Items ( > 80% agreement)

1. I don't want to go to New York, Susan.
2. Just cook the chicken and stop worrying about it.
3. Don't make trouble ... Susan.
4. Susan ... I need to use the phone ... now.
5. You spend too much time procrastinating. You've got to make up your mind now.
6. I have no intention of watching T.V. tonight.
7. I'm not going to have fish again.
8. No ... I need the car all day tomorrow.
9. Susan ... I want to have them over ... and that's all there is to it.
10. Susan ... this is the second time I'm telling you. I have to use the phone.
11. I'm not going to finish this conversation because you're getting upset.
12. I'd like you to call them up and invite them over.

Agreeable Items ( > 80% agreement)

1. I know it's a difficult decision. I'm sorry if I pressured you.
2. Sure ... you know I'm always happy to lend you the car if you need it.
3. If that's really what you want ... I'll go to the gallery with you.
4. I can see your point about the book.
5. I'll watch Merv Griffin with you if you want.
6. I'm kind of hungry, too. I can call them later.
7. I'd be happy to drive down to the market and see.
8. Maybe we can both give your sister a hand.
9. If you'd rather make something else ... that's fine with me too.
10. I'm sorry if I hurt your feelings ... Susan.
11. Maybe we can work out some sort of compromise.
12. I feel the same way as you do about Montreal in the rain.
Neutral Items (> 70% agreement)

1. I broke a glass just the other day.
2. Which dish do you mean?
3. What will you make for them?
4. What's on T.V.?
5. I didn't know your sister was moving.
6. It was really busy at the office today.
7. Yes ... I remember the lake.
8. Has Terry gone to the gallery yet?
9. I'm going to use a new recipe this time.
10. Susan ... is that Terry on the phone?
11. It's always hard deciding where to go.
12. Of course I remember how to get to the restaurant.
Below are a series of statements. Some of these statements were made by David in the last film you saw, while others were not. On the answer sheet provided, please rate each statement according to how confident you are that this exact statement was made by David, on a scale of 1 to 6. Remember ... I want to know if he made that exact statement in the film.

1. I broke a glass the other day.
2. I know it's a difficult decision. I'm sorry I pressured you.
3. Phillip doesn't like fish. I think you should make something else.
4. Sure ... you know I'm always happy to lend you the car if you need it.
5. Not exactly. How about you?
6. If that's really what you want I'll go to the gallery with you.
7. I'm glad they're predicting good weather.
8. I can see your point about the book.
9. I'll watch Merv Griffin with you if you want.
10. I'm really glad you like it.
11. Which dish do you mean?
12. I'm kind of hungry too. I can call them later.
13. What will you make for them?
14. No ... you'll have to call her back, Susan.
15. I don't want to go to New York ... Susan.
16. Don't get angry Susan ... it's not going to help the situation.
17. Well ... that sounds good to me too. We can go out for Chinese food another time.
18. Just cook the chicken ... and stop worrying about it.
19. Oh ... when did he get back into town?
20. What type of art does it have?
21. Don't make trouble ... Susan.
22. What's on T.V.?
APPENDIX 4

Memory Recognition Test
(Cont'd.)

23. Sure ... I'll take the bus to work.
24. You've had a really good appetite lately.
25. I'd be happy to drive down to the market and see.
26. Okay ... I'll finish reading the paper.
27. Do you need the car in the morning.
28. I didn't know your sister was moving.
29. Okay honey ... I suppose if you really want to go now ... I can always try to call them from the restaurant.
30. You're a great cook ... Susan.
31. I don't feel like going out for Greek food.
32. It was really busy at the office, today.
33. Susan ... I need to use the phone ... now.
34. Would you like me to put some extra tonic in your drink?
35. It was actually quite bad.
36. Yeah ... I really enjoyed being with you on that holiday.
37. You spend too much time procrastinating. You've got to make up your mind now.
38. I know. I don't think we've eaten out much in general lately.
40. Maybe we can both give your sister a hand.
41. No ... I don't feel like going to the gallery.
42. I have no intention of watching T.V. tonight.
43. Yes ... I remember the lake.
44. Well okay ... if it's only a few minutes.
45. I'm sorry Susan ... I don't mean to make it too strong.
46. Oh ... I see it. We're almost out you know.
47. Don't go storming off Susan ... sit down.
48. Has Terry gone to the gallery yet?
49. Why don't you want to have them over?
50. I invented it.
51. I'm not going to have fish again.
52. He tried too hard to imitate D.H. Lawrence.
APPENDIX 4

Memory Recognition Test
(Cont'd.)

53. No ... I need the car all day tomorrow.
54. Susan ... could you call Terry back. I'm expecting an important phone call.
55. If you'd rather make something else ... that's fine with me too.
56. Yeah ... I've got it.
57. I don't think I make the drinks too strong.
58. I'm sorry if I hurt your feelings, Susan.
59. I'm too busy to help your sister move this weekend.
60. I'm going to use a new recipe this time.
61. Please Susan ... I'd really like to have them over.
62. Yes ... I think it's by the new bank downtown.
63. That's a good idea. It's really a nice dish.
64. I'm just not in the mood for Merv Griffin tonight ... comeon, let's have a drink.
65. Okay ... I'll be waiting outside. I want to clean the windshield.
66. Well ... it's about time he called.
67. I really didn't like the lake.
68. Susan ... I want to have them over ... and that's all there is to it.
69. Okay honey ... I'll try to make it the way you like it this time.
70. Listen Susan ... we owe them a dinner and I really want to have them over.
71. Maybe we can work out some sort of compromise.
72. Susan ... is that Terry on the phone?
73. No ... Phillip doesn't like chicken.
74. Sure ... I'd be glad to help your sister move.
75. Oh ... what did he have to say for himself?
76. Susan ... this is the second time I'm telling you ... I have to use the phone.
77. It's always hard deciding where to go.
78. Of course I remember how to get to the restaurant.
79. I feel the same way as you do about Montreal in the rain.
APPENDIX 4

Memory Recognition Test
(Cont'd.)

80. Don't pick up that glass with your hands, Susan. Use the broom and dustpan.
81. I'm not going to finish this conversation because you're getting upset.
82. Is there something about the job which is putting you off?
83. I'd like you to call them up and invite them over.
84. I'm sorry if I hurt your feelings ... Susan.
85. The longer you think about it ... the harder it will get. Make up your mind and give them a call.
86. I can't think of any places offhand ... but I think salmon is in season this time of year.
87. I'm really looking forward to seeing my brother.
88. Can I make you a drink while you're on the phone?
89. Yes ... I remember the lake.
90. Okay honey ... I'll be happy to go along with whatever.
91. That's encouraging. I hope it's accurate.
92. Not exactly ... how about you?
93. Well ... okay honey ... I'll go to the gallery with you after dinner.
94. You'd better pick up that glass before we go.
95. Please don't be angry with me Susan.
96. No ... I just can't afford the extra time it would take up to go to New York.
Below are 8 rating scales for summarizing your impression of David's behaviour in the last film you saw. Each scale is labelled by 4 adjectives. For each scale, please consider the 4 adjectives together. Your task is to indicate how accurately each scale describes your impression of David, from 1 (extremely inaccurately) to 8 (extremely accurately). Please think back to the film while doing this.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Adjectives</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>extroverted, outgoing</td>
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<tr>
<td></td>
<td>enthusiastic, cheerful</td>
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<tr>
<td>2</td>
<td>submissive, timid</td>
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<tr>
<td></td>
<td>meek, self-doubting</td>
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<td>3</td>
<td>quarrelsome, impolite</td>
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<td>discourteous, disrespectful</td>
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<td>4</td>
<td>agreeable, courteous</td>
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<td>co-operative, accommodating</td>
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<td>calculating, sly</td>
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<td>tricky, crafty</td>
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<td>6</td>
<td>aloof, antisocial</td>
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<td>unneighbourly, distant</td>
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<td>7</td>
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<td>forceful, domineering</td>
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<tr>
<td>8</td>
<td>lazy, unproductive</td>
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<tr>
<td></td>
<td>disorganized, impractical</td>
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APPENDIX 6

Consent Form

This research is designed to investigate the fashion in which people make social judgments. We are interested in finding out how people obtain the information to make these judgments. You will be shown some videotape scenes in which two people are interacting. We will be asking you to push a button whenever something takes place which helps you to form an impression of these people. Following this you will be asked to match some descriptions of people to their pictures. The entire study will take about 60 minutes. You are free to withdraw from the study at any time or to refuse to answer any questions you do not wish to answer. Neither of these actions will be held against you in any way.

I have read and understand the above statement and freely agree to participate in the study.

Name: ____________________________ Date: ____________________________
Please match the following descriptions to the pictures which are shown to you on the screen.

A. Simon P. is a graduate student in anthropology. He is married and has one small child. His favourite sports are skiing and tennis. He actively participated in track and field sports during high school, but is now no longer active in those areas. He was born in Philadelphia and moved to Vancouver to attend graduate school.

B. Susan T. is a community health nurse. She is single. She enjoys playing chess and other board games. While she is not particularly athletic, she does swim occasionally. One of her favourite pastimes is singing in the church choir. She has been doing this since childhood and enjoys it thoroughly.

C. Andrea B. is a dental hygienist. She is currently engaged to be married. Her fiance is a lawyer. Her favourite pastimes are sailing and skiing. She was born in Vancouver and has lived here all her life. She and her fiance are intending to move to another city when they are married, but they have not yet decided where.

D. Phyllis S. is a teacher. She is separated from her husband. Although she received her teacher training some time ago, she has not been able to find permanent work in the city, and has been working as a substitute teacher for the last two years. For this reason, she is considering moving to a smaller town, where there is a greater demand for teachers. Her favourite pastimes are reading and hiking.

E. Shaun K. is an undergraduate student who is majoring in biology. He is thinking of applying to medical school when he is finished his degree, but may also apply to graduate school in biology. His favourite sports are hiking, mountain climbing and skiing. He very rarely does any leisure time reading, but when he does it is usually science fiction.
F. Tom R. is a stock broker. He and his wife move to Vancouver recently from Montreal. One of his favourite pastimes is gourmet cooking. He also enjoys golf and fishing. He enjoys reading, and is particularly interested in historical fiction. He has not done much travelling, but he and his wife are planning to go to Europe for a vacation next year.

G. Paul T. is a lawyer. He has three children. When he was younger, he always wanted to be a journalist, but decided to go into law for reasons of greater financial security. Now he is feeling bored with his work, and is considering a career change. His favourite pastimes are golf and tennis.

H. Anne K. is a potter. She is married and has no children. She initially began making pottery as a hobby, but over time became more serious about it. She is now quite successful at her trade, and makes pottery for a number of stores in the city. For leisure activities she likes to weave and read poetry.

I. Kathy D. is a social worker. Her area of specialty is family counselling. She, herself, comes from a large family in a small town. She moved to Vancouver to attend university and has lived here since that time. She likes to sail and to cook gourmet meals.

J. Donna P. is married and has two grown children. Although she was trained as a biochemist, she currently does not work. This is her second marriage. Her first husband died a few years ago. Her current husband is retired and is reasonably well off. They lead a fairly active life, enjoying a variety of different types of entertainment including theatre, movies, and music. They also travel extensively.
APPENDIX 7
Filler Task
(Cont'd.)

K. Janet L. currently works as a clerk at family court. She majored in history at university. She has recently separated from her boyfriend of five years and is now unattached. Her major pastimes are drawing and painting. Her artwork is quite important to her, and in fact at times she has tried to go professional. She has not been able to make a living at it, however, and has had to find other jobs to support herself.

L. Diane H. is a graduate student in English literature. She has lived with her boyfriend for 3 years. She is very active in the women's movement, and is currently editing a book on women's poetry. She takes yoga and modern jaz dance for exercise.

M. Ben M. is married and has three children. He owns a sporting goods store and is an active sports enthusiast himself. He enjoys fishing, golf, and camping. He and his wife have a small cabin on one of the Gulf islands, where they like to spend much of their spare time. Another leisure activity which he enjoys is listening to opera.

N. Doug L. is a graduate student in religious studies. This is his first year in the program and he is enjoying it thoroughly. He is very pleased about this, since he had some difficulty deciding what he wanted to do after he finished his B.A. The other major options he was considering were either psychology graduate school or medical school. He drive a taxi on weekends to support himself and to pay tuition.

O. Margaret A. is married and has three children. Two of them are married, and the third is still living at home. She is employed as a special education teacher in the school system. She and her husband have recently moved out of a large house and bought a smaller condominium. The move was somewhat difficult for them at first, but they are now adjusting to it quite well.
APPENDIX 7
Filler Task
(Cont'd.)

P. Deborah H. might be described as going through a period of transition. She was recently divorced from her husband and she also left the job where she was employed for the last five years. She has been thinking of returning to live in England where she was born. For this reason, she has decided to go back there for a holiday to see if she enjoys it. Her major pastimes are reading and playing the recorder. She has recently joined a chamber group and finds this very rewarding.

Q. Ken T. is an undergraduate who is studying theatre and fine arts. His ambition is to become a professional actor. He recently tried out for a small role in a university play. Although he did fairly well he did not get the part. He is feeling quite discouraged about this, but his instructor has told him that it is rare for first year students to get parts. His major pastime is photography and he recently placed first in a provincial competition.
APPENDIX 8
Analysis of Tracking Data: Multiple Response Format

In the results section, a decision was made to analyze subjects' tracking responses as binary data. In other words, it was assumed that a given subject either did or did not track a given interval. Multiple responses for a subject, within a given interval were ignored in this analysis. Although as previously discussed, there are reasons for considering the data in this fashion, it can also be argued that this procedure ignores important information. A subject who tracks a given interval more than once may be giving some indication of the degree of subjective salience of that particular interval. Since at this point in time there are no accepted conventions regarding the analysis of tracking data, this possibility cannot be ruled out, and for this reason the results obtained when multiple responses were scored will be reported in the present section.

The T-square analysis indicated that, overall, subjects in the dominant condition tracked dominant intervals significantly more frequently than did subjects in the agreeable condition, $T^2 = 25.711$, $F(8,91) = 2.984$, $p < .005$. There was a consistent bias in this direction on every interval, but multiple comparisons yielded no significant differences on any individual mean comparisons.

Subjects in the agreeable condition tracked the subset of agreeable intervals significantly more frequently than subjects in the dominant condition, $T^2 = 24.125$, $F(8,91) = 2.80$, $p < .01$. Again there was a consistent bias in this direction on every interval, but no significant differences on individual intervals.

On the repeated measures ANOVA there was a significant main effect due to interval type, $F(2,192) = 220.211$, $p < .001$, and a significant interaction between expectancy condition and interval type, $F(2,192) = 22.469$, $p < .001$. There were no other significant effects. Post hoc comparisons were again conducted with Bonferonni $t$-tests. All tests were two-tailed.
Collapsing across expectancy conditions, subjects tracked both dominant and agreeable intervals significantly more frequently than neutral intervals, \( t(99) = 20.08, p < .001 \), and \( t(99) = 20.66, p < .001 \) respectively. There were no significant differences overall between dominant and agreeable intervals, \( t(99) = 1.15, p > .759 \). Subjects tracked dominant and agreeable intervals equally frequently.

The post hoc comparisons replicated the results of the T-square in that subjects in the dominant condition tracked dominant intervals more frequently than did subjects in the agreeable condition, \( t(98) = 4.02, p < .001 \), and subjects in the agreeable condition tracked agreeable intervals more frequently than did subjects in the dominant condition, \( t(98) = 2.83, p < .05 \). There were no significant differences between subjects in the two conditions on neutral intervals, \( t(98) = .82, p > .125 \). The present results closely parallel those obtained when multiple responses were not scored, and suggest that the two procedures may be used interchangeably in future research.
APPENDIX 9
Analysis of Ninth Agreeable Interval

Inspection of the film transcript indicates the presence early on in the interaction of an interval during which the husband's behaviour (although not categorized as such) appears to be quite agreeable in nature (i.e., "I'm sorry, that wasn't very nice of me. I guess I'm feeling kind of stressed"). Despite the apparent agreeableness of this act, however, it was not included in the main analyses.

This is because this section was added on after subjects rated the husband's behaviour in the initial videotape as significantly more dominant than agreeable, in order to balance the ratings (see p. 50). For this reason, agreement in categorization of this interval had not been empirically established with a large sample, and it was thus excluded from the main analysis.

A second analysis of the tracking data, was however conducted, in which this ninth interval was included. This interval, in fact, turned out to be particularly sensitive to expectancy effects, as evidenced by the fact that the T-square value rose to $T^2 = 46.75$, $F(9,90) = 4.47$, $p < .0001$, when it was included (binary data). The group tracking means for the interval were:

1. binary data - dominant subjects: .52, agreeable subjects: .92
2. multiple response format - dominant subjects: .54, agreeable subjects: 1.00.

The sensitivity of this interval to expectancy effects may stem from the fact that because it was so close to the beginning of the interaction, agreeable subjects were particularly well primed to attend to it since their agreeable expectations had not yet been modified by exposure to any dominant acts whereas dominant subjects were particularly likely to disregard it since it was only the first instance of an expectancy disconfirming act. This sensitivity to expectancy effects was also true of the first dominant
interval (see Table 5). One factor potentially contributing to expectancy confirmation processes is that individuals may terminate the interaction fairly early on in the interaction sequence before many disconfirming events take place (Darley & Fazio, 1980). This early termination may combine with the type of interval primacy effect discussed here, in order to further maintain dysfunctional expectations.
Another possible means of evaluating the construct validity of the tracking procedure consists of assessing the pattern of relationships which emerge between tracking activity and the eight interpersonal dimensions which were sampled from Wiggins (1979) circumplex taxonomy. Is it possible to predict subjects' ratings of the husband along these eight dimensions on the basis of their tracking activity? We have already seen that subjects who frequently tracked dominant acts were likely to rate the husband high on the dominant scale, whereas subjects who frequently tracked agreeable intervals were likely to perceive the husband as an agreeable individual.

The circumplex model also enables us to postulate a hypothetical ordering of relationships between tracking activity and the perception of other interpersonal dimensions and to then evaluate the actual degree of fit with this hypothesized pattern. It is theoretically predictable, for example, that subjects who frequently tracked dominant intervals should tend to give the husband their highest ratings on the dominant adjective scale and their lowest ratings on the submissive adjective scale since the hypothetical correlation between dominance and dominance is .10 while the hypothetical correlation between dominance and submissiveness is -.10.

The ordering of ratings on the other adjective scales should be predictable on the basis of the proximity of any given dimension to the dominant dimension on the circumplex. One would predict then that the positive relationship between tracking dominant intervals and ratings on the calculating adjective scale would be weaker than the positive relationship between tracking dominant intervals and ratings on the dominant scale, but stronger than the positive relationship between tracking dominant intervals and ratings on the lazy scale (the theoretical correlation between dominance and the calculating and lazy dimensions are .50 and -.75 respectively.)
In the following tables, the adjective scales are presented in order of their theoretically predicted correlations with the tracking activity from highest to lowest (tracking values were calculated by summing each subject's responses for the eight relevant intervals). The hypothetical correlations between trait pairs in the circumplex are compared with the obtained correlations between traits and tracking behaviours. It was predicted that the order of correlations would be preserved but not that the exact correlation values would be replicated.

**Correlations Between Dominant Interval Tracking Score and Adjective Scales**

<table>
<thead>
<tr>
<th>adjective scale</th>
<th>obtained multiple responses</th>
<th>binary data</th>
<th>hypothetical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. dominant</td>
<td>-1.00</td>
<td>-.25</td>
<td>-.75</td>
</tr>
<tr>
<td>2. calculating</td>
<td>-.50</td>
<td>-.25</td>
<td>-.50</td>
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<tr>
<td>3. extraverted</td>
<td>-.00</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>4. quarrelsome</td>
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<td>.04</td>
<td>.37</td>
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<td>-.39</td>
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<tr>
<td>6. aloof</td>
<td>-.25</td>
<td>-.10</td>
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<td>7. lazy</td>
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<td>8. submissive</td>
<td>-1.00</td>
<td>-.24</td>
<td>-.39</td>
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**Correlations Between Agreeable Interval Tracking Score and Adjective Scales**

<table>
<thead>
<tr>
<th>adjective scale</th>
<th>obtained multiple responses</th>
<th>binary data</th>
<th>hypothetical</th>
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<tr>
<td>1. agreeable</td>
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<td>.11</td>
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<td>2. extraverted</td>
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<td>6. calculating</td>
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<tr>
<td>7. aloof</td>
<td>-.75</td>
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<tr>
<td>8. quarrelsome</td>
<td>-1.00</td>
<td>-.39</td>
<td>-.37</td>
</tr>
</tbody>
</table>

* These correlations did not conform to the predicted ordering.
Inspection of the above tables indicates a reasonably good fit between the hypothesized and obtained correlation orderings, with a few exceptions to this rule. The most notable of these are the inflated correlations between the dominant interval tracking score and the quarrelsome and agreeable adjective ratings in the first table, and the inflated correlations between the agreeable interval tracking score and the submissive and dominant adjective scales in the second table.

These departures from the hypothesized ordering can be accounted for by the fact that subjects tended to see the dimensions of dominance and agreeableness as negatively correlated in the context of the present study (see discussion section). The quarrelsome - agreeable dimension thus tended to merge or become interchangeable with the dominant - submissive dimension. As previously discussed this collapsing of dimensions may have resulted from the fact that the ascription of traits to others follows a different set of rules than the ascription of traits to the self and/or the fact that dominant and agreeable acts were set in contrast to one another in the context of the stimulus vignette in a fashion which may have made them appear to be polar opposites.

Bearing this in mind, it appears that the fit between the hypothetical and obtained correlation orderings was actually quite good. These data suggest that there is a theoretically predictable link between encoding activity as measured by the tracking procedure and the perception of a variety of different dimensions of interpersonal behaviour. It is thus consistent with the hypothesis that the selective encoding of events has an important mediating effect upon the perception of interpersonal behaviour and provides a form of construct validation of the tracking measure. Finally, these data highlight the utility of Wiggins (1979) circumplex taxonomy of interpersonal traits for making theoretical predictions to facilitate this type of person perception research.