

NONPARTICIPANT OBSERVER RECALL OF VIDEOTAPED CONVERSATIONS:
The Effects of Observer Sex, Gender Stereotypicality of
Conversation, and Prior Knowledge

by

John Patrick Boutilier
B.Sc., University of Victoria, 1989

A Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE

in the Department of Psychology

We accept this thesis as conforming
to the required standard

Dr. R.A. Hoppe, Supervisor (Department of Psychology)

Dr. R.B. May, Departmental Member (Department of Psychology)

Dr. J.F. Kess, Outside Member (Department of Linguistics)

Dr. P.M. Baker, External Examiner (Department of Sociology)

© JOHN PATRICK BOUTILIER, 1992

University of Victoria

All rights reserved. Thesis may not be reproduced in whole
or in part, by photocopy or other means, without the
permission of the author.

Supervisor: Dr. Ronald A. Hoppe

ABSTRACT

Forty undergraduate psychology students, 20 male and 20 female, were asked to recall a videotaped conversation after a first and second viewing. There were two versions of the conversation: Gender stereotypical and gender atypical. The generalization of three common findings in memory research to memory for conversation were tested: Females have a verbal advantage over males, stereotypical material is remembered better than atypical material, and prior knowledge improves recall. Therefore, the effects of sex, stereotypicality of conversation, and prior knowledge on the recall of conversation were examined. There were five dependent variables: The number of total, correct, incorrect, verbally derived (derived from the spoken discourse), and visually derived (derived from the setting, characters' physical appearance, etc) propositions recalled. A proposition was defined as any obvious or embedded statement which could be classified as true or false and conveyed some coherent information.

A mixed factorial ANOVA was performed on each dependent variable, and planned comparisons were made using t-tests. Each planned comparison was a test of an individual hypothesis, thus, the alpha level remained at $\alpha = .05$

for each t-test. Significant main effects of sex were found for the number of total, correct, incorrect, and verbally derived propositions recalled. Planned comparisons revealed the following significant results. Females recalled significantly more total propositions than males on the first recall trial for the gender atypical conversation. Females recalled significantly more correct propositions than males on their first and second recall trials for both the gender stereotypical and gender atypical conversations. Females also recalled significantly more verbally derived propositions than males on their first and second recall trials for both the gender stereotypical and gender atypical conversations. Males recalled significantly more incorrect propositions than females on both recall trials for the gender stereotypical conversation and on the first recall trial for the gender atypical conversation. Males also recalled significantly more visually derived propositions than females on the second recall trial for the gender atypical conversation.

Mixed factorial ANOVAs failed to reveal a significant main effect for stereotypicality of conversation on any of the five dependent variables. Planned comparisons also failed to reveal any significant differences between group means.

The mixed factorial ANOVAs revealed a significant main effect of prior knowledge for the number of total, correct and verbally derived propositions recalled. Planned comparisons revealed the following significant results. Females recalled significantly more correct propositions on the second recall trial for the gender stereotypical conversation than on the first recall trial. Both males and females recalled significantly more verbally derived propositions on the second recall trial for the gender stereotypical conversation than on the first recall trial.

The ANOVAs failed to reveal any significant interactions. Inspection of the variances, however, suggested a strong sex by gender stereotypicality of conversation interaction. The variance for males tended to be higher than that of females for the recall of the gender stereotypical conversation, while the variance for females tended to be higher than that of males for the gender atypical conversation.

The conclusion was that the results support the finding that females have an advantage over males for the recall of verbal material. The absence of stereotypicality of conversation effects was thought to have resulted from the fact that the two conversations did not differ enough on the gender stereotypicality dimension. Another conclusion was

Recall of Videotaped Conversations

v

that the results support the finding that prior knowledge improves recall.

Examiners:

[REDACTED]
Dr. R.A. Hoppe, Supervisor (Department of Psychology)

[REDACTED]
Dr. R.B. May, Departmental Member (Department of Psychology)

[REDACTED]
Dr. J.F. Kess, Outside Member (Department of Linguistics)

[REDACTED]
Dr. P.M. Baker, External Examiner (Department of Sociology)

Table of Contents

Title Page.....	i
Abstract.....	ii
Table of Contents.....	vi
List of Tables.....	ix
Acknowledgements.....	xi
Dedication.....	xii
Chapter One: Introduction.....	1
Why use Videotaped Stimuli.....	5
Accuracy.....	6
Nonverbal Stimuli.....	8
Sex.....	10
Hypotheses.....	12
Gender Role Stereotypes.....	13
Attitudes.....	14
Memory Studies.....	15
Hypotheses.....	19
Prior Knowledge.....	20
Hypotheses.....	23
Chapter Two: Method.....	25
Subjects.....	25
Design.....	25
Stimulus Materials.....	26
Apparatus.....	27

Recall of Videotaped Conversations

vii

Procedure.....	28
Coding and Scoring the Recall Protocols.....	32
Transcription.....	32
Clearing of Verbal Debris.....	33
Coding of Propositions.....	34
Scoring.....	35
Chapter Three: Results.....	37
Descriptive Statistics.....	37
Accuracy.....	41
Nonverbal Stimuli.....	45
Inferential Statistics.....	48
Analysis of Sex Differences.....	49
Total.....	49
Correct.....	51
Incorrect.....	53
Verbally Derived.....	53
Visually Derived.....	55
Analysis of Gender Stereotypicality.....	58
Total.....	58
Correct.....	60
Incorrect.....	62
Verbally Derived.....	62
Visually Derived.....	64
Analysis of Prior Knowledge.....	66

Recall of Videotaped Conversations

viii

Total.....	66
Correct.....	68
Incorrect.....	70
Verbally Derived.....	72
Visually Derived.....	74
Analysis of Interactions.....	74
Total.....	77
Correct.....	79
Incorrect.....	80
Verbally Derived.....	82
Visually Derived.....	84
Chapter Four: Discussion.....	85
References.....	89
Appendices.....	97
Appendix A.....	97
Appendix B.....	100

List of Tables

Table 1: Total Propositions Recalled
on Both Recall Trials.....38

Table 2: Correct Propositions Recalled
on Both Recall Trials.....40

Table 3: Incorrect Propositions Recalled
on Both Recall Trials.....42

Table 4: Verbally Derived Propositions Recalled
on Both Recall Trials.....44

Table 5: Visually Derived Propositions Recalled
on Both Recall Trials.....46

Table 6: Mean Total Propositions Recalled
by Males and Females.....50

Table 7: Mean Correct Propositions Recalled
by Males and Females.....52

Table 8: Mean Incorrect Propositions Recalled
by Males and Females.....54

Table 9: Mean Verbally Derived Propositions Recalled
by Males and Females.....56

Table 10: Mean Visually Derived Propositions Recalled
by Males and Females.....57

Table 11: Mean Total Propositions Recalled
for the Gender Stereotypical and Gender Atypical
Conversations.....59

Table 12: Mean Correct Propositions Recalled
for the Gender Stereotypical and Gender Atypical
Conversations.....61

Table 13: Mean Incorrect Propositions Recalled
for the Gender Stereotypical and Gender Atypical
Conversations.....63

Table 14: Mean Verbally Derived Propositions Recalled
for the Gender Stereotypical and Gender Atypical
Conversations.....65

Recall of Videotaped Conversations

x

Table 15: Mean Visually Derived Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations.....	67
Table 16: Mean Total Propositions Recalled on the First and Second Recall Trials.....	69
Table 17: Mean Correct Propositions Recalled on the First and Second Recall Trials.....	71
Table 18: Mean Incorrect Propositions Recalled on the First and Second Recall Trials.....	73
Table 19: Mean Verbally Derived Propositions Recalled on the First and Second Recall Trials.....	75
Table 20: Mean Visually Derived Propositions Recalled on the First and Second Recall Trials.....	76

Acknowledgements

Special thanks are due to many people. First, to Michael and Linda for playing the parts of the engineer and nurse. Second, to Cindy, Devon, Delana, Robert, and my wife Marguerite for their aid in conducting the larger experiment of which this thesis is but a small part. Third, to Fred, Tom, and Marguerite for their assistance in coding and scoring the propositions.

Dedication

I would like to dedicate this work to the people who matter the most to me: My wife Marguerite, my son Patrick, and my daughters Krystal and Ester.

Chapter One: Introduction

Everyday of our lives we are bombarded with information which we meet with acceptance, ambivalence, indifference, or disbelief. Although most of the information we receive may best be met with some degree of skepticism, functioning in society demands that we either accept or reject some information as being factual without personal verification. There simply is not enough time, desire, or resources for every individual to verify all the information he/she receives. Thus, we permit others to perform verification for us and we accept their word based on the authority we bestow upon them.

Information is disseminated through the various forms of discourse. Although there exists a wealth of information on the recall of spoken monologues (Brewer & Hay, 1984; Frederiksen, 1975; Goldman & Varnhagen, 1986; Keenan, MacWhinney, & Mayhew, 1977; Kintsch & Greene, 1978; Mandler, 1978; Stein & Nezworski, 1978; Thorndyke, 1977; de Villiers, 1974) and written discourse (Abbott, Black, & Smith, 1985; Bloom, 1988; Bower, 1978; Bower, Black, & Turner, 1979; Harris, Lee, Hensley, & Schoen, 1988; Hasher & Griffin, 1978; Potts & Peterson, 1985; Stephenson, Brandstatter, & Wagner, 1983; Thorndyke, 1977), comparatively little has been done on the recall of conversations (Ashcraft, 1989;

Holtgraves, Srull, & Socall, 1989). A likely reason for this lack is that comprehension of conversation does not lend itself to the rigorous analysis that comprehension of monologues does (Ashcraft, 1989).

Holtgraves et al. (1989) suggest that the analysis of recall for conversations is an important endeavour for at least four reasons:

First, and most important, the study of conversation memory provides a means for examining the content and structure of the social knowledge that plays a role in interaction processes..... Second, conversation memory is important in terms of knowledge representation and on-line processing (p. 149).

Third, what is remembered from a conversation may be used as a basis upon which impressions are formed and judgements are made. Fourth, "uncovering the complexities of conversation memory will add significantly to our understanding of many social psychological phenomena" (Holtgraves et al., 1989, p. 159). The most obvious, and perhaps the most easy to overlook, reason for studying conversation memory is that conversational behavior permeates the entire lifespan of most human beings.

The purpose of this investigation was to expand the literature on conversation memory. The purpose was accomplished by testing for the generalization of three common findings in other areas of memory research to memory

for conversation. First, females demonstrate a memory advantage over males for verbal materials (Burstein, Bank, and Jarvik, 1980; Gaddes & Crockett, 1975; Harshman, Hampson, & Berenbaum, 1983; Kail & Siegal, 1977; Kail & Siegal, 1978; Kolb & Whishaw, 1985; Kramer, Delis, & Daniel, 1988; Maccoby & Jacklin, 1974; Yeudall, Fromm, Reddon, & Stefanyk, 1986). Second, stimulus material that is schema consistent or stereotypical is remembered better than stimulus material that is schema inconsistent or atypical (Cann & Newbern, 1984; Halpern, 1985; Howard & Rothbart, 1980; Kintsch & Greene, 1978; Koblinsky & Cruse, 1981; Koblinsky, Cruse, & Sugawara, 1978; Mackie & Worth, 1989; Martin & Halverson, 1983; Paul, 1959; Signorella & Liben, 1984; Stangor & Ruble, 1989). Third, stimulus material is remembered better if one has prior knowledge of the subject domain than if the subject domain is unfamiliar (Abbott et al., 1985; Bower et al., 1979; Fincher-Kiefer, Post, Greene, & Voss, 1988; Frederiksen, 1975; Geiselman & Crawley, 1983; Holtgraves et al., 1989; Potts & Peterson, 1985; Stangor & Ruble, 1989; Wenger, Thompson, & Bartling, 1980).

Two between subjects factors, sex and gender stereotypicality of conversation, and one within subjects factor, prior knowledge, were manipulated. Stereotypicality of conversation was manipulated by showing the subjects a

a videotape of a gender stereotypical or gender atypical version of the same conversation. In the gender stereotypical version the dialogue revealed gender stereotypical information about the conversants. In the gender atypical version the dialogue revealed gender atypical information. Prior knowledge was assessed by examining differences between recalls made after one exposure to the stimulus conversation with recalls made after a second exposure to the stimulus conversation.

The effects of the three independent variables were assessed in terms of their influence on five dependent variables. First, the total amount of information recalled by the subjects. Second, the amount of information recalled which accurately portrayed some aspect of the videotaped conversation. Third, the amount of information recalled which failed to accurately portray some aspect of the videotaped conversation. Fourth, the amount of information recalled which was derived directly from the spoken discourse. Fifth, the amount of information recalled about such visual stimuli as the setting in which the conversation took place, the characters' physical appearance, and any hand or facial gestures. The present research should prove important to the areas of sex differences, gender role stereotypes, conversation memory, witness research, rumour

propagation, learning and memory, and information dissemination research in general.

Why Use Videotaped Stimuli?

It has been suggested that the mode of presentation is unimportant for the recognition of a conversation's surface features (Bates, Kintsch, Fletcher, & Giuliani, 1980).

Keenan et al. (1977), however, propose that

when a sentence is spoken by a real person in a real situation...additional information is brought to bear....This additional information concerns knowledge about the context of the linguistic expression, the intentions of the speaker, the speaker's expectations of the hearer, and the formal identity of the speech act (pp. 549-550).

Written material lacks the visual and audible aspects of a real conversation. It has been demonstrated that comprehension of written material is biased toward verbatim information, while comprehension of spoken discourse is biased toward memory for the material's gist or meaning (Hildyard & Olson, 1978). Robinson and McArthur (1982) add that differences in the conversants vocal qualities may influence what is recalled from a conversation. An individual's speech style has also been found to influence what is recalled from a conversation (Wiley & Eskilson, 1985). Audible material lacks a visual element. Nonverbal cues, for example, which convey information that might result in dramatic differences in recall, are absent in

written and audio-only material (Holtgraves et al., 1989; Schegloff, 1987). Finally, a real-life scene repeatedly acted out by two actors is likely to change from one occasion to the next.

Videotaped stimuli, however, retain many of the elements of real life, with the added advantage of being consistent in form from one presentation to the next. In fact, it has been found that the recall of participants in a conversation was no more complete or correct than the recall of those who observed a videotape of the same conversation (Wagner, 1987). As such, videotaped stimuli appear to be a reasonable way to study the recall of conversations from the perspective of the nonparticipant observer.

Accuracy

The parameters within which we accept information as true have not proven adequate when examined under the scrutiny of experimental investigation. Such parameters include the belief that eyewitness testimony, information disseminated amongst friends, and that which is later subjected to personal verification is more worthy of acceptance as truth than hearsay, information disseminated amongst strangers, and verification by someone unknown to us. The parameters, although useful as rules of thumb, are inadequate because much inaccuracy remains. Eyewitness

testimony, for example, tends to be readily accepted despite its imprecision (Buckhout, 1980; Cunningham & Bringmann, 1986; Millar, 1980; Stern, 1939). Rumour and gossip among friends can ruin the lives of innocent people although much of the information may be lost or changed as it passes from person to person (Allport & Postman, 1965; Bartlett, 1932; Gauld & Stephenson, 1967; Kintsch & Greene, 1978; Paul, 1959). Furthermore, objective verification may prove difficult or impossible because the expectations that result from prior knowledge may taint the verifier's subsequent observations (Bodenhausen & Lichtenstein, 1987; Bodenhausen & Wyer, 1985; Brigham & Cairns, 1988; Holtgraves et al., 1989; Reeder, Fletcher, & Furman, 1989; Stangor & Ruble, 1989; Wells, 1982). The individual may not even be aware that his/her objectivity has been compromised by pre-existing expectations (Hepburn & Locksley, 1983).

In a world where personal verification of information is becoming increasingly impossible, reliance on others to verify information is increasing. Therefore, it is more important than ever to understand and investigate the fragile assumptions upon which our faith rests. The present investigation contributes to our understanding in three ways. First, we have examined the accuracy of eyewitness testimony through an assessment of the amount of correct and

incorrect information recalled from the videotaped conversation. Second, the study contributes to the understanding of information dissemination because the subjects were asked to recall the information for another individual in a naturalistic conversation. Third, the present study contributes to our understanding of the effects of prior knowledge on subsequent verification by exposing the subjects to the stimulus conversation a second time, having them perform a second recall task, and assessing differences between the two trials.

Nonverbal Stimuli

A videotaped conversation, like a real conversation, is more than just words passed between two people. A conversation is an event which takes place within a context. The conversational context, from a nonparticipant observer perspective, may be divided into the dialogue itself and such nonverbal characteristics as the setting in which the dialogue takes place, the physical appearance of the characters, and the characters' hand and facial gestures.

Although the setting and the characters' gestures may not exert their influence within the constraints of a recognition task, they may well set the tone for a free-recall protocol. Cherulnik and Bayless (1986) suggest that "the physical attributes of environments often cannot

be separated from the identities and activities of the people who use them" (p. 668). Subjects in their investigation, for example, were shown pictures of people standing in driveways with lower-middle-class and upper-middle-class houses in the background. The same people were rated as possessing significantly more favourable traits and higher occupational status when in front of the upper-middle-class home. The inferred status of conversants may, in turn, affect a nonparticipant observer's memory of the dialogue (Holtgraves et al., 1989; Kemper and Thissen, 1981). Kemper and Thissen (1981), for example, found that impolite requests on the part of low status speakers would be recalled, whereas impolite requests by high status speakers would undergo distortion or be forgotten. Finally, items in the setting may draw the attention of the observer, such that their memory for the conversation might be adversely affected.

It is important to understand the effects of the conversational context because the context within which a conversation occurs can affect what is remembered. The present investigation contributes to an understanding of the effects of the conversational context through an examination of the amount of visually derived information, such as descriptions of the setting and characters, recalled.

Sex

At least five lines of evidence suggest that the recall of conversations may be affected by a nonparticipant observer's sex. First, many studies have found that females possess an advantage over men in their memory for verbal material (Burstein et al., 1980; Gaddes & Crockett, 1975; Harshman et al., 1983; Kail & Siegal, 1977; Kail & Siegal, 1978; Kolb & Whishaw, 1985; Kramer, Delis, & Daniel, 1988; Maccoby & Jacklin, 1974; Yeudall et al., 1986). Kramer et al. (1988), for example, used the 'California Verbal Learning Test' (CVLT) to assess sex differences on verbal skills. The women showed superior recall on immediate and delayed recall tasks, but were equal to men in their performance on recognition tasks. Women demonstrated a greater tendency to organize word lists into semantic clusters, whereas men were more likely to recall words in their serially presented order. Kramer et al. (1988) suggest that women's greater use of semantic clustering may indicate that their superior performance on recall tasks for verbal materials may be attributed to their better use of retrieval strategies.

Second, studies indicate that sex differences exist in verbal behavior. Levin and Arluke (1985) analyzed the naturally occurring conversations of male and female college

students. The results of their analysis revealed that women devoted significantly more of their conversation than men to discussing third persons. Although, what is discussed by the two sexes may not seem important, one sex may perform better than the other with certain material because of better familiarity with the subject domain (Fincher-Kiefer et al., 1988). The advantage in the present case could be said to belong to females because recall of the conversation involved discussion of third persons.

Third, studies of information dissemination indicate that there are sex differences in what is retained in a story as it passes from person to person (Allport & Postman, 1965). Allport and Postman (1965), for example, present the case where female groups emphasized information pertaining to "bargains and clothes...(while) in none of the male groups were clothes as predominantly mentioned" (p. 106). Allport and Postman (1965) referred to such a phenomenon as 'assimilation to a special interest'. The differences that showed up in the serial reproductions of Allport and Postman's (1965) investigations, although reflecting an obvious sex difference, may have been a product of the ambiguous stimulus material; a picture of a street scene from which the subjects were to construct a story. Dramatic differences such as those found by Allport and Postman

(1965) were not expected between the sexes in the present investigation because the stimulus material was much less ambiguous.

Fourth, while both males and females have demonstrated a preference to recall the male's dialogue in a mixed sex conversational dyad, females have been found to recall significantly more of the female's dialogue than males (Robinson & McArthur, 1982). If females recall as much of a male character's dialogue as males, and recall more of the female character's dialogue than males, females may be expected to recall more of the conversation than males.

Fifth, males have been found to have an advantage over females on recall tasks for visual stimuli (Burstein et al., 1980; Harshman et al., 1983; Kail & Siegal, 1977; Kail & Siegal, 1978; Maccoby & Jacklin, 1974; Miller & Santoni, 1986; Trepanier-Street & Kropp, 1986). Trepanier-Street and Kropp (1986), for example, found that males performed better than females on tasks involving memory for pictures. A male advantage for the recall of visual stimuli suggests that the recall of males might be more affected by the nonverbal aspects of the videotaped conversation, such as the setting and characters' physical appearance, than that of females.

Hypotheses

The research appeared to suggest that quite specific

differences in the recall of the sexes might be expected. The following hypotheses were based on the research indicating a female advantage over males for the recall of verbal materials. First, females would recall more information than males. Second, females would recall more correct information than males. Third, females would recall less incorrect information than males. Fourth, females would recall more information from the spoken dialogue than males. The following hypothesis was based on the research indicating a male advantage for visual stimuli. Males would recall more visually derived information based on such nonverbal stimuli as the setting, characters' physical appearance, and characters' physical gestures than females. These results were hypothesized to occur for both versions of the conversation, gender stereotypical and gender atypical, and for both the first and second recall trials.

Gender Role Stereotypes

Research on attitudes toward gender role stereotypes provides little reason to assume that the gender stereotypicality of a conversation might have a quantitative impact on the recall of a conversation (Fiorentine, 1988; Simon & Landis, 1989). However, studies investigating the recall and recognition of subjects for gender related information provide substantial reason to assume that

quantitative differences may occur (Halpern, 1985; Koblinsky et al., 1978; Kropp & Halverson, 1983; Liben & Signorella, 1980; Mackie & Worth, 1989; Meehan & Janik, 1990; Robinson & McArthur, 1982, Signorella & Liben, 1984; Trepanier-Street and Kropp, 1986).

Attitudes

Some gender stereotypical attitudes toward gender roles persist. Simon and Landis (1989), for example, found that 62% of one thousand men and 72% of three thousand women believed that a wife should quit her job and relocate with the husband if he was offered a very good job in another city while only 22% of the men and 20% of the women believed that a husband should quit his job and relocate with the wife if she was offered the same opportunity. Although it is true that men are spending more time on meal preparation and child care, the increase appears to be limited to weekends and independent of women's work and work demands (Douthitt, 1989).

At the same time, however, there is much evidence to support the demise of gender stereotypical attitudes. Men and women, for example, equally approve of married women working outside of the home although their husbands could support them (Simon & Landis, 1989). Whereas some researchers have found that women were more in favour of

egalitarian attitudes (Larsen & Long, 1988), others have found that both were equally supportive of egalitarian attitudes (Simon & Landis, 1989). In fact, slightly more men than women were found to be in support of the equal rights amendment. Men were also found to disapprove slightly more than women of a wife giving up her career to help her husband with his (Simon & Landis, 1989). Finally, young women have not devalued raising a family although their aspirations for status attainment has increased dramatically (Fiorentine, 1988). In fact, the value young women place on raising a family has been on the increase since 1976.

Memory Studies

Kroop and Halverson (1983) found that the gender stereotypicality of characters in a story influenced children's story preferences. Children of both sexes most preferred stories which had a same sex character engaged in gender stereotypical activity and least preferred stories which had an opposite sex character engaged in gender stereotypical behavior. The children's second preference was the story which had an opposite sex character engaged in gender atypical activity. "Children of both sexes objected to stories with characters of their sex engaging in sex inappropriate behavior" (Kroop & Halverson, 1983, p. 270).

Halpern (1985) suggests that "generalized beliefs about groups of people should be expected to influence recall by making it more congruent with stereotypical notions about what must have happened" (p. 364). Futoran and Wyer (1986), for example, found that subjects were better able to recall an occupation for which they judged a person suitable if the occupation was consistent with the person's traits or sex than if it was inconsistent. The use of gender consistent schema, as a tool for remembering gender related material, has been demonstrated to increase as the difficulty of the recall task increased (Meehan & Janik, 1990; Signorella & Liben, 1984; Trepanier-Street & Kropp, 1986).

The typical finding is that children demonstrate better memory for gender stereotypical stimuli than for gender atypical stimuli (Cann & Newbern, 1984; Howard & Rothbart, 1980; Koblinsky & Cruse, 1981; Koblinsky et al., 1978; Liben & Signorella, 1980; Martin & Halverson, 1983). Liben and Signorella (1980), for example, found that children would recognize a greater number of gender stereotypical pictures than gender atypical pictures with a male character. Mackie and Worth (1989) found that college students demonstrated better recall for stories containing gender stereotypical material, such as college major, than for gender atypical material.

In a recall experiment using the same pictures used in the Liben and Signorella (1980) recognition experiment, Signorella and Liben (1984) found that children who had been preclassified as high stereotyped (having very definite ideas of what behaviors are the sole domain of each sex) recalled more gender stereotypical than gender atypical pictures, while the opposite was true for low stereotyped children. Signorella and Liben (1984) and Meehan and Janik (1990) found that children were less likely to be classified as high stereotyped and more likely to be classified as low stereotyped as their age increased, however

the pattern of relationships between attitudes and memory was the same across ages. Since it has been well documented that children become more knowledgeable about gender stereotypes with age, these findings suggest that knowledge changes are not an important influence on memory for gender-related material given that attitudes are held constant (Signorella & Liben, 1984, p. 400).

Trepanier-Street and Kropp (1986) found results consistent with Signorella and Liben's (1984) findings: Younger children demonstrated better recall for gender stereotypical pictures than did older children, while older children demonstrated better recall for gender atypical pictures than did younger children. Mackie and Worth's (1989) finding that college students demonstrated better recall for gender stereotypical material than for gender atypical material,

interpreted in terms of Signorella and Liben's (1984) statement, suggests that while the college students probably knew more about gender stereotypes than preschool children, their attitudes about gender stereotypes may not have changed since they were in preschool.

Children of both sexes have also been found to demonstrate a "low proficiency in remembering the feminine traits of male characters" (Koblinsky et al., 1978, p. 456). Meehan and Janik (1990) found results "consistent with those of Koblinsky et al. (1978) who found that fifth graders had difficulty remembering feminine traits associated with male story characters" (p. 91). Liben and Signorella (1980) also reported that children of both sexes "find that males in feminine activities are more incongruent than are females in masculine activities" (Liben & Signorella, 1980, p. 16). Meehan and Janik (1990), who found that males were more likely than females to be highly stereotyped, suggest that "Since cross sex behavior is more tolerated in girls, it is not surprising that their attitudes are less stereotyped than those of boys" (Meehan & Janik, 1990, p. 88). All of these findings suggest a possible advantage for recall of the gender stereotypical conversation by both male and female subjects.

Hypotheses

The evidence from studies of attitudes regarding gender roles is mixed and does not indicate what effect attitudes might have on the recall of gender related material. The weight of the evidence from memory tasks involving gender related material, however, suggests that recall for gender stereotypical material should be better than recall for gender atypical material. The following hypotheses were based on that assumption. First, more information would be recalled for the gender stereotypical version of the conversation than for the gender atypical version. Second, more correct information would be recalled for the gender stereotypical conversation than for the gender atypical conversation. Third, less incorrect information would be recalled for the gender stereotypical version of the conversation than for the gender atypical version. Fourth, more information from the spoken discourse would be recalled for the gender stereotypical conversation than for the gender atypical conversation.

It is possible, given the lack of preference for gender atypical material, that people might stray from the dialogue and be more distracted by the nonverbal (and gender neutral) stimuli than they would for the gender stereotypical conversation. Therefore, it was hypothesized that more

visually derived information, such as physical descriptions of the setting and characters, would be recalled from the gender atypical conversation than from the gender stereotypical conversation. These results were expected to occur for both sexes, male and female, and for both recalls, first and second recall trials.

Prior Knowledge

Subjects have been found to demonstrate better recall for items inconsistent with expectations than for items consistent with expectations based on pre-existing knowledge. The phenomenon, referred to as the consistency effect, has been demonstrated for items inconsistent with a scene (Pezdek, Whetstone, Reynolds, Askari, & Dougherty, 1989; Trepanier-Street & Kropp, 1986), behavior (Lalljee, Watson, & White, 1982), and scripts (Bower et al., 1979; Graesser, Gordon, & Sawyer, 1979).

Pezdek et al. (1989) found that items inconsistent with a graduate student's office, such as colouring books and fingerpaints, or a preschool classroom, such as a beer bottle and an ashtray, would be recalled better than items consistent with each setting. Lalljee et al. (1982) found that the explanations offered for unexpected behavior were more complex than explanations offered for expected behavior. Explanations for unexpected behavior usually

involve person and situation elements, while explanations for "expected behavior is explained primarily in terms of person elements alone" (Lalljee et al., 1982, p. 26). Bower et al. (1979), found that unexpected interruptions in scripts such as the absence of enabling conditions for conducting some action, actions which lead to unexpected outcomes, and unexpected events that removed a character from the script were recalled better than script actions. It has also been found that unconventional requests, whether in written or videotaped conversations, are recalled and recognized better than conventional requests (Gibbs, 1981; Kemper & Thissen, 1981).

Studies have demonstrated that prior knowledge may bias a subject's performance on a recall task in either a beneficial or detrimental manner (Brigham & Cairns, 1988; Fincher-Kiefer et al., 1988; Geiselman & Crawley, 1983; Holtgraves et al., 1989; Wenger et al., 1980). Fincher-Kiefer et al. (1988) for example, found that subjects with a high degree of prior knowledge related to a subject domain would read material faster and recall more than low knowledge subjects. Fincher-Kiefer et al. (1988) assumed that knowledge of the subject matter domain enabled high knowledge subjects to develop retrieval structures for large amounts of the information, resulting in their

superior performance. They supported their assumption by demonstrating that tasks which did not require construction of retrieval structures would result in no performance differences between high and low knowledge subjects (Fincher-Kiefer et al., 1988).

Holtgraves et al. (1989) found that prior knowledge, whether correct or incorrect, may influence memory for the details of a written conversation. Subjects, for example, told the status of conversants before observing a conversation, rated the same statements as higher in assertiveness when they believed the speaker was higher in status than the listener, than they did when they believed the speaker was lower in status (Holtgraves et al., 1989). Geiselman and Crawley (1983) found that prior knowledge, in the form of fictional histories of the speakers, was found to increase the accuracy of memory for sentences. Brigham and Cairns (1988) found that viewing mugshots before performing a lineup identification task would result in far less accurate identification than if there had been no viewing of mugshots. Furthermore, subjects who chose someone from the mugshots were more likely to remain committed to their choice at a subsequent date, than those who did not choose from the mugshots.

The most common finding, however, is that prior

knowledge improves memory (Abbott et al., 1985; Bower et al., 1979; Fincher-Kiefer et al., 1988; Frederiksen, 1975; Geiselman & Crawley, 1983; Holtgraves et al., 1989; Potts & Peterson, 1985; Stangor & Ruble, 1989; Wenger, et al., 1980). Wenger et al. (1980), for example, found that subjects who were given a single presentation of a word list followed by a recall task would recognize more of the words on a subsequent recognition task than subjects who were given two presentations of the word list without a previous recall task. However, the advantage of the prior recall task depended on the amount of information that could be recalled. If very few items were recalled in the prior recall task, then two presentations would result in superior recall. If a substantial number of items were recalled, then a single presentation followed by a recall task resulted in better recognition performance (Wenger et al., 1980).

Hypotheses

Both recalling stimulus material on a prior occasion and being given a second presentation of stimulus material prior to a recall task have been shown to improve recall (Wenger et al., 1980). Thus, improved recall of stimulus material as a result of the combined effects of a recall session and a second presentation was thought to be a

reasonable expectation. The following hypotheses were based on the evidence that prior knowledge, in the form of a second exposure and a previous recall task, would improve recall performance. First, more information would be recalled on the second recall trial than on the first recall trial. Second, more correct information would be recalled on the second recall trial than on the first recall trial. Third, less incorrect information would be recalled on the second recall trial than on the first recall trial. Fourth, more information from the spoken discourse would be recalled on the second recall trial than on the first recall trial. Fifth, more visually derived information, such as physical descriptions of the setting and characters, would be recalled on the second recall trial than on the first recall trial. These results were expected to occur for both sexes, male and female, and for both versions of the conversation, gender stereotypical and gender atypical.

Chapter Two: Method

Subjects

Eighty undergraduate psychology students, 40 female and 40 male, participated. The subjects, ranging from 17 to 62 years of age, were drawn from the psychology department's volunteer subject pool. Forty subjects, 20 male and 20 female, were randomly assigned to be source subjects. Source subjects were asked to view and recall a gender stereotypical or gender atypical version of a conversation. There were four conditions: Male subjects who viewed and recalled the gender stereotypical version of the conversation, female subjects who viewed and recalled the gender stereotypical version of the conversation, male subjects who viewed and recalled the gender atypical version of the conversation, and female subjects who viewed and recalled the gender atypical version of the conversation. Ten subjects were randomly assigned to each condition. The remaining forty subjects were randomly assigned to be receivers. Receivers were randomly assigned to a same sex source and served as the receivers of the information recalled by the source subjects.

Design

The design of the experiment involved two between factors, the subject's sex (male or female) and the gender

stereotypicality (stereotypical or atypical) of the videotaped conversation, and one within factor, prior knowledge (no prior exposure and one prior exposure). The dependent measures were the total amount of information recalled, the amount of correct information recalled, the amount of incorrect information recalled, the amount of information recalled from the spoken discourse (verbally derived information), and the amount of visually derived information recalled. The amount of information recalled for each of the five dependent variables were assessed by determining the number of propositions recalled from the source subjects' first and second recall trials.

Stimulus Materials

The stimulus conversation involved a young couple discussing who would remain at home and care for their child should they decide to have one (see Appendix A for information pertaining to the dialogue). There were two versions of the same conversation. In the gender stereotypical version of the conversation, the couple held gender stereotypical roles: The male was an engineer, made more money than the female, and would continue to work while the female, who was a nurse, decided to postpone her career to remain at home and raise a child. In the gender atypical version of the conversation, the roles were reversed: The

female was an engineer, made more money than the male, and would continue to work while the male, who was a nurse, decided to postpone his career to remain at home and raise a child. The engineer's dialogue was also designed to appear more logical than that of the nurse's, while the dialogue of the nurse was designed to appear more emotional than that of the engineer. Subjects viewed the stimulus tapes twice; once before their first recall trial and again before their second recall trial. Subjects were shown the same version of the conversation prior to the second recall trial as had been shown prior to the first recall trial.

Attempts were taken to have the conversation appear natural. The volunteer actors were a young couple in their middle twenties who had been living together for several years, were both attending university, and planned to pursue individual careers in the future. The filming took place in the living room of the couple's apartment.

Apparatus

A videocamera was used to tape the two versions of the stimulus conversation, as well as to record the subjects' first recall protocols. The subjects' recalls were recorded for the purpose of scoring and possible demonstration. A video machine and television monitor were used to present the stimulus conversation to the subjects. The subjects'

second recall protocols were audiotaped for the purpose of scoring and possible demonstration.

Procedure

The present study was part of a larger experiment involving a modified version of Bartlett's (1932) and Allport and Postman's (1965) serial reproduction tasks. Traditional serial reproduction tasks had involved a totally linear transmission of information. One subject out of a group would be exposed to a stimulus material such as a story or a picture. The subject would then act as a source of the information by relating what he/she could recall of the stimulus material to a second subject acting as the receiver of the information. The second subject then acted as a source for the third subject, who then acted as a source for the fourth subject, who then acted as a source for the fifth subject, etc. The final subject of each group would act as a source for the experimenter. The subject only communicated when acting as the source. He/she acted as a passive recipient of information while acting as a receiver. The larger experiment involved modifying the receiver role by making it an interactive, and more realistic, part of the information dissemination process. The receiver could, for example, question the source to obtain more information or to confirm information that the

source had already provided.

The present study was conducted separately because the first subject's recall is unique in the serial reproduction task, and so warrants special consideration. The first subject is the only subject in a serial reproduction task to have had direct exposure to the stimulus material. In other words, the first subject in a serial reproduction task is the 'eyewitness' from whom the dissemination of information begins. The remaining subjects in a serial reproduction task, when acting as sources, are engaged in dissemination of hearsay information. Thus, the present study is concerned with eyewitness testimony, rather than hearsay evidence or rumour. The latter are the focus of the larger experiment.

The subjects met at a designated waiting area where they were given a general description of the experimental procedure, advised of their rights, and engaged in trivial conversation to reduce any pre-experiment anxiety. Information about the general procedure included informing the subjects that they would be asked to view and recall a videotaped conversation, that their performances would be audiotaped and videotaped, that they could request the tapes to be erased immediately and observe the erasure themselves if they so chose, and that they could terminate their

participation at any time before or during the experiment. All subjects had been previously informed of the experiment's general procedure when first contacted by telephone.

The source subject was escorted to a viewing room where he/she was asked to pay careful attention to the videotaped conversation so as to remember as much of its content as possible. The subject was then shown either the gender stereotypical or the gender atypical version of the videotaped conversation, depending upon the condition to which the subject had been randomly assigned. After viewing the videotape, the experimenter engaged the subject in more trivial conversation for approximately two minutes to minimize short term memory effects.

The source subject was then escorted to a room where the receiver was waiting. The subjects were then informed about the specific procedure. The source was instructed that his/her task was to recall as much information as possible for the receiver. The receiver was asked to not interrupt the source until he/she could not recall any more information. The receiver was advised that after the source had completed his/her recall, it was permissible to ask the source as many questions as he/she wanted to ask, to obtain confirmation of information already presented, or to ask for

the source's entire recall to be reproduced. The receiver was advised to obtain as much information as possible because he/she would be asked to recall the information. Finally, the subjects were told to interact as freely as they would in a natural conversation, to proceed at their own rate, and to indicate when their interaction was complete. The interaction between the source and the receiver was videotaped for the purpose of scoring and possible demonstration.

When the source and receiver had completed their interaction, the source was asked to sign a consent form (see Appendix B for an example of the consent form) and then taken to view the videotape again. The source was instructed that his/her task was to recall the contents of the film as best as possible for the experimenter after he/she had viewed the film again. The source subject was then shown the film and after approximately two minutes of trivial conversation to minimize short term memory effects, the source subject was asked to recall the film for the experimenter. When the subject had completed his/her recall, the experimenter asked if there were any other details at all that the subject could remember. The experimenter paused momentarily and waited for a response. When the subject had finished responding to the

experimenter's query, the subject was debriefed and thanked for his/her participation by the experimenter. The interaction between the subject and the experimenter was audiotaped for the purpose of scoring and possible demonstration. There were no control groups, which would have seen the videotape twice without an intervening recall task, because the emphasis was not on the effects of a prior recall task as opposed to the absence of such, but on determining whether an individual's recall would change after being exposed to the stimulus material again. Therefore, it was essential to have all subjects view and recall the videotape twice.

Coding and Scoring the Recall Protocols

Coding and scoring of the recall protocols were accomplished in four steps: Transcription, clearing of verbal debris, coding of propositions, and scoring. The following two sentences serve to illustrate the coding and scoring procedure.

There was a young man with black hair and a woman with blond hair, who were not, ah, who were engaged, and, ah, discussing, talking about having a baby. She was pregnant and they were talking about having it and taking care of it.

Transcription

Approximately 4.5 hours of videotape and audiotape, combined, were transcribed as completely as possible by the

experimenter. The transcription was then checked for accuracy by three assistants. Indiscernible dialogue was excluded from analysis.

Clearing of Verbal Debris

The source subjects' first and second recall protocols were cleared of any verbal debris. Verbal debris consisted of any ums and ahs, incomplete expressions, or false starts. The following example will serve to demonstrate the procedure of clearing verbal debris. The transcribed protocol,

There was a young man with black hair and a woman with blond hair, who were not, ah, who were engaged, and, ah, discussing, talking about having a baby. She was pregnant and they were talking about having it and taking care of it.

has all nonessential vocalizations removed. In the present example the nonessential vocalizations consist of the false start 'who were not', two 'ahs', and an unnecessary 'and'.

The resulting protocol,

There was a young man with black hair and a woman with blond hair, who were engaged, talking about having a baby. She was pregnant and they were talking about having it and taking care of it.

was then used for coding of propositions. The clearing procedure was used to facilitate subsequent analysis by removing extraneous and distracting vocalizations.

Coding of Propositions

Coding consisted of identifying surface and embedded propositions within the protocols. The protocols were broken into sentences. Each sentence was then separately examined for the presence of propositions. A proposition was any obvious or embedded statement which could be classified as true or false and conveyed some coherent information. The primary rule governing coding was that no proposition should violate the meaning of the sentence from which it came. As many propositions as could be identified were listed. Redundant propositions, propositions which had already been listed elsewhere in the protocol, were excluded from analysis. The following will demonstrate the coding procedure.

The cleared protocol,

There was a young man with black hair and a woman with blond hair, who were engaged, talking about having a baby. She was pregnant and they were talking about having it and taking care of it.

would be broken down into two sentences:

1. There was a young man with black hair and a woman with blond hair, who were engaged, talking about having a baby.
2. She was pregnant and they were talking about having it and taking care of it.

The first sentence would then be examined for the presence of propositions. From the first sentence we know the

following facts:

1. There was a man
2. There was a woman
3. The man was young
4. The woman was young
5. The man had black hair
6. The woman had blond hair
7. They were engaged
8. They were talking
9. They talked about having a baby

The second sentence contains the following propositions:

1. There was a woman
2. The woman was pregnant
3. They were talking
4. They talked about having a baby
5. They talked about taking care of the baby

The first, third, and fourth propositions in sentence two would be considered redundant because they appeared in the first sentence. The redundant propositions would be excluded from analysis. The total number of propositions from the two sentences were, after excluding the redundant propositions, 11.

Scoring

The propositions were classified into five categories: total, correct or incorrect, and verbally or visually derived. Although the propositions were derived with the built in requirement that they be subject to true or false classification, classification as either verbally or visually derived was not without some ambiguity. The proposition `there was a man', for example, could be derived

from either the sound of the man's voice or having seen the man. Where such ambiguity existed, there was no designation to either category. The proposition 'there was a man', while it would count towards the number of total and correct propositions, would not count as either a verbally or visually derived proposition. The proposition 'the man had black hair', however, would count as visually derived information because it was information that could not have been derived from the spoken discourse. That bit of information must have been derived from actually seeing the man. The proposition 'they talked about having a baby' would, of course, be classified as a verbally derived proposition. Classification as a true or false proposition was based on a gist, rather than verbatim, criterion. The number of total propositions consisted of all nonredundant propositions.

The experimenter transcribed, cleared the verbal debris from, and coded the propositions. The experimenter's treatments of each stage were checked by three assistants. The scoring was done exclusively by the three assistants as a group. Disagreements about the transcription, clearing process, coding, and scoring were settled among the three scorers by majority vote. Scoring was done twice to ensure accuracy and consistency.

Chapter Three: Results

Descriptive Statistics

Descriptive statistics appear in Tables 1 through 5. The tables contain the sum of the propositions recalled, mean number of propositions recalled, and standard deviation for the number of propositions recalled. Table 1, on page 38, contains the total amount of propositions recalled. Table 2, on page 40, contains the percentage of total propositions recalled that were correct. Table 3, on page 42, contains the percentage of total propositions recalled that were incorrect. Table 4, on page 44, contains the percentage of total propositions recalled that were verbally derived. Table 5, on page 46, contains the percentage of total propositions recalled that were derived from visual stimuli. The tables contain the statistics for both recall trials for nine groupings of the source subjects who participated in the experiment: All subjects combined, female subjects, male subjects, subjects who viewed the gender stereotypical version of the conversation, subjects who viewed the gender atypical version of the conversation, females who viewed the gender stereotypical version, females who viewed the gender atypical version, males who viewed the gender stereotypical version, and males who viewed the gender atypical version.

Table 1

Total Propositions Recalled on Both Recall Trials

	First Recall Trial			Second Recall Trial		
	Sum	Mean	SD	Sum	Mean	SD
All Subjects N = 40	1536	38.4	10.9	1660	41.5	13.4
Females N = 20	840	42.0	10.4	910	45.5	14.1
Males N = 20	696	34.8	10.5	750	37.5	11.7
Stereotypical Condition N = 20	754	37.7	10.9	833	41.7	14.2
Atypical Condition N = 20	782	39.1	11.2	827	41.4	13.0
Females Stereotypical N = 10	399	39.9	8.4	455	45.5	12.8
Females Atypical N = 10	441	44.1	12.1	455	45.5	16.0
Males Stereotypical N = 10	355	35.5	13.0	378	37.8	15.1
Males Atypical N = 10	341	34.1	7.9	372	37.2	7.7

Two questions need to be answered before going on to the inferential statistical analysis. First, how accurate was the recalled information? Second, how much influence did nonverbal stimuli, such as the setting and the characters' physical appearance, have on the subjects' recall? Both issues were raised in the introduction. A simple equation for assessing the accuracy of the subjects' recall is to divide the number of correct propositions recalled by the total number of propositions recalled. The resulting proportion, which may be converted into a percentage by multiplying it by 100, provides a good estimate of accuracy of recall. Table 2 contains accuracy assessments. Accuracy may also be assessed by dividing the number of incorrect propositions recalled by the total number of propositions recalled and multiplying by 100. The resulting percentages were not discussed below because they convey essentially the same information as the percentage of correct propositions recalled. A similar method, dividing the number of visually derived propositions recalled by the total number of propositions recalled and multiplying by 100, may be used to determine what percentage of the recalled information was derived from such nonverbal stimuli as the setting. Table 5 contains the percentage of visually derived propositions recalled for each subject grouping.

Table 2

Correct Propositions Recalled on Both Recall Trials

	First Recall Trial				Second Recall Trial			
	Sum	Mean	SD	* Percentage of Total	Sum	Mean	SD	* Percentage of Total
All Subjects N = 40	1331	33.3	10.9	86.7	1453	36.3	12.3	87.5
Females N = 20	772	38.6	10.2	91.9	840	42.0	12.5	92.3
Males N = 20	559	28.0	8.8	80.3	613	30.7	9.4	81.7
Stereotypical Condition N = 20	659	33.0	9.9	87.4	734	36.7	13.1	88.1
Atypical Condition N = 20	672	33.6	12.0	85.9	719	36.0	11.9	86.9
Females Stereotypical N = 10	369	36.9	9.0	92.5	426	42.6	11.5	93.6
Females Atypical N = 10	403	40.3	11.6	91.4	414	41.4	14.1	91.0
Males Stereotypical N = 10	290	29.0	9.6	81.7	308	30.8	12.3	81.5
Males Atypical N = 10	269	26.9	8.4	78.9	305	30.5	5.8	82.0

* The percentage of total propositions recalled that were correct.

Accuracy

Accuracy reached 86.7% on the first recall trial and increased to 87.5% on the second recall trial for all subjects, both sexes and versions, combined. Females were more accurate (91.9%) than males (80.3%) on the first recall trial with both versions of the conversation combined. Females were also more accurate (92.3%) than males (81.7%) on the second recall trial with both versions of the conversation combined. The accuracy of both male and female subjects increased slightly on the second recall trial. Accuracy of recall was higher for the gender stereotypical version of the conversation (87.4%) than for the gender atypical version (85.9%) on the first recall trial. Accuracy of recall was also higher for the gender stereotypical version of the conversation (88.1%) than for the gender atypical version (86.9%) on the second recall trial. Accuracy increased slightly for both versions of the conversation on the second recall trial.

The recall of females in the gender stereotypical condition was more accurate (92.5%) than that of females in the gender atypical condition (91.4%), males in the gender stereotypical condition (81.7%), and males in the gender atypical condition (78.9%) on the first recall trial. The recall of females in the gender stereotypical condition was

Table 3

Incorrect Propositions Recalled on Both Recall Trials

	First Recall Trial				Second Recall Trial			
	Sum	Mean	SD	* Percentage of Total	Sum	Mean	SD	* Percentage of Total
All Subjects N = 40	205	5.1	3.5	13.4	207	5.2	4.2	12.5
Females N = 20	68	3.4	1.6	8.1	70	3.5	3.1	7.7
Males N = 20	137	6.9	4.1	19.7	137	6.9	4.5	18.3
Stereotypical Condition N = 20	95	4.8	3.6	12.6	99	5.0	4.2	11.9
Atypical Condition N = 20	110	5.5	3.5	14.1	108	5.4	4.2	13.1
Females Stereotypical N = 10	30	3.0	1.5	7.5	29	2.9	2.7	6.4
Females Atypical N = 10	38	3.8	1.8	8.6	41	4.1	3.4	9.0
Males Stereotypical N = 10	65	6.5	4.4	18.3	70	7.0	4.5	18.5
Males Atypical N = 10	72	7.2	4.0	21.1	67	6.7	4.7	18.0

* The percentage of total propositions recalled that were incorrect.

also more accurate (93.6%) than that of females in the gender atypical condition (91.0%), males in the gender stereotypical condition (81.5%), and males in the gender atypical condition (82.0%) on the second recall trial. The recall of males in the gender stereotypical condition was more accurate (81.7%) than that of males in the gender atypical condition (78.9%) for the first recall trial. The recall of males in the gender atypical condition, however, was slightly more accurate (82.0%) than that of males in the gender stereotypical condition (81.5%) on the second recall trial. The recall of females in the gender atypical condition was more accurate (91.4%) than that of males in the gender atypical condition (78.9%) on the first recall trial. The recall of females in the gender atypical condition was also more accurate (91.0%) than that of males in the gender atypical condition (78.9%) on the second recall trial.

The accuracy assessments suggest three things. First, eyewitness testimony for conversation is quite accurate. Second, females are more accurate in their recall of conversation than are males. Third, the accuracy of recall for gender stereotypical conversation is higher than for gender atypical conversation.

Table 4

Verbally Derived Propositions Recalled on Both Recall Trials

	First Recall Trial				Second Recall Trial			
	Sum	Mean	SD	* Percentage of Total	Sum	Mean	SD	* Percentage of Total
All Subjects N = 40	1147	28.7	9.2	74.7	1311	32.8	11.7	79.0
Females N = 20	664	33.2	8.5	79.1	752	37.6	12.8	82.6
Males N = 20	483	24.2	7.7	69.4	559	28.0	8.1	74.5
Stereotypical Condition N = 20	570	28.5	7.7	75.6	660	33.0	10.4	79.2
Atypical Condition N = 20	577	28.9	10.7	73.8	651	32.6	13.1	78.7
Females Stereotypical N = 10	318	31.8	6.1	79.7	373	37.3	9.2	82.0
Females Atypical N = 10	346	34.6	10.5	78.5	379	37.9	16.2	83.3
Males Stereotypical N = 10	252	25.2	8.0	71.0	287	28.7	10.2	75.9
Males Atypical N = 10	231	23.1	7.6	67.7	272	27.2	5.8	73.1

* The percentage of total propositions that were visually derived.

Nonverbal Stimuli

Table 5, on page 46, contains the percentage of total propositions recalled that were derived from visual stimuli. Approximately 15.0% of the information recalled on the first recall trial, by subjects of both sexes and in both conditions combined, was derived from visual stimuli. The percentage of visually derived information dropped, however, to 12.7% on the second recall trial. Males recalled a greater percentage of visually derived information (17.2%) than females (13.1%) on their first recall trial. Males also recalled a greater percentage of visually derived information (15.7%) than females (10.1%) on their second recall trial. The percentage of visually derived information decreased on the second recall trial for both sexes. A greater percentage of visually derived information was recalled on the first recall trial of the gender atypical conversation (15.9%) than for the gender stereotypical conversation (14.1%). A slightly greater percentage of visually derived information was recalled on the second recall trial of the gender stereotypical conversation (12.9%) than for the gender atypical conversation (12.5%). The percentage of visually derived information decreased on the second recall trial for both versions of the conversation.

Table 5

Visually Derived Propositions Recalled on Both Recall Trials

	First Recall Trial				Second Recall Trial			
	Sum	Mean	SD	* Percentage of Total	Sum	Mean	SD	* Percentage of Total
All Subjects N = 40	230	5.8	4.5	15.0	210	5.3	4.5	12.7
Females N = 20	110	5.5	3.6	13.1	92	4.6	3.9	10.1
Males N = 20	120	6.0	5.3	17.2	118	5.9	5.1	15.7
Stereotypical Condition N = 20	106	5.3	4.7	14.1	107	5.4	4.8	12.9
Atypical Condition N = 20	124	6.2	4.3	15.9	103	5.2	4.3	12.5
Females Stereotypical N = 10	52	5.2	3.9	13.0	58	5.8	4.8	12.8
Females Atypical N = 10	58	5.8	3.5	13.2	34	3.4	2.5	7.5
Males Stereotypical N = 10	54	5.4	5.6	15.2	49	4.9	5.0	13.0
Males Atypical N = 10	66	6.6	5.2	19.4	69	6.9	5.1	18.6

* The percentage of total propositions that were visually derived.

Males in the gender atypical condition recalled a greater percentage of visually derived information (19.4%) than males in the stereotypical condition (15.2%), females in the gender stereotypical condition (13.0%), and females in the gender atypical condition (13.2%) on the first recall trial. Males in the gender atypical condition also recalled a greater percentage of visually derived information (18.6%) than males in the stereotypical condition (13.0%), females in the gender stereotypical condition (12.8%), and females in the gender atypical condition (7.5%) on the second recall trial. Females recalled a slightly smaller percentage of visually derived information on the first recall trial for the gender stereotypical conversation (13.2%) than on the first recall trial for the gender atypical conversation (13.0%). Females, however, recalled a substantially smaller percentage of visually derived information on the second recall trial for the gender atypical conversation (7.5%) than on the second recall trial for the gender stereotypical conversation (12.8%). All four groups recalled a smaller percentage of visually derived information on their second recall trial.

The assessment of percentage of recall derived from visual stimuli demonstrated four trends. First, subjects considered the physical attributes of a conversational

setting important when recalling conversational material. Second, a smaller percentage of recall was devoted to information derived from visual stimuli on the second recall trial. Third, males recalled more information derived from visual stimuli than females. Fourth, males were more affected by the stereotypicality of the conversation than were females: Males recalled a greater percentage of visually derived propositions for the gender atypical version of the conversation than for the gender stereotypical version.

Inferential Statistics

A mixed between-within factorial MANOVA was considered, but multicollinearity and singularity "rendered unstable matrix conversion" (Tabachnick & Fidell, 1983, p. 82). Multicollinearity resulted because the sums of correct and incorrect propositions for both the first and second recall trials equalled the number of total propositions and resulted in singularity. The power of a MANOVA was also in question due to the small sample size (L. K. Rosenblood, personal communication, April 26, 1991). Thus, five mixed factorial ANOVAs were run, one on each dependent variable, to assess the main and interactive effects of the two between subjects variables and the within subjects variable. All other comparisons were made using one tailed t-tests.

The alpha level remained at .05 for each t-test because each comparison was a test of an individual hypothesis. Systat, version 5.1, (Wilkinson, 1990) was the computer program used to conduct the statistical analysis. The results of the t-tests were summarized in tables to accompany the written text. The tables contain the means for the groups being compared, the groups' variances, and whether the differences between the means were significant at the alpha = .05 level. The analysis was divided into four parts: Analysis of sex differences, analysis of gender role stereotypicality, analysis of prior knowledge, and analysis of interactions among the independent variables. The effects of each independent variable on the five dependent measures were discussed.

Analysis of Sex Differences

Total. A mixed factorial ANOVA revealed a significant main effect for sex on the number of total propositions recalled, $F(1, 36) = 4.70, p < .05, \eta^2 = 0.13$. The following results are summarized in Table 6, on page 50. Females recalled a significantly greater number of total propositions ($M = 44.1$) than males ($M = 34.1$) on the first recall trial for the gender atypical conversation, $t(18) = 2.19, p < .05$. The following results failed to achieve significance. Females recalled a greater number of

Table 6

Mean Total Propositions Recalled by Males and Females

Conversation	Recall	Male		Female		df	p < .05
		Mean	s ²	Mean	s ²		
Stereotypical	1	35.5	167.8	39.9	70.5	18	No
Stereotypical	2	37.8	227.5	45.5	163.2	18	No
Atypical	1	34.1	63.0	44.1	146.3	18	Yes
Atypical	2	37.2	59.1	45.5	257.4	18	No

total propositions ($\underline{M} = 45.5$) than males ($\underline{M} = 37.2$) on the second recall trial for the gender atypical conversation. Females recalled a greater number of total propositions ($\underline{M} = 39.9$) than males ($\underline{M} = 35.5$) on the first recall trial for the gender stereotypical conversation. Females also recalled a greater number of total propositions ($\underline{M} = 45.5$) than males ($\underline{M} = 37.8$) on the second recall trial for the gender atypical conversation.

Correct. A mixed factorial ANOVA revealed a significant main effect for sex on the number of correct propositions recalled, $F(1,36) = 12.60$, $p < .05$, $\eta^2 = 0.35$. The following results are summarized in Table 7, on page 52. Females recalled a significantly greater number of correct propositions ($\underline{M} = 36.9$) on the first recall trial for the gender stereotypical conversation than males ($\underline{M} = 29.0$), $t(18) = 1.90$, $p < .05$. Females also recalled a significantly greater number of correct propositions ($\underline{M} = 42.6$) than males ($\underline{M} = 30.8$) on the second recall trial for the gender stereotypical conversation, $t(18) = 2.21$, $p < .05$. Females recalled a significantly greater number of correct propositions ($\underline{M} = 40.3$) on the first recall trial for the gender atypical conversation than did males ($\underline{M} = 26.9$), $t(18) = 2.96$, $p < .05$. Finally, females recalled a significantly greater number of correct

Table 7

Mean Correct Propositions Recalled by Males and Females

Conversation	Recall	Male		Female		df	p < .05
		Mean	s ²	Mean	s ²		
Stereotypical	1	29.0	92.0	36.9	80.3	18	Yes
Stereotypical	2	30.8	152.4	42.6	132.5	18	Yes
Atypical	1	26.9	70.3	40.3	134.0	18	Yes
Atypical	2	30.5	33.4	41.4	198.1	18	Yes

propositions ($\underline{M} = 41.4$) than males ($\underline{M} = 30.5$) on the second recall trial for the gender atypical conversation, $\underline{t}(18) = 2.27, p < .05$.

Incorrect. A mixed factorial ANOVA revealed a significant main effect for sex on the number of incorrect propositions recalled, $\underline{F}(1,36) = 13.22, p < .05, \eta^2 = 0.37$. The following results are summarized in Table 8, on page 54. A significantly greater number of incorrect propositions were recalled by males ($\underline{M} = 6.5$) than by females ($\underline{M} = 3.0$) on the first recall trial for the gender stereotypical conversation, $\underline{t}(18) = 2.41, p < .05$. Males recalled a significantly greater number of incorrect propositions ($\underline{M} = 7.0$) than females ($\underline{M} = 2.9$) on the second recall trial for the gender stereotypical conversation, $\underline{t}(18) = 2.47, p < .05$. Males also recalled a significantly greater number of incorrect propositions ($\underline{M} = 7.2$) than females ($\underline{M} = 3.8$) on the first recall trial for the gender atypical conversation, $\underline{t}(18) = 2.48, p < .05$. Although not significantly different, males recalled a greater number of incorrect propositions ($\underline{M} = 6.7$) than females ($\underline{M} = 4.1$) on the second recall trial for the gender atypical conversation.

Verbally Derived. A mixed factorial ANOVA revealed a significant main effect for sex on the number of verbally

Recall of Videotaped Conversations

Table 8

Mean Incorrect Propositions Recalled by Males and Females

Conversation	Recall	Male		Female		df	p < .05
		Mean	s ²	Mean	s ²		
Stereotypical	1	6.5	19.0	3.0	2.2	18	Yes
Stereotypical	2	7.0	20.2	2.9	7.4	18	Yes
Atypical	1	7.2	15.7	3.8	3.1	18	Yes
Atypical	2	6.7	22.2	4.1	11.7	18	No

derived propositions recalled, $F(1,36) = 11.06$, $p < .05$, $\eta^2 = 0.31$. The following results are summarized in Table 9, on page 56. Females recalled a greater number of verbally derived propositions than males in all cases. Females recalled a significantly greater number of verbally derived propositions ($M = 31.8$) than males ($M = 25.2$) on the first recall trial for the gender stereotypical conversation, $t(18) = 2.07$, $p < .05$. On the second recall trial for the gender stereotypical conversation, females recalled a significantly greater number of verbally derived propositions ($M = 37.3$) than males ($M = 28.7$), $t(18) = 1.98$, $p < .05$. Females also recalled a significantly greater number of verbally derived propositions ($M = 34.6$) than males (23.1) on the first recall trial for the gender atypical conversation, $t(18) = 2.80$, $p < .05$. Finally, females recalled a significantly greater number of verbally derived propositions ($M = 37.9$) than males ($M = 27.2$) on the second recall trial for the gender atypical conversation, $t(18) = 1.97$, $p < .05$.

Visually Derived. A mixed factorial ANOVA failed to reveal a significant sex difference on the amount of visually derived propositions recalled. The following results can be found in Table 10, on page 57. Males recalled a significantly greater number of visually derived

Table 9

Mean Verbally Derived Propositions Recalled by Males and Females

Conversation	Recall	Male		Female		df	p < .05
		Mean	s ²	Mean	s ²		
Stereotypical	1	25.2	64.6	31.8	37.1	18	Yes
Stereotypical	2	28.7	104.5	37.3	84.2	18	Yes
Atypical	1	23.1	57.9	34.6	110.5	18	Yes
Atypical	2	27.2	33.3	37.9	262.8	18	Yes

Table 10

Mean Visually Derived Propositions Recalled by Males and Females

Conversation	Recall	Male		Female		df	p < .05
		Mean	s ²	Mean	s ²		
Stereotypical	1	5.4	31.2	5.2	15.3	18	No
Stereotypical	2	4.9	25.4	5.8	23.1	18	No
Atypical	1	6.6	26.9	5.8	12.2	18	No
Atypical	2	6.9	26.3	3.4	6.1	18	Yes

propositions ($\underline{M} = 5.1$) than females ($\underline{M} = 2.5$) on the second recall trial for the gender atypical conversation, $\underline{t}(18) = 1.94$, $\underline{p} < .05$. The following results failed to achieve significance. Males recalled a greater number of visually derived propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 6.6$) than did females ($\underline{M} = 5.8$). Males recalled a slightly greater number of visually derived propositions ($\underline{M} = 5.4$) than females ($\underline{M} = 5.2$) on the first recall trial for the gender stereotypical conversation. Females, however, recalled a greater number of visually derived propositions ($\underline{M} = 5.8$) than males ($\underline{M} = 4.9$) on the second recall trial for the gender stereotypical conversation.

Analysis of Gender Stereotypicality

Total. A mixed factorial ANOVA failed to reveal a significant gender stereotypicality of conversation effect for the total number of propositions recalled. The following results, none of which were significant, may be found in Table 11 on page 59. Females recalled a greater number of total propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 44.1$) than for the gender stereotypical conversation ($\underline{M} = 39.9$). Females recalled an equal number of total propositions on the second recall trial for the gender stereotypical conversation

Table 11

Mean Total Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations

		Conversation					
Sex	Recall	Stereotypical		Atypical		df	p < .05
		Mean	s ²	Mean	s ²		
Female	1	39.9	70.5	44.1	146.3	18	No
Female	2	45.5	163.2	45.5	257.4	18	No
Male	1	35.5	167.8	34.1	63.0	18	No
Male	2	37.8	227.5	37.2	59.1	18	No

(\underline{M} = 45.5) as they did on the second recall trial for the gender atypical conversation (\underline{M} = 45.5). Males recalled a slightly greater number of total propositions on the first recall trial for the gender stereotypical conversation (\underline{M} = 35.5) than for the gender atypical conversation (\underline{M} = 34.1). Males also recalled a slightly greater number of total propositions on the second recall trial for the gender stereotypical conversation (\underline{M} = 37.8) than for the gender atypical conversation (\underline{M} = 37.2).

Correct. A mixed factorial ANOVA failed to reveal a significant gender stereotypicality of conversation effect for the number of correct propositions recalled. The following results, none of which were significant, may be found in Table 12 on page 61. Females recalled a greater number of correct propositions on the first recall trial for the gender atypical conversation (\underline{M} = 40.3) than for the gender stereotypical conversation (\underline{M} = 36.9). Females recalled a slightly greater number of correct propositions on the second recall trial for the gender stereotypical conversation (\underline{M} = 42.6) than for the gender atypical conversation (\underline{M} = 41.4). Males recalled a greater number of correct propositions on the first recall trial for the gender stereotypical conversation (\underline{M} = 29.0) than for the gender atypical conversation (\underline{M} = 26.9). Males also

Table 12

Mean Correct Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations

		Conversation				df	p < .05
Sex	Recall	Stereotypical		Atypical			
		Mean	s ²	Mean	s ²		
Female	1	36.9	80.3	40.3	134.0	18	No
Female	2	42.6	132.5	41.4	198.1	18	No
Male	1	29.0	92.0	26.9	70.3	18	No
Male	2	30.8	152.4	30.5	33.4	18	No

recalled a slightly greater number of correct propositions on the second recall trial for the gender stereotypical conversation ($\underline{M} = 30.8$) than for the gender atypical conversation ($\underline{M} = 30.5$).

Incorrect. A mixed factorial ANOVA failed to reveal a significant gender stereotypicality of conversation effect for the number of incorrect propositions recalled. The following results, none of which were significant, may be found in Table 13 on page 63. Females recalled a greater number of incorrect propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 3.8$) than for the gender stereotypical conversation ($\underline{M} = 3.0$). Females also recalled a greater number of incorrect propositions on the second recall trial for the gender atypical conversation ($\underline{M} = 4.1$) than for the gender stereotypical conversation ($\underline{M} = 2.9$). Males recalled a slightly greater number of incorrect propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 7.2$) than for the gender stereotypical conversation ($\underline{M} = 6.5$). Males, however, recalled a slightly greater number of incorrect propositions on the second recall trial for the gender stereotypical conversation ($\underline{M} = 7.0$) than for the gender atypical conversation ($\underline{M} = 6.7$).

Verbally Derived. A mixed factorial ANOVA failed to

Table 13

Mean Incorrect Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations

		Conversation					
Sex	Recall	Stereotypical		Atypical		df	p < .05
		Mean	s ²	Mean	s ²		
Female	1	3.0	2.2	3.8	3.1	18	No
Female	2	2.9	7.4	4.1	11.7	18	No
Male	1	6.5	19.0	7.2	15.7	18	No
Male	2	7.0	20.2	6.7	22.2	18	No

reveal a significant gender stereotypicality of conversation effect for the number of verbally derived propositions recalled. The following results, none of which were significant, may be found in Table 14 on page 65. Females recalled a greater number of verbally derived propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 34.6$) than for the gender stereotypical conversation ($\underline{M} = 31.8$). Females also recalled a slightly greater number of verbally derived propositions on the second recall trial for the gender atypical conversation ($\underline{M} = 37.9$) than for the gender stereotypical conversation ($\underline{M} = 37.3$). Males recalled a greater number of verbally derived propositions on the first recall trial for the gender stereotypical conversation ($\underline{M} = 25.2$) than for the gender atypical conversation ($\underline{M} = 23.1$). Males also recalled a greater number of verbally derived propositions on the second recall trial for the gender stereotypical conversation ($\underline{M} = 28.7$) than for the gender atypical conversation ($\underline{M} = 27.2$).

Visually Derived. A mixed factorial ANOVA failed to reveal a significant gender stereotypicality of conversation effect for the number of visually derived propositions recalled. The following results, none of which were significant, may be found in Table 15 on page 67. Females

Table 14

Mean Verbally Derived Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations

		Conversation					
Sex	Recall	Stereotypical		Atypical		df	p < .05
		Mean	s ²	Mean	s ²		
Female	1	31.8	37.1	34.6	110.5	18	No
Female	2	37.3	84.2	37.9	262.8	18	No
Male	1	25.2	64.6	23.1	57.9	18	No
Male	2	28.7	104.4	27.2	33.3	18	No

recalled a slightly greater number of visually derived propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 5.8$) than for the gender stereotypical conversation ($\underline{M} = 5.2$). Females recalled a greater number of visually derived propositions on the second recall trial for the gender stereotypical conversation ($\underline{M} = 5.8$) than for the gender atypical conversation ($\underline{M} = 3.4$). Males recalled a greater number of visually derived propositions on the first recall trial for the gender atypical conversation ($\underline{M} = 6.6$) than for the gender stereotypical conversation ($\underline{M} = 5.4$). Males also recalled a greater number of visually derived propositions on the second recall trial for the gender atypical conversation ($\underline{M} = 6.9$) than for the gender stereotypical conversation ($\underline{M} = 4.9$).

Analysis of Prior Knowledge

Total. A mixed factorial ANOVA revealed a significant main effect of prior knowledge for the number of total propositions recalled, $F(1,36) = 4.46$, $p < .05$, $\eta^2 = 0.12$. The following results, none of which were significant, are summarized in Table 16, on page 69. Subjects of both sexes recalled a greater number of total propositions on the second recall trial, for both the gender stereotypical and gender atypical versions of the conversation, than on the

Table 15

Mean Visually Derived Propositions Recalled for the Gender Stereotypical and Gender Atypical Conversations

		Conversation					
Sex	Recall	Stereotypical		Atypical		df	p < .05
		Mean	s ²	Mean	s ²		
Female	1	5.2	15.3	5.8	12.2	18	No
Female	2	5.8	23.1	3.4	6.1	18	No
Male	1	5.4	31.2	6.6	26.9	18	No
Male	2	4.9	25.4	6.9	26.3	18	No

first recall trial. Females recalled a greater number of total propositions on the second recall trial ($\underline{M} = 45.5$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 39.9$). Females also recalled a greater number of total propositions on the second recall trial ($\underline{M} = 45.5$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 44.1$). Males recalled a greater number of total propositions on the second recall trial ($\underline{M} = 37.8$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 35.5$). Males also recalled a greater number of total propositions on the second recall trial ($\underline{M} = 37.2$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 34.1$).

Correct. A mixed factorial ANOVA revealed a significant main effect of prior knowledge on the number of correct propositions recalled, $F(1,36) = 5.97$, $p < .05$, $\eta^2 = 0.16$. The following results are summarized in Table 17, on page 71. Subjects of both sexes recalled a greater number of correct propositions on the second recall trial, for both versions of the conversation, than on the first recall trial. Females recalled a significantly greater number of correct propositions on the second recall trial ($\underline{M} = 42.6$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 36.9$), $t(9) = 2.30$, $p < .05$.

Table 16

Mean Total Propositions Recalled on the First and Second
Recall Trials

		Recall				df	p < .05
Sex	Conversation	First		Second			
		Mean	s ²	Mean	s ²		
Female	Stereo	39.9	70.5	45.5	163.2	9	No
Female	Atypical	44.1	146.3	45.5	257.4	9	No
Male	Stereo	35.5	167.8	37.8	227.5	9	No
Male	Atypical	34.1	63.0	37.2	59.1	9	No

The following results failed to achieve significance.

Females recalled a greater number of correct propositions on the second recall trial ($\underline{M} = 41.4$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 40.3$).

Males recalled a greater number of correct propositions on the second recall trial ($\underline{M} = 30.8$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 29.0$). Males recalled a greater number of correct propositions on the second recall trial ($\underline{M} = 30.5$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 26.9$).

Incorrect. A mixed factorial ANOVA failed to reveal a significant main effect of prior knowledge on the number of incorrect propositions recalled. The following results, none of which were significant, are summarized in Table 18 on page 73. Females recalled a slightly greater number of incorrect propositions on the first recall trial ($\underline{M} = 3.0$) for the gender stereotypical conversation than on the second recall trial ($\underline{M} = 2.9$). Females, however, recalled a slightly greater number of incorrect propositions on the second recall trial ($\underline{M} = 4.1$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 3.8$). Males recalled a slightly greater number of incorrect propositions on the second recall trial ($\underline{M} = 7.0$) for the

Table 17

Mean Correct Propositions Recalled on the First and Second
Recall Trials

		Recall					
Sex	Conversation	First		Second		df	p < .05
		Mean	s ²	Mean	s ²		
Female	Stereo	36.9	80.3	42.6	132.5	9	Yes
Female	Atypical	40.3	134.0	41.4	198.0	9	No
Male	Stereo	29.0	92.0	30.8	152.4	9	No
Male	Atypical	26.9	70.3	30.5	33.4	9	No

gender stereotypical conversation than on the first recall trial ($\underline{M} = 6.5$). Males, however, recalled a greater number of incorrect propositions on the first recall trial ($\underline{M} = 7.2$) for the gender atypical conversation than on the second recall trial ($\underline{M} = 6.7$).

Verbally Derived. A mixed factorial ANOVA revealed a significant main effect of prior knowledge on the number of verbally derived propositions recalled, $F(1,36) = 10.99$, $p < .05$, $\eta^2 = 0.31$. The following results are summarized in Table 19, on page 75. Females recalled a significantly greater number of verbally derived propositions on the second recall trial ($\underline{M} = 37.3$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 31.8$), $t(9) = 2.32$, $p < .05$. Males also recalled a significantly greater number of verbally derived propositions on the second recall trial ($\underline{M} = 28.7$) than on the first recall trial ($\underline{M} = 25.2$) for the gender stereotypical conversation, $t(9) = 3.57$, $p < .05$. The following results failed to achieve significance. Females recalled a greater number of verbally derived propositions on the second recall trial ($\underline{M} = 37.9$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 34.6$). Males also recalled a greater number of verbally derived propositions on the second recall trial ($\underline{M} = 27.2$) for the gender atypical

Table 18

Mean Incorrect Propositions Recalled on the First and Second
Recall Trials

		Recall					
Sex	Conversation	First		Second		df	p < .05
		Mean	s ²	Mean	s ²		
Female	Stereo	3.0	2.2	2.9	7.4	9	No
Female	Atypical	3.8	3.1	4.1	11.7	9	No
Male	Stereo	6.5	18.9	7.0	20.2	9	No
Male	Atypical	7.2	15.7	6.7	22.2	9	No

conversation than on the first recall trial ($\underline{M} = 23.1$).

Visually Derived. A mixed factorial ANOVA failed to reveal a significant main effect of prior knowledge on the number of visually derived propositions recalled. The following results appear in Table 20 on page 76. Females recalled a significantly greater number of visually derived propositions on the first recall trial ($\underline{M} = 5.8$) than on the second recall trial ($\underline{M} = 3.4$) for the gender atypical conversation, $t(9) = 3.58$, $p < .05$. The following results failed to achieve significance. Females recalled a greater number of visually derived propositions on the second recall trial ($\underline{M} = 5.8$) for the gender stereotypical conversation than on the first recall trial ($\underline{M} = 5.2$). The opposite was true for the males. Males recalled a slightly greater number of visually derived propositions on the first recall trial for the gender stereotypical conversation ($\underline{M} = 5.4$) than on the second recall trial ($\underline{M} = 4.9$). Males recalled a slightly greater number of visually derived propositions on the second recall trial ($\underline{M} = 6.9$) for the gender atypical conversation than on the first recall trial ($\underline{M} = 6.6$).

Analysis of Interactions

Mixed factorial ANOVAs failed to reveal any significant interaction effects on any of the dependent measures. However, a glance at Tables 6 to 20 suggested that the

Table 19

Mean Verbally Derived Propositions Recalled on the First and Second Recall Trials

		Recall				df	p < .05
Sex	Conversation	First		Second			
		Mean	s ²	Mean	s ²		
Female	Stereo	31.8	37.1	37.3	84.2	9	Yes
Female	Atypical	34.6	110.5	37.9	262.8	9	No
Male	Stereo	25.2	64.6	28.7	104.5	9	Yes
Male	Atypical	23.1	57.9	27.2	33.3	9	No

Table 20

Mean Visually Derived Propositions Recalled on the First and Second Recall Trials

		Recall					
Sex	Conversation	First		Second		df	p < .05
		Mean	s ²	Mean	s ²		
Female	Stereo	5.2	15.3	5.8	23.1	9	No
Female	Atypical	5.8	12.2	3.4	6.0	9	No
Male	Stereo	5.4	31.2	4.9	25.4	9	No
Male	Atypical	6.6	26.9	6.9	26.3	9	No

independent variables might have exerted their effects on the groups' variances instead of their means. Therefore, the following exploratory analysis was conducted on the differences between the groups' variances using the F_{\max} statistic. The alpha level was maintained at $\alpha = .05$ because the investigation was purely exploratory in nature.

Total. A mixed factorial ANOVA failed to reveal any significant interaction effects of the independent variables for the number of total propositions recalled. However, a look at the variances in Tables 6, 11, and 16, suggest that a sex by stereotypicality of conversation interaction had occurred. Males demonstrated greater variability in the total number of propositions recalled from the gender stereotypical conversation than from the gender atypical conversation. Females demonstrated greater variability in the total number of propositions recalled from the gender atypical conversation than from the gender stereotypical conversation. Males demonstrated greater variability than females in the total number of propositions recalled from the gender stereotypical conversation, whereas females demonstrated greater variability than males in the total number of propositions recalled from the gender atypical conversation.

Males demonstrated significantly greater variability on

the first recall trial for the gender stereotypical conversation ($s^2 = 167.8$) than for the gender atypical conversation ($s^2 = 63.0$), $F_{\max}(18) = 2.66$, $p < .05$. Males also demonstrated significantly greater variability on the second recall trial for the gender stereotypical conversation ($s^2 = 227.5$) than for the gender atypical conversation ($s^2 = 59.1$), $F_{\max}(18) = 3.85$, $p < .05$. Females demonstrated greater variability on the first recall trial for the gender atypical conversation ($s^2 = 146.3$) than for the gender stereotypical conversation ($s^2 = 70.5$). Females also demonstrated greater variability on the second recall trial for the gender atypical conversation ($s^2 = 257.4$) than for the gender stereotypical conversation ($s^2 = 163.2$). Males demonstrated greater variability ($s^2 = 167.8$) than females ($s^2 = 70.5$) on the first recall trial for the gender stereotypical conversation. Males also demonstrated slightly greater variability ($s^2 = 227.5$) than females ($s^2 = 163.2$) on the second recall trial for the gender stereotypical conversation. Females demonstrated greater variability ($s^2 = 146.3$) than males ($s^2 = 63.0$) on the first recall trial for the gender atypical conversation. Females also demonstrated greater variability ($s^2 = 257.4$) than males ($s^2 = 59.1$) on the second recall trial for the gender atypical conversation, $F_{\max}(18) = 4.36$, $p < .05$.

Correct. A mixed factorial ANOVA failed to reveal any significant interaction effects of the independent variables for the number of correct propositions recalled. A look at the variances in Tables 7, 12, and 17 suggest a sex by gender stereotypicality of conversation interaction. Males demonstrated greater variability in the number of correct propositions recalled from the gender stereotypical conversation than from the gender atypical conversation. Females demonstrated greater variability in the number of correct propositions recalled from the gender atypical conversation than from the gender stereotypical conversation. Males demonstrated greater variability than females in the number of correct propositions recalled from the gender stereotypical conversation, whereas females demonstrated greater variability than males in the number of correct propositions recalled from the gender atypical conversation.

Males demonstrated slightly greater variability on the first recall trial for the gender stereotypical conversation ($s^2 = 92.0$) than for the gender atypical conversation ($s^2 = 70.3$). Males demonstrated significantly greater variability on the second recall trial for the gender stereotypical conversation ($s^2 = 152.4$) than for the gender atypical conversation ($s^2 = 33.4$), $F_{\max}(18) = 4.56$, $p < .05$.

Females demonstrated greater variability on the first recall trial for the gender atypical conversation ($s^2 = 134.0$) than for the gender stereotypical conversation ($s^2 = 80.3$).

Females also demonstrated greater variability on the second recall trial for the gender atypical conversation ($s^2 = 198.1$) than for the gender stereotypical conversation ($s^2 = 132.5$). Males demonstrated slightly greater variability ($s^2 = 92.0$) than females ($s^2 = 80.3$) on the first recall trial for the gender stereotypical conversation. Males also demonstrated slightly greater variability ($s^2 = 152.4$) than females ($s^2 = 132.5$) on the second recall trial for the gender stereotypical conversation. Females demonstrated greater variability ($s^2 = 134.0$) than males ($s^2 = 70.3$) on the first recall trial for the gender atypical conversation. Females also demonstrated greater variability ($s^2 = 198.1$) than males ($s^2 = 33.4$) on the second recall trial for the gender atypical conversation, $F_{\max}(18) = 5.93, p < .05$.

Incorrect. A mixed factorial ANOVA failed to reveal any significant interaction effects of the independent variables for the number of incorrect propositions recalled. A look at the variances in Tables 8, 13, and 18 suggest a three way interaction among the independent variables for the number of incorrect propositions recalled. Males

demonstrated greater variability than females in the number of incorrect propositions recalled from the first recall trials for both conversations, whereas females demonstrated greater variability than males in the number of incorrect propositions recalled from the second recall trials for both conversations. A sex by prior knowledge interaction also seemed evident. Whereas the variability in the number of incorrect propositions recalled by males changed very slightly between trials, variability in the number of incorrect propositions recalled by females increased dramatically on the second recall trial.

Males demonstrated significantly greater variability ($s^2 = 6.5$) than females ($s^2 = 2.2$) in the number of incorrect propositions recalled on the first recall trial for the gender stereotypical conversation, $F_{\max}(18) = 2.93$, $p < .05$. Females demonstrated slightly greater variability ($s^2 = 7.4$) than males ($s^2 = 7.0$) in the number of incorrect propositions recalled on the second recall trial for the gender stereotypical conversation. Males demonstrated greater variability ($s^2 = 7.2$) than females ($s^2 = 3.1$) in the number of incorrect propositions recalled on the first recall trial for the gender atypical conversation. Females demonstrated greater variability ($s^2 = 11.7$) than males ($s^2 = 6.7$) in the number of incorrect propositions recalled

on the second recall trial for the gender atypical conversation. Males demonstrated a very slight difference in variability from the first recall trial ($s^2 = 6.5$) of the gender stereotypical conversation to the second recall trial ($s^2 = 7.0$). Females, however, demonstrated significantly greater variability in their recall of incorrect propositions on the second recall trial ($s^2 = 7.4$) for the gender stereotypical conversation than on the first recall trial ($s^2 = 2.2$), $F_{\max}(18) = 3.35$, $p < .05$. Males also demonstrated a very slight difference in variability from the first recall trial ($s^2 = 7.2$) of the gender atypical conversation to the second recall trial ($s^2 = 6.7$). Females demonstrated significantly greater variability in their recall of incorrect propositions on the second recall trial ($s^2 = 11.7$) for the gender atypical conversation than on the first recall trial ($s^2 = 3.1$), $F_{\max}(18) = 3.80$, $p < .05$.

Verbally Derived. A mixed factorial ANOVA failed to reveal any significant interaction effects of the independent variables for the number of verbally derived propositions recalled. A look at the variances in Tables 9, 14, and 19 suggest a sex by gender stereotypicality of conversation interaction. Males demonstrated greater variability in the number of verbally derived propositions recalled from the gender stereotypical conversation than

from the gender atypical conversation. Females demonstrated greater variability in the number of verbally derived propositions recalled from the gender atypical conversation than from the gender stereotypical conversation. Males demonstrated greater variability than females in the number of verbally derived propositions recalled from the gender stereotypical conversation, whereas females demonstrated greater variability than males in the number of correct propositions recalled from the gender atypical conversation.

Males demonstrated slightly greater variability on the first recall trial for the gender stereotypical conversation ($s^2 = 64.6$) than for the gender atypical conversation ($s^2 = 57.9$). Males demonstrated significantly greater variability on the second recall trial for the gender stereotypical conversation ($s^2 = 104.5$) than for the gender atypical conversation ($s^2 = 33.3$), $F_{\max}(18) = 3.14$, $p < .05$. Females demonstrated significantly greater variability on the first recall trial for the gender atypical conversation ($s^2 = 110.5$) than for the gender stereotypical conversation ($s^2 = 37.1$). Females also demonstrated significantly greater variability on the second recall trial for the gender atypical conversation ($s^2 = 262.8$) than for the gender stereotypical conversation ($s^2 = 84.2$), $F_{\max}(18) = 3.12$, $p < .05$. Males demonstrated greater

variability ($s^2 = 64.6$) than females ($s^2 = 37.1$) on the first recall trial for the gender stereotypical conversation. Males also demonstrated greater variability ($s^2 = 104.5$) than females ($s^2 = 84.2$) on the second recall trial for the gender stereotypical conversation. Females demonstrated greater variability ($s^2 = 110.5$) than males ($s^2 = 57.9$) on the first recall trial for the gender atypical conversation. Females also demonstrated greater variability ($s^2 = 262.8$) than males ($s^2 = 33.3$) on the second recall trial for the gender atypical conversation, $F_{\max}(18) = 7.89, p < .05$.

Visually Derived. A mixed factorial ANOVA failed to reveal any significant interaction effects of the independent variables for the number of visually derived propositions recalled. A look at Tables 10, 15, and 20 also failed to suggest any interaction effects based on differences in group variances.

Chapter Four: Discussion

The purpose of the present investigation was to expand the literature on conversation memory. The purpose was accomplished by testing for the generalization of three common findings in other areas of memory research to memory for conversation.

First, the results of the present experiment were found to support the research which suggested that females would demonstrate a memory advantage over males for verbal materials (Burstein, Bank, and Jarvik, 1980; Gaddes & Crockett, 1975; Harshman, Hampson, & Berenbaum, 1983; Kail & Siegal, 1977; Kail & Siegal, 1978; Kolb & Whishaw, 1985; Kramer, Delis, & Daniel, 1988; Maccoby & Jacklin, 1974; Yeudall, Fromm, Reddon, & Stefanyk, 1986). Females tended to recall more total, correct, and verbally derived information than males for both versions of the videotaped conversation. Females also tended to recall less incorrect information than males.

Second, the present experiment was also found to support the research which suggested that stimulus material would be remembered better if one had prior knowledge of the subject domain than if the subject domain was unfamiliar (Abbott et al., 1985; Bower et al., 1979; Fincher-Kiefer, Post, Greene, & Voss, 1988; Frederiksen, 1975; Geiselman &

Crawley, 1983; Holtgraves et al., 1989; Potts & Peterson, 1985; Stangor & Ruble, 1989; Wenger, Thompson, & Bartling, 1980). The results appeared to support the hypotheses that the number of total, correct, and verbal propositions would increase on the second recall. The number of incorrect and visually derived propositions, however, did not deviate in any discernible pattern at all.

Third, the present experiment failed to support the research which suggested that stimulus material that was schema consistent or stereotypical would be remembered better than stimulus material that was schema inconsistent or atypical (Cann & Newbern, 1984; Halpern, 1985; Howard & Rothbart, 1980; Kintsch & Greene, 1978; Koblinsky & Cruse, 1981; Koblinsky, Cruse, & Sugawara, 1978; Mackie & Worth, 1989; Martin & Halverson, 1983; Paul, 1959; Signorella & Liben, 1984; Stangor & Ruble, 1989). Although there are a number of reasons why the present result may have occurred, the most likely reason is that the two conversations did not differ enough on the gender stereotypicality dimension. There simply was not enough gender stereotypical information present in the conversation to make a difference in terms of the dependent measures that were employed. The majority of the conversation, the gender stereotypical or gender atypical version, was gender neutral. Future analysis might

benefit from this mistake by choosing stimulus material that more distinctly reflects differences on the gender stereotypicality dimension.

The present experiment provided tenuous support for the contention that males would have an advantage over females on recall for visual stimuli (Burstein et al., 1980; Harshman et al., 1983; Kail & Siegal, 1977; Kail & Siegal, 1978; Maccoby & Jacklin, 1974; Miller & Santoni, 1986; Trepanier-Street & Kropp, 1986). Males tended to produce slightly more visually derived propositions than females. It was not surprising that significance was not found because the investigation was, after all, more concerned with the verbal content on the conversational interaction than with the visual elements. Statistical significance aside, the results are still psychologically interesting because they demonstrate that even in an experiment which was meant to examine performance on recall for verbal stimuli, visual stimuli still had a greater impact on males than on females.

Research had suggested that eyewitness testimony for a videotaped conversation might suffer from imprecision (Buckhout, 1980; Cunningham & Bringmann, 1986; Millar, 1980; Stern, 1939). The subjects in the present experiment, however, achieved a high degree of accuracy. The most

likely reason why the present result may have occurred is that the subjects' performances were enhanced by the experimenter's instructions to pay careful attention to the videotaped conversation for the purpose of recalling it for another subject. It has been experimentally demonstrated, for example, that "strict instructions to remember reduce the error rate considerably" (Gauld & Stephenson, 1967, p. 43).

It appears that subjects consider the nonverbal elements of a conversational interaction to be important in the recall of conversational material. The subjects, for example, typically began their recall with a brief description of the setting and the actors before they began to recall the actors' dialogue.

The most psychologically interesting finding, however, was the differential impact the two versions of the conversation had on the variances of the two sexes. The males tended to demonstrate greater variability in their recall of the gender stereotypical conversation, while females tended to demonstrate greater variability in their recall of the gender atypical conversation. It is uncertain what caused this pattern of results, but it definitely deserves greater exploration in future investigations.

References

- Abbott, V., Black, J.B., & Smith, E.E. (1985). The representation of scripts in memory. Journal of Memory and Language, 24, 179-199.
- Allport, G.W., & Postman, L. (1965). The psychology of rumour. New York: Russell & Russell Inc.
- Ashcraft, M.H. (1989). Human memory and cognition. Boston: Scott, Foresman, & Co.
- Bartlett, F.C. (1932). Remembering: A study in experimental and social psychology. Cambridge, England: Cambridge University Press.
- Bates, E., Kintsch, W., Fletcher, C.R., Giuliani, V. (1980). The role of pronominalization and ellipsis in texts: Some memory experiments. Journal of Experimental Psychology: Human Learning and Memory, 6(6), 676-691.
- Bloom, C.P. (1988). The roles of schemata in memory for text. Discourse Processes, 11, 305-318.
- Bodenhausen, G.V., & Lichtenstein, M. (1987). Social stereotypes and information processing strategies: the impact of task complexity. Journal of Personality and Social Psychology, 52, 871-880.
- Bodenhausen, G.V., & Wyer, R.S. (1985). Effects of stereotypes on decision making and information processing strategies. Journal of Personality and Social Psychology, 48(2), 267-282.
- Bower, G.H. (1978). Experiments on story comprehension and recall. Discourse Processes, 1, 211-231.
- Bower, G.H., Black, J.B., & Turner, T.J. (1979). Scripts in memory for text. Cognitive Psychology, 11, 177-220.
- Brewer, W.F., & Hay, A.E. (1984). Reconstructive recall of linguistic style. Journal of Verbal Learning and Verbal Behavior, 23, 237-249.

- Brigham, J.C., & Cairns, D.L. (1988). The effect of mugshot inspections on eyewitness identification accuracy. Journal of Applied Social Psychology, 18(16), 1394-1410.
- Buckhout, R. (1980). Nearly 2000 witnesses can be wrong. Bulletin of the Psychonomic Society, 16(4), 307-310.
- Burstein, B., Bank, L., & Jarvik, L. (1980). Sex differences in cognitive functioning: Evidence, Determinants, Implications. Human Development, 23, 289-313.
- Cann, A., & Newbern, S.R. (1984). Sex stereotype effects in children's picture recognition. Child Development, 55, 1085-1090.
- Cherulnik, P.D., & Bayless, J.K. (1986). Person perception in environmental context: The influence of residential settings on impressions of their occupants. The Journal of Social Psychology, 126(5), 667-673.
- Cunningham, J.L., & Bringmann, W.G. (1986). A re-examination of William Stern's classic eyewitness research. Perceptual and Motor Skills, 63, 565-566.
- Douthitt, R.A. (1989). The division of labour within the home: Have gender roles changed? Sex Roles, 20(11/12), 693-704.
- Fincher-Kiefer, R., Post, T.A., Greene, T.R., & Voss, J.F. (1988). On the role of prior knowledge and task demands in the processing of text. Journal of Memory and Language, 27, 416-428.
- Fiorentine, R. (1988). Increasing similarity in the values and life plans of male and female college students? Evidence and implications. Sex Roles, 18(3/4), 143-158.
- Frederiksen, C.H. (1975). Effects of context-induced processing operations on semantic information acquired from discourse. Cognitive Psychology, 7, 139-166.

- Futoran, G.C., & Wyer, R.S. (1986). The effects of traits and gender stereotypes on occupational suitability judgements and the recall of judgement-relevant information. Journal of Experimental Social Psychology, 22, 475-503.
- Gaddes, W., & Crockett, D. (1975). The Spreen-Benton Aphasia Tests: Normative data as a measure of normal language development. Brain and Language, 2, 257-280.
- Gauld, A., & Stephenson, G.M. (1967). Some experiments relating to Bartlett's theory of remembering. British Journal of Psychology, 58(1/2), 39-49.
- Geiselman, R.E., & Crawley, J.M. (1983). Incidental processing of speaker characteristics: Voice as connotative information. Journal of Verbal Learning and Verbal Behavior, 22, 15-23.
- Gibbs, R.W. (1981). Memory for requests in conversation. Journal of Verbal Learning and Verbal Behavior, 20, 630-640.
- Graesser, A.C., Gordon, S.E., & Sawyer, J.D. (1979). Recognition memory for typical and atypical actions in scripted activities: Tests of a script pointer + tag hypothesis. Journal of Verbal Learning and Verbal Behavior, 18, 319-332.
- Goldman, S.R., & Varnhagen, C.K. (1986). Memory for embedded and sequential story structures. Journal of Memory and Language, 25, 401-418.
- Halpern, D.F. (1985). The influence of sex-role stereotypes on prose recall. Sex Roles, 12(3/4), 363-375.
- Harris, R.J., Lee, D.J., Hensley, D.L., & Schoen, L.M. (1988). The effect of cultural script knowledge on memory for stories over time. Discourse Processes, 11, 413-431.
- Harshman, R.A., Hampson, E., & Berenbaum, S.A. (1983). Individual differences in cognitive abilities and brain organization, part 1: Sex and handedness differences in ability. Canadian Journal of Psychology, 37(1), 144-192.

- Hasher, L., & Griffin, M. (1978). Reconstructive and reproductive processes in memory. Journal of Experimental Psychology: Human Learning and memory, 4(4), 318-330.
- Hepburn, C., & Locksley, A. (1983). Subjective awareness of stereotyping: Do we know when our judgements are prejudiced? Social Psychology Quarterly, 46(4), 311-318.
- Hildyard, A., & Olson, D.R. (1978). Memory and inference in the comprehension of oral and written discourse. Discourse Processes, 1, 91-117.
- Holtgraves, T., Srull, T.K., & Socall, D. (1989). Conversation memory: The effects of speaker status on memory for the assertiveness of conversation remarks. Journal of Personality and Social Psychology, 56(2), 149-160.
- Howard, J.W., & Rothbart, M. (1980). Social categorization and memory for in-group and out-group behavior. Journal of Personality and Social Psychology, 38(2), 301-310.
- Kail, R.V., & Siegal, A.W. (1978). Sex and hemispheric differences in the recall of verbal and spatial information. Cortex, 14, 557-563.
- Kail, R.V., & Siegal, A.W. (1977). Sex differences in retention of verbal and spatial characteristics of stimuli. Journal of Experimental Child Psychology, 23, 341-347.
- Keenan, J.M., MacWhinney, B., & Mayhew, D. (1977). Pragmatics in memory: a study of natural conversation. Journal of Verbal Learning and Verbal Behavior, 16, 549-560.
- Kemper, S., & Thissen, D. (1981). Memory for the dimensions of requests. Journal of Verbal Learning and Verbal Behavior, 20, 552-563.
- Kintsch, W., & Greene, E. (1978). The role of culture-specific schemata in the comprehension and recall of stories. Discourse Processes, 1, 1-13.

- Koblinsky, S.G., & Cruse, D.F. (1981). The role of frameworks in children's retention of sex-related story content. Journal of Experimental Child Psychology, 31, 321-331.
- Koblinsky, S.G., Cruse, D.F., & Sugawara, A.I. (1978). Sex role stereotypes and children's memory for story content. Child Development, 49, 452-458.
- Kolb, B., & Whishaw, I. (1985). Fundamentals of Human Neuropsychology. San Francisco: W.H. Freeman.
- Kramer, J.H., Delis, D.C., & Daniel, M. (1988). Sex differences in verbal learning. Journal of Clinical Psychology, 44(6), 907-915.
- Kropp, J.J., & Halverson, C.F. (1983). Preschool children's preferences and recall for stereotyped versus nonstereotyped stories. Sex Roles, 9(2), 261-272.
- Lalljee, M., Watson, M., & White, P. (1982). Explanations, attributions and the social context of unexpected behaviour. European Journal of Social Psychology, 12, 17-29.
- Larsen, K.S., & Long, E. (1988). Attitudes toward sex-roles: Traditional or egalitarian. Sex Roles, 19(1/2), 1-12.
- Levin, J., & Arluke, A. (1985). An exploratory analysis of sex differences in gossip. Sex Roles, 12(3/4), 281-286.
- Liben, L.S., & Signorella, M.L. (1980). Gender-related schemata and constructive memory in children. Child Development, 51, 11-18.
- Maccoby, E., & Jacklin, C. (1974). The psychology of sex differences. Stanford: Stanford University Press.
- Mackie, D.M., & Worth, L.T. (1989). Differential recall of subcategory information about in-group and out-group members. Personality and Social Psychology Bulletin, 15(3), 401-413.
- Mandler, J.M. (1978). A code in the node: The use of a story schema in retrieval. Discourse Processes, 1, 14-35.

- Martin, C.L., & Halverson, C.F. (1983). The effects of sex-typing schemas on young children's memory. Child Development, 54, 563-574.
- Meehan, A.M., & Janik, L.M. (1990). Illusory correlation and the maintenance of sex role stereotypes in children. Sex Roles, 22(1/2), 83-95.
- Millar, J.R. (1980). On the reliability and utility of first-hand observer reports on Soviet life. Studies in Symbolic Interaction, 3, 97-110.
- Miller, L.K., & Santoni, V. (1986). Sex differences in spatial abilities: Strategic and experimental correlates. Acta Psychologica, 62, 225-235.
- Paul, I.H. Studies in remembering: The reproduction of connected and extended verbal material. Psychological Issues, 1(2).
- Pezdek, K., Whetstone, T., Reynolds, K., Askari, N., & Dougherty, T. (1989). Memory for real-world scenes: The role of consistency with schema expectation. Journal of Experimental Psychology: Learning, Memory, & Cognition, 15(4), 587-595.
- Potts, G.R., & Peterson, S.B. (1985). Incorporation versus compartmentalization in memory for discourse. Journal of Memory and Language, 24, 107-118.
- Reeder, G.D., Fletcher, G.J.O., Furman, K. (1989). The role of observer's expectations in attitude attribution. Journal of Experimental Social Psychology, 25, 168-188.
- Robinson, J., & McArthur, L.Z. (1982). Impact of salient vocal qualities on causal attribution for a speaker's behavior. Journal of Personality and Social Psychology, 43(2), 236-247.
- Schegloff, E.A. (1987). Analyzing single episodes of interaction: An exercise in conversation analysis. Social Psychology Quarterly, 50(2), 101-114.
- Signorella, M.L., & Liben, L.S. (1984). Recall and reconstruction of gender-related pictures: Effects of attitude, task difficulty, and age. Child Development, 55, 393-405.

- Simon, R.J., & Landis, J.M. (1989). Women's and men's attitudes about a woman's place and role. Public Opinion Quarterly, 53, 265-276.
- Stangor, C., & Ruble, D.R. (1989). Strength of expectancies and memory for social information: What we remember depends on what we know. Journal of Experimental Social Psychology, 25, 18-35.
- Stein, N.L., & Nezworski, T. (1978). The effects of organization and instructional set on story memory. Discourse Processes, 1, 177-193.
- Stephenson, G.M., Brandstatter, H., & Wagner, W. (1983). An experimental study of social performance and delay on the testimonial validity of story recall. European Journal of Social Psychology, 13, 175-191.
- Stern, W. (1939). The psychology of testimony. Journal of Abnormal and Social Psychology, 34, 3-20.
- Tabachnick, B.G., & Fidell, L.S. (1983). Using multivariate statistics. New York: Harper & Row, Publishers, Inc.
- Thorndyke, P.W. (1977). Cognitive structures in comprehension and memory of narrative discourse. Cognitive Psychology, 9, 77-110.
- Trepanier-Street, M.L., & Kropp, J.J. (1986). Children's recall and recognition of sex role stereotyped and discrepant information. Sex Roles, 16(5/6), 237-249.
- de Villiers, P.A. (1974). Imagery and theme in recall of connected discourse. Journal of Experimental Psychology, 103(2), 263-268.
- Wagner, W. (1987). Memory for natural discourse: Speakers, listeners, and observers. Archiv fur Psychologie, 139(3), 143-158.
- Wells, G.L. (1982). Attribution and reconstructive memory. Journal of Experimental Social Psychology, 18, 447-463.

- Wenger, S.K., Thompson, C.P., & Bartling, C.A. (1980). Recall facilitates subsequent recognition. Journal of Experimental Psychology: Human Learning and Memory, 6(2), 135-144.
- Wiley, M.G., & Eskilson, A. (1985). Speech style, gender stereotypes, and corporate success: What if women talk more like men? Sex Roles, 12(9/19), 993-1007.
- Wilkinson, L. (1990). SYSTAT. [Computer Program]. Evanston, Il: SYSTAT, Inc.
- Yeudall, L.T., Fromm, D., Reddon, J.R., & Stefanyk, W.O. (1986). Normative data stratified by age and sex for 12 neuropsychological tests. Journal of Clinical Psychology, 42, 918-947.

Appendix A

Who's Gonna Watch the Baby

Engineer: "I've been thinking about what we talked about last night."

Nurse: "You mean about having a baby?"

Engineer: "Yeah. It's important that we work it out before we get married."

Nurse: "I thought we did."

Engineer: "Well, I know we both love what we do, and its only fair that both of us should keep doing our own thing, but..."

Nurse: "...but you want me to put my career on hold and stay home with a baby, bottles, and dirty diapers while you continue to pursue your career, right?"

Engineer: "I don't want you to give up your career, but one of us should stay home with the child until its ready for school."

Nurse: "Great. You do it."

Engineer: "But..."

Nurse: "...but what? I've worked just as hard as you have. I love my job just as much as you do. We decided when we got engaged that we would continue to respect each

other's role as an individual, and a very important part of me as an individual is my job."

Engineer: "I don't want to take away your individuality or your identity."

Nurse: "Then you'll do it?"

Engineer: (Sighs).

"It isn't that being a nurse isn't important."

Nurse: "What you're saying is that being a nurse isn't as important as being an engineer."

Engineer: "I was thinking more of the financial aspects than about any prestige thing. I bring home more than twice what you do. It's not a matter of one job being any more important than the other. Both are important."

Nurse: "You make more money, but I really enjoy what I do."

Engineer: "And I know you're wonderful at it."

Nurse: "What's wrong with using a babysitter or daycare?"

Engineer: (Sighs).

Nurse: "What's the matter?"

Recall of Videotaped Conversations

99

Engineer: "There's so much in the news about abuse."

Nurse: "We're talking about an infant."

Engineer: "A Donahue I watched showed a clip where this babysitter belted an infant in the face three times for spitting up a little food."

Nurse: "Are you serious?"

Engineer: "I can't get it out of my head."

Nurse: "Not all babysitters are abusive. We could screen them. We could certainly afford a good one."

Engineer: "We still couldn't be sure. I'd rather give up my career than live with the possibility of that happening to my child."

Nurse: "That won't be necessary. I'll stay home with the baby. I would have done it all along. I just didn't want you to think you could take advantage of me."

- The End -

Appendix B

Consent Form

Please circle one of the following alternatives and place your signature in the space provided.

In regard to what has taken place as part of the experiment:

- 1.) I desire the videotape to be erased immediately, OR
- 2.) I desire the videotape to be erased immediately and I wish to observe the erasure of the tape, OR
- 3.) I permit the scoring of the videotape and then the erasure, OR
- 4.) I permit the scoring of the videotape and its retention as part of the experimenters files for no other use than record checking, OR
- 5.) I permit the scoring of the videotape and its possible use for demonstration purposes or publication purposes.

Signature.....

Thank you for your participation

VITA

Surname: Boutilier Given Names: John Patrick

Place of Birth: Glace Bay, N.S. Date of Birth: 11/18/59

Educational Institutions Attended:

Camosun College	1985 to 1987
University of Victoria	1987 to 1992

Degrees Awarded:

B.Sc. (Honours)	University of Victoria	1989
-----------------	------------------------	------

Honours and Awards:

Publications:

PARTIAL COPYRIGHT LICENSE

I hereby grant the right to lend my thesis to users of the University of Victoria Library, and to make single copies only for such users or in response to a request from the Library of any other university, or similar institution, on its behalf or for one of its users. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by me or a member of the University designated by me. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Title of Thesis: Nonparticipant Observer Recall of

Videotaped Conversations: The Effects of Observer Sex,

Gender Stereotypicality of Conversation, and Prior Knowledge

Author

A solid black rectangular box redacting the author's signature.

(Signature)

John Patrick Boutilier
(Name in Block Letters)

May 11, 1992
(Date)