

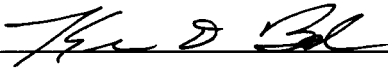
AN ABSTRACT OF THE THESIS OF

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Previous research examining confidence levels has shown that for men confidence seems to be a relatively stable personality trait, remaining consistent across a wide variety of situations. In women, the same is apparently not true. Women's confidence tends to vary across situations and has been shown to be consistently lower than men's. The current research sought to examine the role experience plays in affecting confidence levels. This was done in an attempt to look at confidence levels at a more basic level to determine whether or not differences exist in the absence of other factors such as social comparison and evaluation. Male and female undergraduates rated their ability to complete a block construction task by estimating the percent of designs they could successfully replicate. Participants in the experimental group gained experience in the task by learning to construct one design, while the control group provided estimates of confidence having no experience. Results were inconsistent with previous research, showing no significant differences in men or women in the experience and no experience groups.

THE EFFECTS OF EXPERIENCE ON CONFIDENCE LEVELS
IN MEN AND WOMEN

A Thesis

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In Partial Fulfillment

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CHAPTER 1

INTRODUCTION

Over the past decade, research attempting to understand differences in confidence has waned. Because confidence is generally thought to have a direct influence on performance, it is worthwhile to examine factors that serve to alter confidence levels. Of particular interest is the lack of explanation psychological research has offered for the vast differences in the confidence levels of men and women. Particularly, how is it that men can show elevated, unwavering predictions for success across a majority of situations when compared with women? Experience seems to be a logical determinant of predictions for future success, yet in men this seems not to be a factor. That is, men seem to express the ability to successfully complete a task even though they may have no experience at it.

Confidence levels in psychological research have traditionally been measured as some dependent variable on a continuum. Some people have higher levels of confidence than others. In fact, the bulk of the psychological research on confidence has found that men generally have higher levels of confidence than women across a wide variety of situations. Confidence levels have been examined from many perspectives, each taking into account a different variable that is thought to affect confidence. Therefore, the process of studying confidence levels has become one in which new variables are built into designs. Each time a new study is conducted, more of what is collectively known as confidence is explained.

The problem, as approached in this study, is that experience has been relatively ignored as a factor influencing confidence levels, or expectancies for success.

Confidence levels have been examined mainly as a function of different situations and how they produce individual differences in predictions for success. The current research will attempt to measure confidence levels as they exist naturally, without the effects of social influences, comparisons, or any other type of feedback. Past studies have demonstrated that women's confidence levels go down when they are unfamiliar with the task. However, the tendency for confidence levels in men to remain relatively stable across situations has not been explained as they relate to experience. That is, women's confidence levels have been fairly open to manipulation on the part of the researcher, while this is not the case in men. Therefore, this study attempted to explain these differences by examining experience as a necessary attribute for confidence in women, but not in men.

Attribution Theory and Confidence

Attribution theory is relevant to this research because it is the basis for the explanations that people give for the causes of behavior (the behavior of others and of themselves) in order to make sense out of their worlds (Wyche & Crosby, 1996). Stated another way, attribution theory explains the perceived causes of one's own behavior (Hiebsch, 1982). Stereotypes influence attributions by providing a source of expectancies about behavior (Deaux & Taynor, 1973; Jackson, Hansen, Hansen, & Sullivan, 1993). It is logical to assume that these attributions would, in turn, affect confidence. If people

attribute success to luck, confidence levels would go down. If people attribute success to skill, confidence levels would go up. In this way, confidence is the product of attribution; what people attribute success to determines their confidence level. Performance that is consistent with existing stereotypes is usually attributed to ability, while inconsistent performance is attributed to luck or effort (Cash, Burns, & Gillen, 1977; Deaux & Emswiller, 1974; Hansen & O'Leary, 1985; Jackson et al., 1993). These factors are important to the issue at hand because experience is just one factor affecting confidence.

Within attribution theory, Kelley (Fiske & Taylor, 1984) has posited that a person may infer the causes of events by a method known as causal schemata. Central to this concept is the idea that people develop abstract conceptions about how causes work together to yield effects. Kelley says that people have multiple attributes for complex tasks, and that when all of the necessary attributes are not present, success is unlikely (Fiske & Taylor, 1984). From this, one could deduce that a person's confidence level should go down if one of the attributes necessary for success, experience, was absent. It is also logical to then assume that if people were aware that they did not possess one of the attributes necessary for success, experience, their expectancy for success would drop.

This last statement is exactly what this study hoped to examine. Specifically, when experience was absent, confidence levels were expected to go down, unless there was a difference in the perception of the attributes necessary for success between men and women. Namely, men would not see experience as a necessary attribute for success, and therefore, their confidence levels would be unaffected if it were not present. Inherent in

this was the assumption that a cognitive process occurs (Harre, 1995). One can assume that in providing expectancies for success all attributes necessary for success are first taken into account and then an assessment is made.

Gender and Confidence

A great deal of research on the differences between men and women with regard to self-confidence has been conducted. Some of the earliest work conducted was by McArthur and Eisen (1976) in a study of preschoolers. They asked boys and girls in the experimental group to listen to a story in which either a man or woman succeeded at some task. In the control group, children listened to a story depicting no achievements by any characters. They found that boys persisted longer on a task after hearing the story about a man succeeding compared to the group hearing the story involving a woman. Further, they found a slight decrease in girls' persistence after hearing a story involving a woman, and a slight increase when the story was about a man.

Crandall (1969) compared three different age groups to look at differences in confidence at various stages of life. He asked elementary school children to give estimates of their future performance on various tasks, college students to estimate their grades, and adolescents to estimate their performance on a recall task. In each case, he found that women had lower estimates for success than men.

Attempts to further explore the role of gender and stereotypes in influencing confidence levels found that participants of both genders with androgynous or masculine qualities were more comfortable across a broad range of activities (masculine, feminine,

or neutral) than feminine and undifferentiated types (Helmreich, Holahan, & Spence, 1979). More recent research by Bornholt, Goodnow, and Cooney (1994) found similar generalizations among men regarding different school subjects. They examined confidence levels among high-school students in math, an area that has traditionally been thought of as dominated by men, and English, an area in which women are thought to be more naturally talented. They found men tend to overestimate their own performance across domains. Furthermore, they found evidence for gender stereotype beliefs about each of the two subject matters.

The bulk of the work involving differences in men and women's confidence levels has concentrated on college populations. Extensive work has been conducted by Ellen Lenney. She believes low self-confidence is detrimental to women's achievement because individuals who hold low estimates of their ability are not likely to perform as well as those with higher estimates (Lenney, 1980). One of her first studies (1977) sought to examine the contention of previous research by Crandall (1969) that low self-confidence in women in achievement situations may be a problem. In agreement with previous findings, Lenney (1977) found women stated lower expectancies of their performance when they were unfamiliar with the task. However, contrary to Crandall's (1969) findings, Lenney believes women's confidence levels depend on at least three situational variables. These include the nature of the task, the availability of clear information about the individual's abilities at a specific task, and the presence of social

comparison or evaluation cues. These same variables have not been found to significantly alter expectancies in men.

In her 1980 study, she found college women have lower self-confidence when they have knowledge of the performance of others on the tasks they are about to undertake. In doing so she gave women a written test after which they were asked to rate their own performance. They were also informed they would receive an evaluation of their work from a "competent" evaluator. One group received clear instructions concerning the evaluation procedure, the other ambiguous instructions. She concluded the confidence levels of women increased when the instructions explaining the evaluation procedure were clear rather than ambiguous. She found further evidence while looking at men's and women's evaluations of each others' work. Specifically, she noted that when rules for performance evaluation are vague, judgments reflect preexisting stereotypes and result in a lower evaluation of women's work than men's (Lenney, Browning, & Gold, 1983).

Lenney (1982) had previously found support for her contention that women's confidence levels go down in social comparison settings. The biggest difference between men and women may be the degree to which women's opinions of themselves are based on self-comparison to other women (Lenney & Gold, 1982). The theory that women show lower self-confidence because of a global personality trait was abandoned by Lenney in favor of the proposition that women may have more vulnerable self-confidence that varies across a wide variety of situations (Lenney, Browning, & Mitchell, 1983).

This was a relatively new idea considering most researchers viewed confidence as a fairly stable trait, at least in men (Helmreich et al., 1979; Jackson et al., 1993). Clark and Zehr (1993) furthered the knowledge of these differences between men and women by having participants estimate the performance of a same-sex subject as well as their own performance on a written examination. These researchers found that college women had lower expectations of their performances than college men. However, they also found women's predictions for other women on the same task were significantly higher than their own. This finding suggests the possibility that differences in socialization lead one to believe any individual can accomplish his/her goals, while subtly reinforcing beliefs about the inferiority of women.

Other researchers in this area have looked at the social comparisons men and women make between each other in successful and unsuccessful situations. McGill (1993) compared men and women and found that they both compare men who are unsuccessful to men who are successful. However, women compared unsuccessful women with successful men. These results, in concurrence with McArthur and Eisen's (1976) study of preschoolers, provide evidence that both men and women may hold the man as the standard for success. Further examinations of confidence levels, as they pertain to success, have shown that prior success at a task by a same-sex target results in stronger predictions for future success in men than in women while failure at a task is equally undermining of predictions for both genders (Jackson et al., 1993).

Additional studies have examined the attribution of success and failure in men and women. Deaux & Emswiller (1974) found men generally attribute success to ability, while women associated failure with lack of ability. Therefore successful task performance is more consistent with the male stereotype than with the female stereotype, unless a task is clearly feminine (Jackson et al., 1993). Recent studies have replicated these findings, showing that successes are usually attributed to skill, regardless of the gender of the stimulus person (Taylor, Garibaldi, Gittes, & Ismael, 1992). Izraeli & Eden (1985) state when relevant information about a woman's competence is provided, it replaces stereotypes as the basis for evaluations of their performance. It has also been shown that a man's failure in a male-oriented career is attributed to bad luck, while a man's failure in a female-oriented career was more frequently attributed to lack of skill (Taylor et al., 1992). The Taylor study also found a lack of difference among attributions regarding success may suggest that the perception of women as competent professionals may be gaining acceptance.

Experience

Experience was important as a variable within this study because experience was expected to provide valuable information to an individual about his/her competency at a task. If one had a successful experience at a certain task in the past, this should elevate his/her expectancies for success in the future on similar tasks because an important attribute necessary for success is present. Likewise, failures were expected to lower expectancies for success. When one had no previous experience, estimates were expected

to be cautious. However, because previous research has shown confidence in men to be more stable and higher than in women, this research expected to find results incompatible with this line of reasoning.

Research has shown women state lower expectancies for success when they are unfamiliar with the task (Lenney, 1977). However, the same was not true for men. This showed experience to have an effect on confidence, consistent with what was logically expected. However, Lenney's study utilized a within-subjects design that employed feedback during the task completion phase. This prevents any conclusions about the true effects of experience to be made because confidence levels on the post-measure were artificially manipulated. It is also important to note that experience per se was not manipulated. By comparing the presence or absence of experience, it was expected that a significant difference between experience and no-experience groups for women would be found. This, coupled with expected non-significant differences for men between levels of experience, lead the researcher to the conclusion that experience would cause changes in the confidence of women, but not men.

Conclusion

Taken as a whole, the literature on gender differences in confidence levels suggests that while society contends that it is egalitarian in nature, in fact, it continues to teach stereotypes and norms that do not fit with the realities of modern life. The finding of many studies over the past 20 years that women's confidence levels are lower than men's across most situations point to differences in the socialization of men and women.

On the one hand, women's lower self-confidence could be, as Lenney suggests, a non-stable trait that is simply subject to greater fluctuation than men as a result of the numerous situations that have been found to affect their self-confidence. Another theory suggests that women's levels of self-confidence are due to global personality traits such as a "motive to avoid success" (Lenney et al., 1983). Yet another possibility is that years of living in a sexist society and culture has forced women to internalize irrational beliefs about the differences between men and women. Continuing research in the area, as well as this research, will hopefully yield new conclusions about these gender differences and offer input as to how society can go about dealing with the problem.

Based on past research, this researcher expected to find, consistent with previous findings, that men would have higher levels of confidence than women. The experience level of the participant was manipulated in order to determine its effect on confidence levels. The researcher expected this manipulation to have a significant affect on women's confidence levels but not men's. Therefore, it was hypothesized that men would have equivalent estimates for success regardless of their experience level, whereas women in the experience group were expected to exhibit significantly higher estimates for success than women in the in the no-experience group.

CHAPTER 2

METHOD

Participants

Because of their accessibility, an intact group of students enrolled in introductory psychology courses at Emporia State University served as participants for this research. In order to facilitate the requirements of the statistical technique to be used, 80 participants were used. Because gender was one of the independent variables being considered, an equal number of male and female participants were used. Once the necessary 80 subjects were recruited, they were grouped according to their gender and then randomly assigned to either the experimental (experience) or control (no experience) group.

Design

In this study, the independent variables were gender, which consisted of two levels, male and female, and experience, which also consisted of two levels, those who were taught the block construction task, and those who were not. The dependent variable was the participant's expectancy for success, or number of times out of 100 they expect to successfully complete similar tasks. This allowed the researcher to examine the main effect of gender on expectancy, the main effect of experience on expectancy, and any significant interaction of the two on expectancy. After collection, the data were analyzed using a 2 X 2 factorial analysis of variance to determine the significance of any differences between the groups.

Instrumentation

In this study, the researcher taught those participants randomly assigned to the experimental, or experience group, how to construct a series of blocks in such a way as to look like a figure on a card. Participants randomly assigned to the control, or no experience, group were exposed to the game as well, but were not taught to construct the design. Instead, they were simply asked to estimate the percent of the designs they would be able to construct on their own. To accomplish this, a game called Block by Block was used. This game is manufactured by a company called Binary Arts Corporation and consists of a set of seven blocks of various sizes, all of which consist of several smaller, identical blocks that have been molded together in various ways. Included with the blocks are a set of 60 different cards, each of which has a different figure on it. Each of the 60 figures can be constructed by manipulating the seven blocks in a certain way, and each varies in its difficulty. A novel task was used because it was assumed that it would allow the researcher to obtain a more accurate estimate of a person's confidence. Furthermore, the design with the lowest perceived difficulty was chosen to insure success. Successful experience, it was assumed, would facilitate confidence.

Before collecting data, a pilot study was conducted to determine the perceived difficulty of 10 cards depicting designs to be created with the blocks. Ten volunteer college students were asked to look at each of the cards, determine how difficult each would be to construct, and put them in order from simplest to most complex. The most difficult card was assigned a value of 10, the next most difficult 9, and so on, with the

simplest card receiving a value of 1. The rankings for each card from the pilot study were then averaged. The card receiving the lowest average rating was used for both genders in the experience group. The simplest card was chosen to insure success. Successful experience, it was assumed, would facilitate confidence. The results of the pilot study showed that Card 7 received the lowest average ranking, 2.2, indicating it was perceived as being the simplest of the chosen designs. This design happened to be a relatively flat design, for the most part one block thick, and was used as the tool for experience in the experimental group. Other designs with blocks stacked on top of one another with uneven surfaces seemed to be perceived as more complicated and received higher ratings.

Procedure

Experimental/Experience Group. Data were collected on an individual basis.

Once the consent document (Appendix A) was signed, the researcher showed the participant the set of blocks and the card with a figure on it. The researcher then explained that the blocks could be manipulated in such a way as to reproduce the model on the card. He then slowly showed the participant how to put the blocks together one by one to create the figure shown on the card. Participants were given an opportunity to assemble the figure (with the aid of the researcher, if necessary) on their own. The blocks were then scrambled and the participant was then given a chance to reconstruct the figure. To insure successful performance, the participant was required to complete the design three times in a row without help from the examiner. After three consecutive successful trials, the participants were shown the remaining 59 cards from the game and asked to

estimate the number of times out of 100 (or percent) they would be able to construct a similar design on his/her own. Participant's verbal responses were recorded and, after reading a debriefing form (Appendix B), they were dismissed.

Control/No Experience Group. The procedure used with participants assigned to the control group was nearly identical. However, instead of learning to construct the design, they were simply shown the set of blocks and the cards used in the experimental group and were asked to report the number of times out of 100 (or percent) they would be able to correctly assemble similar designs. Participants read a debriefing form identical to the one the experimental group received and were dismissed.

CHAPTER 3

RESULTS

Participants' estimates for future success at the block construction task, or confidence levels, were analyzed using a 2 (gender) X 2 (experience) analysis of variance. Mean estimates and standard deviations are presented in Table 1. Table 2 presents results of critical F tests for the main effects of group and gender and the interaction between the two. Contrary to hypothesis, the main effect for gender was not significant, indicating men were not more confident than women in their ability to construct the designs. The main effect for experience was also, contrary to hypothesis, not significant indicating neither men nor women in either of the experience groups showed higher levels of confidence. The interaction of gender and experience was also not significant, counter to the expectation of this study that women assigned to the experience group would have estimates significantly higher than women in the group with no experience. This nonsignificant interaction did indicate, as predicted, that men in the experience group would not have estimates significantly higher than men in the group receiving no experience.

Table 1

Expectancies for Success as a Function of Gender and Experience

Group	Men	Women	<u>N</u>	Total
Experience				
<u>M</u>	49.30	41.40	40	45.35
<u>SD</u>	27.90	27.20		27.49
No Experience				
<u>M</u>	38.85	40.15	40	39.50
<u>SD</u>	25.08	27.45		25.96
Total				
<u>M</u>	44.07	40.77	80	42.42
<u>SD</u>	26.71	26.98		26.73

Table 2

Analysis of Variance for Expectancies for Success

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Gender (G)	217.80	1	217.80	.30
Group (P)	684.45	1	684.45	.94
G x P	423.20	1	423.20	.58
Within Cells	55132.10	76	725.42	

CHAPTER 4

DISCUSSION

The results of the current research produced findings inconsistent with previous literature. Only one hypothesis was supported: men in both the experimental and control groups showed no significant differences in their confidence levels. However, in the broader context of the complete findings here, the relevance of this particular finding is questionable. Had the hypothesis been supported that men in both groups would show confidence levels that were significantly higher than women in both groups, a more meaningful statement could be made concerning the role of experience in affecting confidence in men. However, since no significant differences were found between any of the groups, understanding why both groups of men had similar expectancies for success seems unimportant. Instead, it is important to examine the possible explanations for the absence of the differences that were expected throughout the design.

The standard deviations associated with confidence ratings showed a large degree of variability in the estimates of all of the groups. Within any one cell, one could find estimates for success as high as 100 and as low as 10. This broad variation in confidence scores lessens the likelihood of detecting differences due to treatment effects. A replication of this study should seek an alternative rating scale that is more sensitive to the effects of experience. This, combined with extended practice in the experience group might produce significant differences.

Several possible explanations beyond psychometric issues may be applied to results obtained. It is possible that previous studies, which placed heavy emphasis on variables such as social comparison, when interpreted along with the current research, show that confidence levels are naturally similar. It is when such factors such as social comparison and performance evaluation are added, that such large differences in confidence levels are produced. However, evidence such as Crandall's (1969) study and Bornholt et al. (1994) suggested differences would be evident in spite of the absence of such factors. Based on this explanation, one could assume that in similar situations where men and women are asked to perform similar tasks of spatial organization and construction, confidence levels would be similar. If performance is affected by confidence levels, one would expect performance on these types of task to be similar as well. Furthermore, if performance is positively affected by high confidence levels, then differences in performance could be minimized by avoiding the types of feedback that cause differences in confidence levels. This is a contention that Lenney's (1983) entire body of research has suggested. This would mean that employers, teachers, and others overseeing performance on such tasks would have some degree of control over these differences in performance. However, this could be assumed only when a conscious effort was made to treat each person in such a way as to reduce social comparison, evaluation, and the like, to create an environment which fosters equal levels of confidence.

Another possible explanation is that the treatment itself, experience, was not strong enough to elicit the expected change in confidence. The fact that the task chosen was not used in the previous literature may also account for the inconsistency between previous research and the results obtained here. Participants in the experience group worked on the task until they had successfully completed it three times in a row. This typically took about 10 to 15 minutes. It is possible that this amount of experience was not sufficient to allow a buildup of confidence that would transfer to a number of other, similar tasks. In other words, it is possible that a certain level of competence needs to be achieved before one can express confidence in the ability to complete similar tasks. This seems logical in the context of Kelley's idea that all of the necessary attributes for success must be present for success to occur (Fiske & Taylor, 1984). If a feeling of competence was not achieved, it would be expected that confidence would go down. The experience provided may not have been sufficient to allow participants to feel such competence.

Gender Differences in Confidence

Another curious inconsistency is evident when the results are interpreted in light of Lenney's (1977) finding that women's confidence levels would be lower when they were unfamiliar with the task at hand. Because the block design used was thought to be relatively novel, one would have expected women's confidence levels in the no experience group to be lower than all other groups because they were the least familiar with the task. Men in the no experience group would also have little experience. However, the previous work of Lenney (1977) suggested that men's inexperience would

not produce lower confidence levels in the experience group. This led to the hypothesis that men would have similar expectancies for success in both groups. The results obtained showed this to be consistent with what was expected.

An additional, and most optimistic, explanation is that the results of previous studies are outdated and do not apply today. A great deal of the research done in this area was conducted in the 1970's and 1980's to address differences directly related to issues of equality between the sexes. It is possible that the results found then, which reflected a general level of lower self-confidence in women across a variety of situations, are not true today. Perhaps the differences summarized by Lenney (1983), that were at one time significant, are not significant today. Society's scrutiny of such tools as the media and its contribution to an overall presentation of women as less capable than men may have brought about subtle changes in attitudes which are now reflected in the equal levels of confidence between men and women. This explanation seems to be the most appealing because one would like to believe that there are no inherent differences in the confidence levels of men and women.

A final possibility focuses on the demographics of the sample. A block construction task involving spatial construction ability was chosen. The sample used consisted of college freshmen, sophomores, and juniors from a medium sized university in the Midwest. In such a region, it may be likely that men who are gifted at such tasks of spatial organization and construction are not as likely to go on to college, opting instead for a career as a mechanic, farmer, or another type of skilled labor. If these men, or a

large percentage of them, did not pursue a college education, then they could not have been included in the sample. Hence, their estimates would not have been present to increase the differences between men and women. This may have created a sample that would have produced results consistent with those found here.

Conclusion

The results of this study show a puzzling discrepancy between what was expected and the results obtained. While it is difficult to meld the given explanations into a harmonic whole, it is hoped that these results reflect a true change in confidence levels, and consequently, the differences between the socialization of men and women. Future researchers should refine the methods used here in order to obtain results that can provide more definitive answers. It would also be wise to replicate studies that were conducted during the peak interest of this subject to see if those results still hold to be true. Further studies might be able to determine whether or not the factors that produced such changes in confidence levels in earlier studies still produce an effect today. A reexamination of the findings of these studies would update knowledge of the subject and place it in the context of society as it exists today. These future findings could have an impact on the performance of men and women at a wide variety of tasks, and therefore, the attitudes they hold about each other.

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APPENDIX A
INFORMED CONSENT DOCUMENT

INFORMED CONSENT DOCUMENT

The Division of Psychology and Special Education at Emporia State University supports the practice of protection for those participating in research and related activities. The following information is provided so that you can decide if you wish to participate in the present study. If you choose to participate, you are free to withdraw at any time. By choosing to withdraw, you will not be subjected to reprimand or any other form of reproach.

The study you are invited to participate in is examining the ways experience can affect one's perception of a task. In the first part of the study, you will be asked to construct a design by assembling a series of objects. The second part will involve answering questions about the task performed in part one. This will take approximately 10-15 minutes.

The data provided by this research will clarify existing knowledge on differences in the perceptions of men and women. There is no risk of physical harm or discomfort by agreeing to participate in this study.

"I have read the above statement and have been fully advised of the procedures to be used in this study. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks and assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

Signature: _____

Date: _____

APPENDIX B
DEBRIEFING FORM

DEBRIEFING FORM

The study in which you have just participated is examining the differences in expectancies for success between men and women. Specifically, in the bulk of psychological research, significant differences have been found between the confidence levels of men and women. This study hopes to determine the role experience plays in influencing confidence levels. From this data, the researcher will attempt to explain the apparent differences between men and women's expectancies for success with regard to their experience with the given the task. Your participation provided valuable information and your time and effort is appreciated.

Thank you,

Daron Copp

PERMISSION TO COPY STATEMENT

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Larry Daron Copp
Signature of Author

12-18-97

Date

The Effects of Experience on
Confidence Levels in Men and Women

Title of Thesis

Dary Cooper
Signature of Graduate Office Staff

December 18, 1997
Date Received

permitted