2000

The Influence of Gender-Related Beliefs on Students Motor Skill Learning.

Donald Gregory scott Belcher

Louisiana State University and Agricultural & Mechanical College

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_disstheses

Recommended Citation

https://digitalcommons.lsu.edu/gradschool_disstheses/7141

This Dissertation is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Historical Dissertations and Theses by an authorized administrator of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.
INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
NOTE TO USERS

This reproduction is the best copy available.

UMI
THE INFLUENCE OF GENDER-RELATED BELIEFS ON STUDENTS MOTOR SKILL LEARNING

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

in

The Department of Kinesiology

by

Donald Gregory Scott Belcher
B.Ed., University of Saskatchewan, 1989
M.S., University of Wyoming, 1994
May 2000
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>METHODS</td>
<td>6</td>
</tr>
<tr>
<td>RESULTS</td>
<td>17</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>26</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>33</td>
</tr>
<tr>
<td>APPENDIX A: EXTENDED REVIEW OF LITERATURE</td>
<td>35</td>
</tr>
<tr>
<td>APPENDIX B: PILOT STUDY</td>
<td>91</td>
</tr>
<tr>
<td>APPENDIX C: CONCEPTIONS OF HOCKEY QUESTIONNAIRE</td>
<td>95</td>
</tr>
<tr>
<td>APPENDIX D: INSTRUCTIONAL PROCEDURES AND SCRIPTS</td>
<td>99</td>
</tr>
<tr>
<td>APPENDIX E: HOCKEY TASK SURVEY</td>
<td>111</td>
</tr>
<tr>
<td>VITA</td>
<td>113</td>
</tr>
</tbody>
</table>
ABSTRACT

The purpose of this study was to determine the influence of beliefs about gender appropriateness and conceptions of ability on perceived and actual competence and patterns of behavior during practice of a sex typed masculine task, the hockey wrist shot. Sixty-eight undergraduate females formed four homogeneous treatment conditions based on their beliefs about gender appropriateness and conceptions of ability: Masculine Innate (MI), Masculine Acquired (MA), Neutral Innate (NI), and Neutral Acquired (NA). Four teachers taught across all of the treatment conditions for a total of 16 learning groups. Each of the learning episodes reinforced the gender appropriateness and conception of ability beliefs held by that group and began with an audio-video tape which introduced the critical skill cues and successful practice trials of the hockey wrist shot. The teacher provided eight minutes of skill practice and feedback, while reinforcing the group’s gender and ability beliefs. The teacher then left the room so that the learning groups would have an equal amount of time to practice independently. The subjects were given a skill test at the end of the learning episode. Data were collected through a three part questionnaire and from audio-video taping of the entire episode to ascertain the participant’s competency beliefs, effort, and performance. Multivariate analysis revealed a main effect for gender appropriateness for both competency beliefs and performance but no effect on effort. No main effect for conception of ability nor an interactional effect were found. Gender appropriateness impacted the subjects’ perceptions of competence and actual
performance in the study while beliefs about conceptions of ability did not produce a significant difference. This study reaffirms that educators must work diligently to combat the stereotypical beliefs that many hold with respect to the gender appropriateness of physical activities in order to maximize the potential for positive outcomes in developing a wide array of motor skills.
INTRODUCTION

Recently a number of motivational theories and methodologies have been used to explain achievement behaviors and much has been learned about how students' cognitive processes impact and enhance their motivation, persistence, and ultimately what they achieve. Most notable have been the social cognitive theories that link perceived confidence or competence to achievement. Perceived competence refers to how well one perceives his or her own ability or adequacy to confront a particular task or to perform role appropriate behavior (Nicholls & Miller, 1984; Treasure & Roberts, 1995). While a great deal of research has shown that perceived competence strongly mediates conceptions about one's ability to learn (Nicholls, 1984), less is known about how the construct affects the actual ability to learn.

Bandura's (1986) concept of self-efficacy provides a theoretical framework for examining the process whereby social cognitive variables mediate patterns of behavior that determines whether or not individuals achieve. Self-efficacy can be defined as a specific kind of perceived competence, specifically as an individual's belief or confidence that she or he can effectively use his or her ability in a specific situation. According to theoretical predictions, a high level of self-efficacy increases the likelihood that individuals will engage in behaviors that will facilitate achievement, such as attending, using strategies, exerting effort and working at a challenging level. Conversely, low levels of self-efficacy are associated with a pattern of behavior that decreases the likelihood that individuals will learn or improve. Examples of such
actions are withdrawing effort in the face of difficulty and avoiding challenge. Bressen and Weiss (1982) argue that given appropriate skills and incentives, participation choice, effort and persistence will be affected by levels of self-efficacy.

One condition that seems to increase a student’s expectations for success in a specific domain is the gender appropriateness of the activity (Harrison, Lee, & Belcher, 1997; Lee, Fredenburg, Belcher, & Cleveland, in press; Lirgg, George, Chase, & Ferguson, 1996). Consistent trends regarding gender appropriateness have been addressed in the literature as sex-typing of physical activity choices (Clifton & Gill, 1994; Csizma, Wittig, & Schurr, 1988; Kane & Snyder, 1989; Lee, et al., in press; Lirgg, 1993; Matteo, 1986; Methany, 1968). Findings clearly indicate that sex-typed activities can mediate gender differences in ability perceptions and consequently levels of self-efficacy, with males reporting more confidence on masculine-typed activities and females reporting more confidence on feminine-typed activities (Clifton & Gill, 1994; Lirgg, 1991; Sanguinetti, Lee, & Nelson, 1988). Physical activities such as football are typically designated as masculine activities because of the association with the attributes of strength, power, and competitiveness. Activities such as dance receive a feminine label because of the link to graceful movement and balance. It has been shown that sex-typing of physical activities has a greater detrimental effect on females than males (Lee, Nelson, & Nelson, 1988). When viewed from a self-efficacy perspective the role that gender beliefs play is evident. Prior experience is the most influential source of self-efficacy beliefs, but in the absence of direct experience
vicarious experience becomes more salient. Consequently, when approaching a task in which one has no experience the level of self-efficacy is enhanced if the person perceives a model to be similar in personal or performance characteristics (Gould & Weiss, 1981).

During the past decade, researchers have also identified conceptions of ability as a key construct thought to influence student motivation and behavior. In general, conceptions of ability refer to students' understanding of the difference between ability and effort. A fixed conception of ability represents a belief that ability cannot be changed with effort or practice and basically performance is dependent on innate capabilities. An acquired conception of ability implies that ability can be improved with increased effort and practice (Nicholls, 1992). Taken together the literature review suggests that conceptions of ability will mediate future experience with a task. In a recent study Lirgg et al., (1996) examined the direct impact of conceptions of ability on self-efficacy with regard to sex typed activities. Using activities that were sex typed by their subjects as masculine and feminine, Kung fu and baton twirling, respectively, these researchers studied the extent to which sex-typing would influence self-efficacy. Further, the subjects were placed in one of two conceptions of ability conditions, where they were informed that ability in each of these activities was either the result of learning or innate to the individual. Regardless of conceptions of ability group or the nature of the task, males reported higher self-efficacy. Females in the learning conception male task (kung fu) showed higher efficacy than their counterparts.
who had been assigned to the innate conception group. In the feminine activity, baton
twirling, conceptions of ability were not related to levels of self-efficacy. Thus, it
appears that males have stronger beliefs about their ability to learn and perform
physical activity tasks than do females, which may in turn affect actual ability to
execute.

This study expands this strand of research by eliminating two major limitations
of the research completed to date. The first limitation of the Lirgg, et al. (1996) study
was that the subjects were asked to rate their level of competence with respect to each
of the sex typed tasks but they were never required to actually perform the task.
Consequently the direct link between perception of competence and actual competence
was not investigated. The second, less obvious, limitation of the Lirgg et al. study was
the procedure used for creating the innate and acquired groups. These researchers
manipulated conceptions of ability by trying to persuade subjects that learning the task
was dependent on effort or innate ability. For example, participants in the innate
ability condition were told that most scholars believed that people are born with a
fixed capacity to perform the task. On the other hand, subjects in the acquired group
were informed that the task could be learned with practice. A stronger link between
conceptions of ability being either an acquired or innate process would be one in
which the researchers build upon the participants’ current views rather than attempting
to create artificial beliefs. This research, by way of contrast, was designed to examine
what female students believe about their own ability and competence in a masculine
physical activity and how those beliefs affect their actual ability. The literature supports male competence beliefs in physical activity tasks regardless of conceptions of ability so it has been deemed more worthwhile to narrow the scope of the study to include only females.

The purpose of this study was to determine the influence of beliefs about gender appropriateness and conceptions of ability on perceived and actual competence and patterns of behavior during practice. More specifically, this study will address the following questions:

1. What is the influence of perceived gender appropriateness and conception of ability on competency beliefs?

2. How do perceived gender appropriateness and beliefs about conceptions of ability affect effort during skill practice?

3. What is the influence of gender appropriateness and conceptions of ability on levels of actual performance?
METHODS

Participants

Students enrolled in a variety of kinesiology courses at a southeastern university participated in this research study. A purposeful criterion referencing sampling technique (Patton, 1990) was used to select 68 females who met the criteria established for four homogenous groups with stereotypical perceptions of the sport of hockey, and the accompanying beliefs about innate and acquired ability for learning the wrist shot in hockey. The student participants indicated no previous experience with the skills of hockey and a willingness to volunteer one hour of time for this study. A pilot study formed the basis for identification of the subjects for the study and consisted of 435 university students (299 females and 136 males) who answered two questions, one addressing the gender appropriateness of hockey as an activity choice and the second question concerning whether conceptions of ability for learning the hockey wrist shot were innate or acquired. The pilot study indicated that both females and males reported hockey to be a masculine or gender neutral sport. None of the participants had a strong belief that hockey was a sport for female participation.

First, females were divided into groups based on the question of the gender appropriateness of hockey. Those female participants who indicated that hockey was either 'only for males' or 'mostly for males' were assigned to the masculine condition, while those who indicated that hockey was equally appropriate for males and females were assigned to the neutral condition. Within these two groups participants were then
selected for inclusion in this study based on their beliefs about the conceptions of ability for the hockey wrist shot. Individuals who indicated that they strongly believed that the skill could be learned with practice were placed in the pool of participants for an acquired condition within each of the gender belief groups. Very few participants indicated a strong belief that the task was dependent upon only natural ability, so participants for the innate condition were identified from the pool of individuals who selected the neutral response, indicating a belief that the skill was equally dependent upon natural ability and practice.

In order to differentiate for beliefs about conceptions of ability those participants who indicated the choice ‘task could be learned but natural ability helps’ (response 4) which fell between ‘equally dependent upon natural ability and practice’ and ‘only dependent upon practice’ were eliminated from the subject pool. Those participants who chose equally dependent joined the participants who believed that natural ability was required to be successful for the task as the innate grouping. Those who held the belief that practice and not natural ability was required to learn the skill made up the acquired condition.

Teachers

Four female physical education teachers were recruited to teach from a prepared script for each of the four different learning groups. The teachers were selected because they were recognized as well-skilled in the delivery of psychomotor
instruction and the providing appropriate motor skill feedback to enhance learning.

Task

The hockey wrist shot was selected because it was a novel task within the geographical region in which the study took place, and therefore the subject pool was one in which few of the participants would have encountered the activity to any great degree. The purpose of the hockey wrist shot is to raise the puck into the air so that it may be passed from teammate to teammate or to score a goal on the opposition. In order to accomplish this task a three-phase process may be used: ready, wrist snap, and follow through. In the ready phase the stick and puck are moved behind the midline of the body with the puck in front of the stick and the hands in proper position (one near the top of the stick the other hand lower than half way down the shaft). As the stick is moved forward across the body toward the target, the wrist snap is initiated. The wrist snap is accomplished by taking the bottom hand from a ‘palm down’ to a ‘palm up’ position as the stick is moved quickly forward. The top hand drives downward at the same time the bottom hand turns and rises. This initiates the last phase, the follow through as the stick proceeds toward the desired target.

Conditions

Four treatment conditions were created: Masculine Innate (MI), Masculine Acquired (MA), Neutral Innate (NI), and Neutral Acquired (NA) to represent each of the possible gender appropriateness x conceptions of ability combinations. Four separate instructional audio-video tapes were developed, one to reinforce each of the
treatment conditions (MI, MA, NI, and NA). The two tapes which represented the masculine groupings portrayed a male model proficiently executing the hockey wrist shot. The same instructional segment and practice trials were utilized for both episodes so that both masculine groupings viewed the same display of success. On the two tapes for the neutral groupings a female model was utilized who proficiently executed the hockey wrist shot. Once again the same instructional segment and practice trials were used for both conceptions of ability. The introductory verbiage that went along with each of the video tapes reinforced either the belief that the skill was masculine or gender neutral. Two other scripts, one for each conception of ability, were developed and delivered on the video tapes. The video tapes reinforced the participants' beliefs about conception of ability as a fixed innate quality or a changeable acquired capability.

In order to reinforce the treatment conditions all of the feedback given by the teacher beyond the critical skill cues was modified to suit each of the beliefs held by the particular group. Additionally, during the instructional sessions, the verbiage included on the instructional video tape was repeated and expanded upon by the instructors to strengthen the initial views expressed by the participants. For example, when the students in the male condition encountered difficulty the instructor would provide appropriate skill feedback but would also make a comment such as "this is hard for a woman, this sport is for guys, don't worry about how you are doing, you are doing fine-for a girl." In the neutral condition no gender references were made.
Examples of the type of feedback statements the teachers used to reinforce the innate conception of ability would consist of “Don’t worry about how well you are doing, you just sort of have a knack for this skill” or, “This takes a lot of eye-hand coordination, it really is harder than it looks” and “You have to be athletically gifted in order to do well.” Feedback provided in the acquired condition was provided to reinforce the view that effort in practice would produce success, for example the teacher would say “I can see improvement, the practice is really helping, hang in there and you will become successful at the hockey wrist shot.”

Instruments

Questionnaires. Self report data were collected through the use of a three-part questionnaire distributed at different times throughout the study. The first part of the questionnaire was given after the viewing of the model tape and before any practice attempts were taken. At this point the participants were asked to gauge their expectation for success by responding with a score of one to 10 to the question “With practice, how well do you think you will be able to learn the hockey wrist shot?” The following labels indicating the range from one ‘not at all’ to 10 ‘very well’.

The second part of the questionnaire was distributed after the independent practice time. The subjects were asked to rate their level of effort during practice on a scale of one to 10. This time one represented ‘no effort’ and 10 ‘highest effort’. The participants were then asked to estimate their score on the skill test (0-50).
The last section of the questionnaire was distributed after the skill test and asked the participants to rate their level of success on the hockey wrist shot on a 10-point scale. At one, the rating would be 'very poor' and at ten the rating would be 'excellent'. Qualitative data were collected to better understand the participants' reasons for the numerical responses they selected throughout the questionnaire. This written data were utilized to reveal the rationale for the participant's numeric decisions and to expose any negative cases.

**Performance Test.** The teacher recorded the actual skill test results on a separate paper. The participants shot the puck from a distance of 15 feet at a marked area on the wall that represented a 5' x 5' goal. The goal was divided into five one-foot sections from the floor to the top of the goal. In order to earn points, the puck had to be in the air when it reached the wall. The subjects received a single point if the puck hit the target area and was within the first one foot gradient and an additional point for every subsequent foot up the target to the top of the goal. Each trial, therefore, could yield zero to five points.

**Practice Variables.** Five variables were collected by the researcher through the systematic coding of the audio-video tapes of the sixteen learning sessions. The number and success of each of the practice trials were coded and recorded on two different charts, one for the guided and one for the independent practice times. The level of effort, as reflected by engaged time, was coded and charted by the use of a stop watch for the amount of time each participant was on-task during the independent...
practice time. Individuals were considered to be on-task if they were preparing to shoot the puck, shooting the puck, or retrieving their puck in a timely manner.

**Design**

The four female teachers taught four classes, with one group of learners from each gender appropriateness x conception of ability groupings (MI MA NI NA). The order that the teachers taught was designed to counter balance any ordering effect of teacher and type of learning group. The following table represents the number of participants in each class taught by each teacher in each of the conditions. As can be seen from the table, teacher one taught four learners in each of the MI, NI, and NA conditions and five learners in the MA condition to teach a total of 17 subjects.

Table 1. Learning Groups

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Masculine Innate</th>
<th>Masculine Acquired</th>
<th>Neutral Innate</th>
<th>Neutral Acquired</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>18</td>
<td>15</td>
<td>19</td>
<td>68</td>
</tr>
</tbody>
</table>

**Procedures**

Students in each of the sixteen learning groups were brought to the practice area where they were introduced to their particular teacher. The prepared video tape that reinforced their stereotypical views of gender appropriateness and conception of
ability was then viewed. Part one of the questionnaire was completed and the teacher presented the task to the learners with the same skill cues outlined on the video tape. The subjects were then given eight minutes of guided practice. During this time the teacher monitored the participants’ execution of the hockey wrist shot and she continuously went along to each of the learners giving appropriate skill feedback to enhance the learners’ opportunity to become more proficient at the task. At this time the teacher also made comments to support the specific treatment condition. To reinforce beliefs about gender appropriateness the teacher either made comments such that the skill was ‘only for males’ or that the activity was now appropriate for females (i.e., “I bet you could try out for the Olympic Hockey Team!!”). To contribute to the preconceived beliefs concerning conceptions of ability the teacher made comments regarding the individual’s natural ability (if successful) or lack of natural ability (if unsuccessful) in the innate condition and convey the merits of practice in order to achieve success in the acquired condition.

The teacher reminded the participants that a skill test would be administered upon her return and excused herself from the learning environment at the end of eight minutes to provide the subjects with an additional eight minutes of independent practice time. The subjects were allowed to practice as much or as little as they desired while the teacher was away. Video cameras were situated so that participants’ actions were recorded during this time. When the teacher returned, the second part of the questionnaire was administered and the individual skill tests were completed.
individually. Lastly, the teacher distributed the final section of the questionnaire and the subjects were debriefed about the purpose of the study through a general discussion of their specific treatment condition and the possible effects of holding particular views about gender appropriateness and conceptions of ability on the learning of a motor skill.

**Dependent Variables**

Scores from ten dependent variables were collected to answer the three research questions concerning the effect of beliefs of gender appropriateness and conceptions of ability on perceived competence, effort, and performance with respect to the hockey wrist shot.

**Competency Beliefs.** Three variables assessed the construct of perceptions of competence. Temporally, the three items measured competence as future, current, and past intervals. The first question asked the participants to gauge their expectation for future success in learning to execute the hockey wrist shot. The second question required the participants to assess their current competency by estimating their probable score on the skill test. After the episode was complete, the subjects were asked to rate their level of success at the hockey wrist shot as a final measure of competency.

**Effort.** The level of effort that the participants placed on practicing the hockey wrist shot task was evaluated by examining four variables. The first variable was a self rating of how much effort they exerted in attempting to become proficient at the
skill during the guided and independent practice time. The actual number of trials during the guided and independent practice time made up the next two variables. The amount of time subjects spent on-task by preparing to shoot, shooting, or recovering the puck made up the last measurement of effort expended and was expressed as a percentage of the eight minutes of independent practice time utilized.

Performance. Performance was operationalized via three different measures: percentage of successful trials during guided and independent practice, and the actual value of the performance skill test. A successful trial was defined as a wrist shot performed from a distance of no less than fifteen feet that was still in the air when it reached the wall. The actual value of the performance test was the total of the 10 shots taken by each of the subjects at the goal during the skill test.

Data Analysis

A Randomized Block Design was utilized to assess differences across the treatment conditions. Three separate 2 (gender appropriateness) x 2 (conceptions of ability) MANOVA’s with follow up ANOVA’s (where appropriate) were performed on the variables that addressed the questions related to perceptions of competence, effort, and performance of the hockey wrist shot. The unit of analysis was the class mean of each of the beliefs of gender appropriateness x conceptions of ability grouping. The class mean is the appropriate unit of analysis because participants interacted with each other during the data collection. All analyses were conducted with the alpha level set at .05.
The subjects' written responses accompanying their quantitative scores were utilized to verify certain assumptions such as gender and conceptions of ability beliefs, and to clarify the subjects understanding of effort and success. Qualitative responses were analyzed within each condition to gain an understanding of the meaning participants attached to the numerical ratings. The written responses were sorted into meaningful units and categorized as themes emerged. Representative comments were reported to lend support to the quantitative responses and specifically data were inspected for negative cases.
RESULTS

Fidelity of Treatment

The researcher assessed the fidelity of each of the conditions by listening to the audio portion of the audio-video tapes to verify that instructors gave appropriate feedback to reinforce each of the learning group conditions. During each instructional episode, teachers were consistent with the conditions, and no statements were detected that were in conflict with the assigned treatment. Feedback from the learners themselves attested to the instructors' reinforcement of the conditions under which the learners were presented. For example, a participant in the Neutral-Innate grouping remarked, "I realize that technique matters, but, as pointed out in the film, so do natural predispositions." An individual in an acquired grouping commented, "We watched the video and the lady demonstrating said she had learned the shot, but had not had any hockey experience."

Inter-Observer Agreement

Inter-observer agreement was established for the variables that were collected using a systematic observation technique. Using the audio-video tapes, percent of time on-task and percent of successful practice trials were coded. The hockey wrist shot trials from both the guided and independent practice sessions were designated and recorded as either successful or unsuccessful. To establish inter-observer agreement an independent trained observer coded 10 percent of the class sessions. The percent agreement for this process was 92%, as calculated by dividing the number of
agreements by the sum of agreements plus disagreements. The percent of time on-task was assessed by using a duration recording technique. A stop watch was used to keep track of when the participants were engaged in on-task motor behavior. Behaviors indicative of on-task were shooting the puck, preparing to shoot the puck or retrieving the puck. Off-task behaviors were defined as actions unrelated to the task, such as visiting with a peer about a non-skill related topic or sitting idly by. Inter-observer agreement for on-task behavior, determined by calculating the percentage of agreement on 10% of the lessons was .90.

Data Analysis

Descriptive statistics for the data are reported in Table 2. Results of the quantitative and qualitative analyses are reported for each of the research questions.

Competency Beliefs. The variables used to represent competency beliefs in this study were expectations for success, predicted outcome score, and estimated success ratings. The score for expectations for success ranged from a low of three to a high of 10. The range of scores for predicted outcomes suggests that students varied in their beliefs concerning how well they would perform on the outcome measure. Some individuals (n=3) believed they would not be able to achieve any points on the skill test and predicted their outcome score would be zero while others were successful enough during practice to estimate a score as high as 40 on the skill test. Scores for the self rated success measure ranged from one to nine.
The results of the MANOVA on these three variables indicated a significant main effect for gender appropriateness ($\Lambda = 0.38, \ p < .018$). The conceptions of ability

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Variable</th>
<th>Overall M (SD)</th>
<th>MI</th>
<th>MA</th>
<th>NI</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comp.</td>
<td>Expected Success</td>
<td>6.03 (1.83)</td>
<td>4.94 (1.84)</td>
<td>6.22 (1.77)</td>
<td>6.40 (2.16)</td>
<td>6.47 (1.26)</td>
</tr>
<tr>
<td>Comp.</td>
<td>Expected Score</td>
<td>18.15 (10.14)</td>
<td>11.44 (8.93)</td>
<td>17.83 (10.38)</td>
<td>19.53 (10.38)</td>
<td>23.00 (8.02)</td>
</tr>
<tr>
<td>Comp.</td>
<td>Rated Success</td>
<td>4.16 (1.86)</td>
<td>3.50 (2.10)</td>
<td>3.56 (1.34)</td>
<td>4.60 (1.99)</td>
<td>4.95 (1.68)</td>
</tr>
<tr>
<td>Effort</td>
<td>Rated Effort</td>
<td>7.18 (1.71)</td>
<td>6.63 (1.54)</td>
<td>7.06 (1.55)</td>
<td>7.07 (2.02)</td>
<td>7.84 (1.64)</td>
</tr>
<tr>
<td>Effort</td>
<td>Guided Practice</td>
<td>35.79 (7.66)</td>
<td>31.75 (8.50)</td>
<td>34.11 (6.60)</td>
<td>38.73 (6.72)</td>
<td>38.47 (7.04)</td>
</tr>
<tr>
<td>Effort</td>
<td>Practice Trials</td>
<td>33.06 (15.15)</td>
<td>20.19 (15.29)</td>
<td>35.50 (11.30)</td>
<td>38.93 (16.47)</td>
<td>36.95 (11.39)</td>
</tr>
<tr>
<td>Effort</td>
<td>Percent Time on</td>
<td>67.66 (26.81)</td>
<td>49.64 (36.55)</td>
<td>71.47 (19.86)</td>
<td>70.37 (26.13)</td>
<td>77.08 (16.00)</td>
</tr>
<tr>
<td>Effort</td>
<td>Task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perf.</td>
<td>% Success GP</td>
<td>42.90 (28.26)</td>
<td>22.31 (26.15)</td>
<td>42.17 (23.36)</td>
<td>52.40 (27.59)</td>
<td>53.42 (26.95)</td>
</tr>
<tr>
<td>Perf.</td>
<td>% Success Indep.P</td>
<td>52.31 (29.54)</td>
<td>29.44 (30.08)</td>
<td>45.89 (27.52)</td>
<td>62.93 (22.15)</td>
<td>69.26 (22.24)</td>
</tr>
<tr>
<td>Perf.</td>
<td>Skill Test Score</td>
<td>14.51 (9.99)</td>
<td>9.94 (9.50)</td>
<td>10.78 (8.35)</td>
<td>17.53 (9.48)</td>
<td>19.53 (9.70)</td>
</tr>
</tbody>
</table>
main effect and the interaction between gender appropriateness and conceptions of ability were non significant. The follow up ANOVA on expectations for success in learning the hockey wrist shot task revealed no significant main effects or interactions.

A review of the ratings revealed similar ranges in scores regardless of gender appropriateness and conceptions of ability grouping, which would result in no overall differences between any of the groups. Examination of written comments revealed that high expectations were held by members of all four combinations: “I think that with enough practice everyone will do well (MA),” “I am pretty athletic so I think I will be able to pick this up (MI),” “I have played sports before that require good hand-eye coordination. I also have some natural athletic ability (NI),” and “Because it seems like a pretty simple move and with practice I should be able to learn it (NA).” Responses from individuals with lower expectations for success did not specifically address a rationale for the lower expectations. This is evident in the following reasons given by participants for their responses: “I understand the steps in the skill but I am not very coordinated (MI),” “It doesn’t look that difficult, it looks like it just takes practice (MA),” “I have played some sports before so I have some athletic experience (NI),” and “Because the skill doesn’t look like it is too difficult to learn (NA).” The comments made reflected the participants’ beliefs about conceptions of ability but not about gender appropriateness.

The follow up univariate test for participants’ expected outcome scores revealed a main effect for gender appropriateness $F(1, 12) = 6.17, p < .03$. The
participants who were in the neutral condition estimated their skill test score to be significantly higher than those who held the belief that the sport of hockey was masculine. The conceptions of ability main effect and interaction between gender appropriateness and conceptions of ability were nonsignificant.

The univariate follow up for the self rating of success at learning the task indicated a significant gender appropriateness main effect $F(1, 12) = 13.80, p < .003$. The subjects who believed hockey was more masculine rated their success at acquiring the ability to perform the hockey wrist shot significantly lower than those with a neutral belief. The conceptions of ability main effect and the interaction were nonsignificant. Examination of the written responses of the self-ratings of success revealed that explanations focused more on conceptions of ability than gender appropriateness, despite the fact that the participants who believed that hockey was more appropriate for males than females had lower perceptions of success than those who believed hockey to be equally appropriate for males and females. Analysis of the written comments suggests that participants who believed hockey was more appropriate for males than females tended to believe that they lacked the ability to be successful in the activity, but failed to relate this perception to their belief about gender appropriateness. The following comments offered by participants in the MI group illustrate this phenomenon:

"I have poor hand-eye coordination."
“I still tried hard to learn the skill even though I knew natural talent had a great deal to do with it.”

“When I first started to practice, and I saw that I was not good at it, my first thought was that ‘Well, I just don’t have the natural ability to do this.’ I think that this made me have less effort after a while because I assumed that I did possess the skills to learn it.”

“It affected my practice because I knew I couldn’t do it and I would not be successful at it, so why practice when I knew I would do badly?”

“I was unable to be successful in the skill simply because it takes a lot more work than I thought. You really do need to practice getting this unless you’re born with it.”

The perception of the lack of ability to perform the task was also expressed by individuals in the NI condition, as one individual remarked, “Some things I just don’t/can’t get I guess that this is one of them. I thought I would have done better but I didn’t. The instruction was great, but I just didn’t comprehend.”

Explanation for the positive outcome statements from individuals who believed that hockey was gender neutral suggests that when participants believed that hockey was an appropriate activity, they tended to believe that they possessed the ability to be successful, as reflected in these statements from individuals in the NI condition:

“I believe that having some natural ability helped me to pick up the wrist shot fairly easily.”
"Since I consider myself athletic to begin with, I didn't think that this was going to be hard to do."

"I'm athletic and figured out how to contact it with my stick to be successful."

"I guess I pick up skills easily."

In the NA condition, attributions for success tended to reflect an emphasis on the availability of information about the task, quality instruction, and effort in practice as reflected in this individual's explanation, "I was able to be successful because I listened to the tape and I did what the teacher said to do."

**Effort.** The effects of beliefs about gender appropriateness and conceptions of ability on the level of effort during practice were examined using four dependent variables. Participants' self ratings of effort during the two practice sessions ranged from a low of three to a high of 10. The number of trials during the eight minutes of guided practice ranged from a low of 12 to a high of 54. The range of practice trials during independent practice was zero to 60. The percentage of time individual subjects were on-task during the independent practice time ranged from zero to 98.1 percent of the eight minutes allotted.

The MANOVA indicated no significant main effects for gender appropriateness and conceptions of ability, and the interaction was also not significant. Inspection of the means of the variables reflecting effort suggests that the MI group tended to exert less effort during an independent practice session. However, the high degree of variability associated with those variables, coupled with the low power and
limited degrees of freedom associated with using the class as the unit of analysis resulted in a failure to detect statistically significant differences.

Written explanations provide insight into participants' rationales for their self-ratings of effort expended. Individuals who indicated they had exerted a high level of effort offered the following explanations:

"I was really trying to learn different ways to improve my shot (NA)."

"I practiced until I got it off the ground. I didn't give up (NA)."

"I thought of what the lady on the video had said and concentrated on that. I found this improved my shots (NA)."

"I tried as hard as I possibly could, but did not seem to get any better (MA)."

Conversely, individuals whose self-ratings of effort reflected a lack of effort offered these explanations for their responses:

"Because I just needed average effort to catch onto this skill (NI)."

"Without this being a truly competitive environment I am not likely to give 100% (NI)."

Four individuals, all in the MI condition, were on-task less than 10 percent of the time during the independent practice session. Because it was apparent from the video tapes that these individuals exerted little or no effort their self-ratings of effort merit closer inspection. One individual did not attempt a single practice trial during the independent practice session. However, she gave herself an effort rating of seven on a 10-point scale, explaining that "I really tried but this was my first hockey experience."
Two of these participants rated their effort as average, selecting five on the 10 point scale. One of them, on-task for 16 seconds of the eight minutes, explained her response, “Because at first I tried very hard, hardest effort, and then I gave up with no effort, so I rated myself average!” The other individual, on-task for only 46 seconds simply responded, “Tried to use skills.” The only one of these four individuals who rated themselves as below average on effort gave herself a four, commenting “Because I didn’t try that much.”

Performance. The influence of beliefs about gender appropriateness and conceptions of ability with respect to actual performance outcomes was assessed using three dependent variables. Success during guided practice ranged from zero (four subjects) to 92 percent. The percent of successful trials during the independent practice time created an even greater range from zero to 98 percent. Actual values on the skill test were within the same range as the expected scores (zero to 40).

The MANOVA revealed a significant main effect based on beliefs about the gender appropriateness of the activity (Lambda = 0.29, p < .0046), but the main effect for conceptions of ability and the interaction were not significant. The univariate follow-ups revealed that participants who believed hockey was for both males and females were more successful than those who believed hockey was for males. They were more successful during guided practice [F (1, 12) = 15.07, p < .002] independent practice [F (1, 12) = 21.83, p < .0005] and on the skill test [F (1, 12) = 24.26, p < .0004].
DISCUSSION

Social cognitive theories have postulated that a number of different variables affect the learning process and consequently learner achievement. The effect of beliefs about gender appropriateness and conceptions of ability on learners’ expectations for success, effort in practicing a motor task, and performance of a motor skill was the focus of this study. Research to date has not addressed how perceptions of competence relate to actual competence with respect to a sex-typed task nor truly examined how individual conceptions of ability influence learner behaviors.

Competency Beliefs

The results of this study reinforce the specificity of the construct of perception of competence (Harter, 1981) in that over the duration of the study subjects’ perceptions of competence were susceptible to change. Increases and decreases in confidence were evident after experience with the task. Initial perceptions of competence in the hockey wrist shot were not influenced by preexisting beliefs about the gender appropriateness of hockey as an activity choice. Success estimations for females who believed that hockey was a masculine oriented activity were not different from those viewing the sport as equally appropriate for females and males. These findings are somewhat inconsistent with previous researchers (Eccles et al., 1983; Lee et al, in press; Wigfield et al, 1990) who have found that females make lower estimates for a gender inappropriate task as compared to tasks they deem gender appropriate. It is possible that while the females in this study viewed hockey as a sport associated
with the attributes of competitiveness and strength, they made a different initial judgement about the wrist shot, since the shot appeared to be a fairly simple motor task.

Based on comments made by individual subjects it appears that the level of the perceived complexity of the task rather than the perceived gender appropriateness affected their initial self rating of competence. However, with direct experience, rather than the vicarious experience of the model, those subjects who believed hockey was for males and watched a male expert perform the skill in the instructional video, coupled with their opportunity to practice the skill reported lower competency beliefs than those participants in the gender neutral group. Regardless of the conception of ability group both their estimated skill test score and their self rated level of success at developing the hockey wrist shot were lower than the gender neutral group. Thus, participants' initial perceptions of competence appear to have been influenced more by the perceived simplicity of the task, than beliefs about gender appropriateness. Preexisting views about the masculine orientation of hockey may have been reinforced when difficulty was experienced during practice, producing lower levels of performance. Overall these findings support previous findings that females are less confident when they perceive a task to be masculine rather than neutral (Clifton, & Gill, 1994; Lirgg, 1996).

Prior research has also revealed that construing ability as an acquired rather than an innate construct enhances growth in perceived competence (Jourden, Bandura, 

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Baufield, 1991; Lirgg, et al., 1996; Wood & Bandura, 1989). In this study conceptions of ability did not differentially influence any of the three measures of perceived competence. The females in the Lirgg et al. (1996) study who were in the acquired group were more confident than those in the innate group when presented a masculine task. In this study the confidence of females asked to learn a task related to an activity they labeled masculine did not vary according to conceptions of ability. The expected differences in the means of the acquired and innate groups learning the task related to an activity they believed to be appropriate for males are evident, but the differences are not significant. Additional research is needed to verify how conceptions of ability might influence the impact of gender appropriateness for females in a motor skill learning context.

Effort

Although none of the four variables that represented the participants' levels of effort reflected significant differences in the MANOVA, the differences that were evident in the performance variables makes further examination of the effort variables an important undertaking. Inspection of the means and standard deviations for the effort items suggest the possibility of meaningful differences in at least two of the four items. When the teacher was in the practice area the level of effort was not be expected to be significantly different due to accountability implied through the proximity of the teacher in small learning groups. With respect to the self-ratings of effort it is not surprising that no significant difference were found, since an individual
may create a self fulfilling prophesy that they employed the appropriate amount of
effort to achieve the results that they expected.

A parallel can be drawn between this finding and a study by Jagacinski and
Nicholls (1990). Using goal theory as a theoretical framework, they investigated the
hypothesis that individuals would use reduction of effort as a strategy to protect their
perceptions of ability in situations where perceptions of competence were low. They
found that college students rejected the possibility of using effort reduction as a
strategy to avoid embarrassment for themselves, although participants indicated they
thought that other people might do that. Jagacinski and Nicholls (1996) suggested that
individuals might use this strategy, but be unwilling to admit it, or possibly be unaware
that they are reducing effort. The findings in this study are consistent with that
assertion, since although estimations of effort did not differ, there is some evidence to
support the notion that when perceptions of ability are low, effort was reduced.

Performance

Since all of the individuals participating in the study had no experience with
the motor task, and the effort variables did not differ significantly, no difference in
performance outcomes would be expected. However, those subjects who believed that
hockey is for males had a significantly lower percentage of successful trials during
both guided and independent practice episodes than did those who labeled the activity
gender neutral. The successful practice trials culminated in significantly higher skill
test performance scores for individuals who believed the activity was gender neutral compared to those who believed that hockey was gender masculine.

The results of this study confirm that confidence and achievement outcomes were enhanced when females were asked to learn a task they believed to be gender appropriate as opposed to gender inappropriate. Students in this study who believed hockey was gender neutral had more success in practice and had higher test scores at the end of the practice session. In this study beliefs about gender appropriateness clearly influenced learning related behaviors in a motor skill context.

Conclusion

The participants within the study did not express strong initial belief that adept performance of the motor skill was wholly dependent on specific innate characteristics, but participants selected for the innate condition believed that natural ability had an impact on the ability to learn to proficiently perform the task. This view was reinforced rather than manipulated in the Lirgg et al (1996) study, and the participants made several comments to indicate that they held the view that natural innate characteristics their level of success at the task of the hockey wrist shot. Although the initially expressed beliefs regarding conceptions of ability being naturally innate or acquired appear to have been affirmed, these beliefs did not have an effect on the females who participated in this study. However, trends evident in the data suggest further investigation is warranted.
In contrast, the beliefs about gender appropriateness of an activity influenced several variables related to perceptions of competence and performance outcomes, although not any of the effort variables. Accordingly, the conclusion drawn by the Lirgg et al., (1996) study, "... females who exhibit low self-efficacy beliefs for perceived masculine tasks may never even attempt to put forth much effort, or they may give up easily because they do not believe in their ability to perform the task (p.433)" has now been convoluted by the results that both perceptions of competence and performance outcomes are altered yet levels of effort were not significantly different. That effort may have been affected was authenticated in the comments of some of the participants during the discussion at the end of the study, but group differences on these variables did not reach statistical significance. It must be acknowledged that the low power associated with using the class as the unit of analysis makes the conclusion that levels of effort were similar across conditions tenuous. Specifically, although analysis of effort variables failed to reveal statistically significant differences, the design of the study produces a situation where a Type II error, failing to identify group differences when they do, in fact, exist, may occur. Consequently the results of this study, while failing to provide strong evidence that the groups differed with regard to their level of effort, also does not provide strong evidence that they are not different, either.

Interestingly, the comments made by many of the participants indicated they felt that their beliefs about the gender appropriateness of the task at hand, the hockey
wrist shot, had absolutely no bearing on their perceptions of competence, level of effort, or their actual performance of the skill. None of the participants stated they felt that their belief that the activity was masculine oriented had any effect on any of the variables. However, beliefs about gender appropriateness impacted the perceptions of competence and actual performance of the individuals in the study.

As can be seen in this study, those females who believed that a traditionally masculine defined activity was gender neutral had higher levels of competency in learning the skill which created dividends when it came time for actual performance. Their peers who felt that the activity was defined as gender masculine did have high expectations for competency and did not achieve the same performance outcomes.

This study reaffirms that educators must work diligently to combat the stereotypical beliefs that many individuals have with respect to the gender appropriateness of physical activities in order to maximize the potential for positive outcomes in developing a wide array of motor skills.
REFERENCES


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


A FRAMEWORK IN WHICH TO UNDERSTAND

FEMALE PHYSICAL ACTIVITY CHOICES

Females, beginning at an early age, under-value and underestimate their
capacity (and potential) for competency in physical activity. This view
is shared by others in society, including male peers. As a result, a girl’s
competency in physical activity constantly falls further behind her male
peers. She may select only activities that are traditionally female, or
worse, be turned off physical activity altogether. (National Task Force
on Young Females and Physical Activity, 1988).

Like the cycle of poverty, lack of participation and proper support lead
to poor performance, which is then manifested in perceived
incompetence and refusal to participate. (Vertinsky, 1995; 233)

Not to have confidence in one’s body is to lose confidence in oneself..
(Simone De Beauvoir, 1952)

As students move through the educational system, from kindergarten to
elementary school, middle school, high school, and beyond, many alarming trends
have come to light. Among them is one with dire long term health consequences. More
than 60% of adults do not participate in regular physical activity, and 25% of all adults
are not active at all (Centers for Disease Control, 1996). Unfortunately, many people
grow less eager to try new things as they age, further, if a physically active lifestyle is
not developed early, the chances of one developing this life style later becomes even more precarious (Blair, 1992; Walling & Duda, 1995).

Although many males may not participate in active physical activity patterns later in life it is more imperative to discuss this issue in relation to females. That is because females do not participate in physical activity or sport to the same extent as their male counterparts. Moreover, fewer females leave school having at their disposal the skills to expand their possible activity choices. This disparity is compounded later in life since typically they have less time to pursue leisure avenues compared to their male peers (Colley, 1987). With the possible positive health benefits of physical activity in terms of enhancing one’s life, this finding is very discouraging.

Vertinsky (1995) in summing up the literature that has been presented to explain this lack of participation by females in physical education and sport, found that by Grade 8 dissatisfaction and disinterest deepened for females to the extent that they virtually all dropped out by Grade 11. Not surprisingly then, Mitchell (1996) found that when students are given the opportunity to withdraw from physical education in the later years of their secondary education many do not opt to take physical education as an elective. When females drop out of physical education many of them express a life long distaste for physical activity. The reason that students may or may not be motivated to participate in physical education has not been well examined (Lee, 1991; Silverman, 1991). Yet, the question of why some people want to achieve within the context of physical education when others do not, has formed the basis of some inquiry
within physical education research. But there are a multitude of reasons that may intertwine to create this situation.

Impacting participation decisions are conceptions of self and one's relationship to the environment in which one lives. It is clearly evident that there will be no simple answer that explains why, and to what degree, someone will choose to be physically active or inactive. Of significance as well, is the timing of this profound change in females activity patterns, and any answer that is proposed must account for where the individual is developmentally. It may be postulated then that complicating individual participation choices will be the rippling effects that one's decision has on others around them, just as the decision had to be mediated within the confines of what is considered 'appropriate realm of behavior' within that specific cultural milieu. Consequently, these questions can, and likely must, be examined from many different perspectives. It will be the intention of this paper to examine some of the theories that have been proposed to answer this question of what compels females to participate or fail to participate in physical activity. Determining the answer to this problem may be very difficult. The constructs that will be examined are not always clear, and any behavior that is displayed can not easily explain intention. The picture will be convoluted due to the fact that humans, and humans in interaction, are very complex and diverse beings.
Gender and Sport Socialization

McPherson (1982) has stated that socialization is “a process whereby individuals learn skills, traits, values, attitudes, norms, sanctions, knowledges, and dispositions associated with the performance of present or anticipated social roles” (p. 250). Sociologists have identified three main elements in the socialization process: significant others, social situations, and role learners (McPherson, 1982). Although the concepts intertwine, gender role socialization takes place before sport socialization because sport typically reinforces gender categorization. Thus the discussion must begin with gender role development.

One of the most prolific researchers discussing gender and sport socialization has been Greendorfer (1979, 1983, 1987, 1993; Greendorfer & Bruce, 1991; Lewko & Greendorfer, 1988). Greendorfer has identified how the earliest life experiences will profoundly effect one’s future perspective. The lens which will filter all new information will almost invariably become clouded with either a pink or blue hue.

Society, through the influence of parents first and foremost, focuses on differences rather than on the similarities of being a certain sex. Children are quickly labeled, and immediately become burdened with all the baggage that comes along with that label, which is passed on through differential treatment and expectations. Children are in effect gendered. Or as denoted by Doty (1993), “Gendering is part of socialization in that it determines the parameters of what will be experienced, yet it is likewise a matter of individual experience in that the individual will realize only a few
of the social meanings of the overall concept” (39). One social meaning is that the world may appear (because in many ways the world is sexist) male dominated with female subordination, sport perpetuates society (Kane & Snyder, 1989). Within a male dominant society males are more valued and thus activities that are for men also hold more value (Bryson, 1990; Vertinsky, 1992). Children are far from immune to this societal value system, which is expressed through how they are reared. It is after all, the parents who decide which toys their children will have access to, whom they interact and play with, and parents are the earliest and perhaps most profound role models of future behavior. Consequently, parent’s effect on the decisions concerning physical activity choices later on in life are enormous.

As infants, parents’ handle boys and girls differently; girls are handled more carefully and protectively and are watched over more closely. In contrast, boys are ‘thrown around’ more, are given toys requiring more activity and motor skills, and are allowed more freedom in exploring their environment (Lewis, 1972a, 1972b). As children grow, they continue to be socialized differently. These differentiating socialization practices will eventually result in behavioral patterns. In a study by Clark, Wyon, and Richards (1969), for example, it was reported that nursery school girls spent more time with fine motor skill manipulation tasks while sitting at a table, whereas boys preferred gross motor skill activities.

One groundbreaking study on children’s physical activity patterns was conducted by Lever (1976), who was able to identify six clear differences in the play
habits of boys and girls. First, boys play outside more than girls, which allows opportunities to move in larger spaces and roam farther from home. On the other hand, body movement and vocal expression had to be constrained for the girls, who played indoors. This freedom, according to the author, increases their independence. A second finding was that when involved in social play, boys played in larger groups more often than girls. While group size is partly restricted by the indoor play habits of girls, the author also found boys playing more team sports which require larger numbers of participants.

Other findings of the Lever (1976) study related to the age of the play group, the consequences of sex inappropriate play, the level of competitiveness, and the length of time involved in a play session. As compared to girls, boys played in more age-heterogeneous groups, with the younger children trying to keep up with the older ones, learning to be tough in the process. In contrast, when girls are engaged in age-heterogeneous group play, the older children tend to reduce the level of play for the younger children. Lever attributed this pattern of behavior to the female’s role of learning child care and nurturing skills.

It was found that girls will play in predominately male games more often than boys will play in girls’ games. The author suggested that girls are usually accepted by boys for team play, especially if enough boys are not available. In addition, the author theorized that girls are not punished as early or as severely for sex-inappropriate behavior.
The boys were involved in competition more often than the girls, selecting games governed by a set body of rules and having competitive interactions. Girls’ play on the other hand can be described as cooperative interaction that has no explicit goal and no winners. Finally, boys’ games last longer than girls’ games. The author attributed this finding to a higher ceiling of skill in boys’ games, a possibility that boys find their games more challenging, and resolve their disputes more effectively.

The Parents Role

There is considerable evidence that parents play an important role in their children’s socialization into sport and physical activity (Berlage, 1982; Brettschneider, 1989; Coakley, 1987; Weiss, & Glenn, 1992; Wood, 1985). Coakley (1987) argues that while girls in Western culture are not discouraged from sport, their play time is more regulated by their parents and they are less likely to learn that physical activities and achievements in sports can be uniquely important sources of rewards in their lives.

Because of the important parental role there has been some research completed to explain why some parents may be more inclined than others to encourage their child(ren)’s involvement in physical activity and sport. The continuity theory (McPherson, 1983), as articulated by McPherson, Curtis, and Loy (1989) provides one potential explanation. Parents who participated in sports as children and found activity enjoyable are more likely to encourage activity for their child. If the parent did not find the activity enjoyable, they are less likely to encourage the activity. Parental involvement and enjoyment seems to be significantly linked to female participation
patterns. According to Gregory and Colley (1986), parental participation in sport led to increased involvement of their daughters. In a large scale study girls participation rate was found to increase by 22%.

Parents' reference groups according to McPherson and his colleagues also provide role models. For example, if other parents in the neighborhood are encouraging their children to become involved in sport, even parents who have no direct experience or involvement with sport may also push their child in the same direction. Finally, McPherson, Curtis, and Loy (1989) offer the deprivation hypothesis, as a reason for parents to give their children more opportunities than they had as children to engage in physical activity. Following this line of thinking the parent's goal is to compensate for activities or experiences they missed as children. Thus the family functions as the major socialization institution by “confirming ascribed social status, providing economic and emotional support, providing role models for the internalization of values, knowledge, and behavioral association involvement (youth sport groups)” (Loy, McPherson, & Kenyon, 1978; 221). Taken together these factors provide a framework that influences the way parents socialize their children.

Children’s perceptions of their parental influence toward their involvement in sport appears to be more important than the actual opportunities and support offered by parents (Babkes, Brustad, Lando, & Bouchard, 1998; Babkes, & Weiss, 1997). Weitzer (1989) conducted a study examining the relationships between fourth-grade children’s perceptions of their parent’s influence in their sport involvement. The girls in the study
related higher perceptions of personal competence in sport to greater parental influence. In addition, greater parental influence was associated to higher levels of involvement in sport for both boys and girls. It appears that parents are influence their children’s motivation, perception of competence and hence future achievement (Brustad, 1992, 1993, 1996, 1998).

Learning about Gender Appropriateness

The end result with respect to future sport socialization is that children in elementary school are aware that active sports are considered to be masculine - for boys (Greendorfer, 1993). This is because boys are rewarded for sport participation and motor skill development to a greater extent then are girls. Consequently, males in elementary school have already developed narrow views of gender appropriate physical activities that become even more defined as they move from kindergarten to the 6th Grade (Ignico & Mead, 1990; Pellett & Harrison, 1992), and beyond. Styles of play and the choices of activities that children have available to become involved in begin to become set even by the age of four (Greendorfer, 1993). An obvious example of this is displayed when communities set up football camps for five year old boys complete with a five year old girl cheerleading squads. Thus roles are set early, and the actor versus spectator relationship becomes salient.

Similar to girls not being involved in physical activity there are also boys who choose not to participate. It is important to unravel what the socialization process of males who do not participate in sport might be. There is literature to suggest that the
importance of sport participation to the conception of a 'male identity' and the social status of males is paramount. Fasteau (1980) implies that the non-athletic boy feels inadequate, and will consequently quit (with a general contempt for sport) or set standards that they know they will never be able to fulfill. As a result, these boys may also avoid situations where their ability would be under scrutiny or risk ridicule from parents, coaches, teachers and peers for being less able (Colley, 1987), in effect failing at the socialization process.

Thorne's (1995) ethnography, Gender Play, like Lever's (1976) work, truly exhibits how the beliefs about being a boy or a girl are played out through gendered patterns of activity. Conceptually this has been presented in Iris Young's Throwing Like a Girl, where girls do not learn to seek out and explore their environment and the capabilities of their body as boys do, and thus, movement over time becomes restrictive, paralleling beliefs about other behavioral choices. This framing of the world from a gendered perspective forms the basis of a gender self-schema.

Self-concept and Self-schema

The way individuals view themselves in relation to others in terms of special abilities, achievements, priorities, and physical appearances make up the self-concept. Self-concept is organized bits of information about the self used to establish, categorize, evaluate, and explain behavior (Harrison, Lee, & Belcher, in review). The more a person invests their state of identity with an activity the greater will be their motivation within that activity (Biddle, 1997). This identity definition may form the
basis of self-schema development. Self-schema development is an important theoretical construct that links specific psychological experiences into a social context (Biddle, 1997; Markus & Nurius, 1987; Stein, 1995).

Evidence that supports self-schema¹ (Bem, 1981; Harrison, Lee, & Belcher, 1997; Markus, 1977; Pissanos & Allison, 1993) is apparent to concepts of appropriateness of physical activity choices (Csizma, Wittig, & Schurr, 1988; Lee, Fredenburg, Belcher, & Cleveland, in review), and estimates of how successful one can become while being involved in different types of activities (Lee & Austin, 1986; Lee, Nelson, & Nelson, 1988). Not only does self schema define a past and present self it also mediates the future possible self (Markus, & Nurius, 1987).

Pissanos and Allison (1993) define gender self-schema as the cognitive structures that contain both children's knowledge about and attitudes toward gender-related issues, and any self-defining characteristics that pertain to gender. Bem (1981) theorizes that the basis of gender schema is rooted in society's view of the gender dichotomy and insists that gender appropriate conduct is present in practically every domain of life, of which sport and physical activity are no exception. Cross and Markus (1993) believe that virtually every facet of life is framed through these gendered schemas. As Oglesby (1989) asserts, for girls sport activity schemas would

---
¹ Self-schema has also been an useful construct for activity preference based on race (Harrison, 1995; Harrison, Lee, & Belcher, in press), and there is evidence that physical activity itself may form the basis of a self-schema (Kendzierski, 1988, 1990, 1994; Kendzierski, Furr, & Schiavoni, 1998).
be marked as the 'not me' especially at puberty when the ability to remain labeled a
tomboy diminishes. Due to the high regard given to sport within the greater American
culture its influence is persuasive. Wherein “Sport serves as a crucible for the
inculcation of traditional values regarding competence and gender” (Landers & Fine,
1996; 87).

Sex-Typing of Physical Activity

The influence of traditional values that are infused with respect to physical
activity and gender leads to recurring views about the sex-appropriateness of
involvement in physical activity and sport. Research on sex-typing of physical activity
choices (Clifton & Gill, 1994; Csizma, Wittig, & Schurr, 1988; Kane, & Snyder, 1989;
Lee, Fredenburg, Belcher, & Cleveland, in review; Lirgg, 1993; Matteo, 1986;
Methany, 1968) has indicated consistent trends in beliefs about sex-appropriate
physical activities. Decisions about what would constitute a sex-appropriate physical
activity hinge on conceptions of masculinity and femininity.

Masculinity and femininity are socially constructed notions that are usually
placed in a polar - dichotomy. Klein (1993) states that, “Gender polarization aids in the
creation of all sorts of hierarchies between genders as well as within them” (269). The
characteristics that are ascribed to define femininity and masculinity consequently
become rigid and will limit the ranges of choices that one might have otherwise held
for themselves. Overtime, the constructiveness of these beliefs begins to appear as
natural and voluntary phenomenon as opposed to as created distinctions which are
perpetuated through implicit control mechanisms (Bartky, 1988, 1991; Theberge, 1991). Subsequently, particular sports are hypothesized to communicate particular character traits to both the audience and the performer. Preference for a particular sport is hypothesized to be related to its underlying symbolic value (Sadalla, Linder, & Jenkins, 1988). The effect of holding sex-stereotyped views becomes very influential in future decisions about participating fully in a multitude of different physical activities and similar trends have been reflected in research concerning girls participation in math and science which have also been assigned as masculine pursuits.

Typically feminine activities are ascribed with attributes of aesthetic, graceful movement qualities while masculine activities are ascribed with strength and power. Accordingly, figure skating, dance, and gymnastics are made to fall in the feminine domain and football, basketball, and soccer fall within the masculine domain. Bell (1986) found that girls or woman who enjoy the activities of tennis, swimming and golf (more female appropriate) were under less pressure to relinquish sport involvement than if they were to participate in basketball or softball. Team sports thus typically will receive the label of masculine more often then feminine which is also displayed in early children play patterns, where boys will play in larger and girls in smaller groupings.

Due to social influences males hold more stringent views about the appropriateness of physical activities prior to elementary school. Through reinforcement in most educational systems, these views become even more pervasive
with time. Consequently, males sex-type physical activities more often and more extremely than females (Colley, Nash, O'Donnell, & Restorick, 1987).

Children are left to believe that there is a naturalness to this sex stereotyping which make each sex more inclined to gravitate toward specific activities and also be more proficient at them. Then, there is a greater need for validation of gender differences, which becomes stronger for those who would use the same rationale to define themselves (Koivula, 1995). Once adopted, many children feel they must defend their choices and the definition utilized to make the choice becomes unalterable because it goes to the root of their identity. For example, males, especially those who give themselves greater masculine characteristics, stereotyped sports as masculine or feminine to a greater degree (Koivula, 1995). This is evidenced in a study by Houseworth, Peplow, and Thirer (1989) who found that male athletes from both contact and non-contact sports held more conservative stereotypical attitudes toward women in sport than did their non-athlete peers.

The learning process for young males that leads to participation in sport, exercise, and physical activity is consistent with Western society's definition of masculinity where behavior is portrayed as aggressive, competitive, and tough (Streitmatter, 1994). Societies view of masculinity helps to condition males to embrace these qualities and work toward feelings of dominance, self-confidence and a willingness to take risks (Bell, 1986). Fasteau (1980) found that "pressure from parents, nearly always fathers, peers, and other male adults, result in a skewing of
values which tend to make sports a compulsion for many boys, the mandated center of their lives" (45).

Sport is presented then as part of the male domain (Beezley & Hobbs, 1993; Bell, 1986; Kidd, 1990; Klein, 1988; Nelson, 1994). Based on this perception, which is typically emphasized, reinforced and expanded by parental attitudes (McCoy, 1990; Miller & Levy, 1996), teachers (Griffin, 1985b; Griffin, & Genasci, 1989; Hay, & Donnelly, 1996; McBride, 1995; McCoy, 1990; Meece, 1987; Olivares, & Rosenthal, 1992; Parker-Price & Claxton, 1996; Pissanos & Allison, 1993), coaches (Landers & Fine, 1996), and peers (Griffin, 1983, 1984, 1985a; Maccoby, 1990; McCoy, 1990; Wang, 1978), children learn early to believe that participation in sport is more gender appropriate for boys (Brustad, 1996; Pissanos & Allison, 1993; Talbot, 1986; Wright, 1996).

The Masculine Curriculum

During school years the gender roles developed at home are strongly reinforced by the curriculum, (both explicit and implicit), teachers, peers, and extra-curricular choices and opportunities. It becomes quickly evident that physical activity is of more value to boys, and is for boys. Further, the more masculine the activity the more valuable it is both within the school and the community. The prestige and power associated with being an active participant in the sport of football in many communities is a good example (Bissinger, 1993; Winningham, 1979).
Within physical education when compared to the active male body the female body is often framed as lacking the qualities necessary for success in many sporting activities. Consequently boys get more experience and reinforcement for sporting activities and will typically rate themselves as being more athletic than girls (Mullan, Albinson, & Markland, 1997; Pallas, Entwisle, Alexander, & Weinstein, 1990). The participation and subsequent reinforcement lead to males having higher perceived competence in sport activities (Feltz & Petlichkoff, 1983; Granleese, Trew, & Turner, 1988; Mullan, Albinson, & Markland, 1997; Williams & Gill, 1995). On the other hand Tanaka and Westerman (1988) found that physical competence was not valued by the girls in their study. Even in a population labeled as physically awkward the males likewise have higher perceived physical competence than females (Cusgrove-Dunn & Watkinson, 1994). Not surprisingly then, few girls aspire to careers in sport or athletics (Jaffee & Bergeron, 1994), nor do they rate physical competency as important (Chandler & Goldberg, 1990; Chase & Dummer, 1992; Harter, 1997; Kennedy, 1996; Thirer & Wright, 1995).

Physical education, as it is typically conceived in American schools, is dominated by curricular choices and instructional practices that are labeled masculine (Satina, et al, 1998). This may, in part, explain why boys' perceptions of physical education classes are typically more positive and their activity levels are higher (Anderssen, 1993). Girls in many co-educational physical education programs face ridicule, embarrassment, and limited opportunities (Griffin, 1984; Humbert, 1995).
In examining fourth graders out of school activity participation Faucette, Sallis, McKenzie, Alcaraz, Kolody, and Nugent (1995) found that boys often participated in baseball, football, and basketball (team sports), while girls participated in gymnastics, jump rope, and dance. Their finding is consistent with the play patterns identified by Lever (1976) and reinforces the masculinity-femininity dichotomy of physical activities. Even in high school, boys and girls segregated themselves into what they perceive to be gender appropriate activities when they were given a choice of curriculum, with the girls choosing personal fitness and boys physical training (Ennis, Cothran, Davidson, Loftus, Owens, Swanson, & Hopsicker, 1997).

The views about gender appropriateness of physical activity choices extends beyond the school years. Snyder and Sprietzer (1983) found a favorable public opinion concerning female participation in tennis, swimming, and gymnastics, but reservations concerning basketball, softball, and track. Although this research was not linked to the concept of sex-typed activities, the difference in perceptions across these activities can be attributed to stereotypical views.

**Consequences of Sex Typing**

Sex typing of physical activities has a greater detrimental effect on females than males. It has been shown that elementary males hold higher perceptions of their ability in all sports except tumbling (Wigfield, Harold, Eccles, Aberback, Freedman-Doan, & Yoon, 1990), and despite past performance success for females in tumbling they maintained lower expectations for future success than males (Eccles, Adler,
Futterman, Goff, Kaczala, Meece, & Midgley, 1983). This is unfortunate since children who underestimate their own perceived competence will likely maintain only low levels of physical achievement and are at a higher risk of dropping out (Weiss, & Horn, 1990).

Lirgg, George, Chase, and Ferguson (1996) examined the direct impact of conceptions of ability on self efficacy with regard to sex typed physical activities. Using activities that were sex-typed by their subjects as masculine and feminine respectively, Kung Fu and baton twirling these researchers studied the extent to which sex typing would impact self-efficacy. The subjects were then placed in one of two conditions, and were informed that ability was either a learned process or was innate. Regardless of the conception of ability or the nature of the task, males reported higher self-efficacy. Females in the learning conception male task group showed higher efficacy than their counterparts who had placed in the innate conception male task group. Conception of ability was not a factor related to self-efficacy in baton twirling, the task labeled feminine. This experiment did not have the subjects actually attempt the task to determine any effects on learning the task.

In contrast Thuot and Martin (1998) asked subjects who identified the game of tennis and the skill of the tennis serve as gender neutral to estimate their serving performance. While females reported significantly lower performance estimates and self-confidence than did the males, their pre and post performance scores did not differ. Taken together the literature reviewed suggests that sex-typing of activities can
have a profound effect on self-perceptions of confidence, which in turn might affect future attempts at learning an activity.

A goal of a recent study by Lee, Fredenburg, Belcher, and Cleveland (in review) was to determine elementary students' reasons for the sex-stereotyped views they held of gender appropriate types of physical activities. The students responded that social acceptability was at the heart of the matter, explaining that it was accepted and expected that boys should value and aspire toward basketball and girls toward dance. Many children pointed out that individuals holding contrary beliefs about the appropriateness of these activities would risk some form of social penalty. This is discouraging, since limiting their physical activity choices to activities that are stereotyped as typical feminine sports, females have far less choices to draw from. While females' participation in sex-inappropriate activity is often more condoned than males' participation in feminine stereotyped activity, both girls and boys are beseeched into accepting what others consider to be appropriate behavioral choices or face the repercussions that may take place. The characteristics ascribed into femininity and masculinity thus work to restrict the realm of possible self choices.

There is evidence to suggest that as girls enter middle school they turn even further away from involvement in physical activities. Savin-Williams, Bolger, and Spinola (1986) offer an interesting speculative reason for this shift. They feel that in adolescence there is more social pressure on girls to act 'ladylike' (with a narrow range of behavioral choices) after pubescence. To be a ladylike, girls are conditioned to
select some physical activities and avoid others. Some girls in an attempt to keep a competitive sporting life will limit their choices to those activities considered more feminine like swimming, tennis, golf and gymnastics (Harris, 1980). Females are thus, pressured to chose between being a lady or being an athlete (Hart, 1980). Or as Boslooper and Hayes (1980) tell it, “At some magical moment, usually determined by adolescent alterations in their bodies, girls are expected to trade in their tennis shoes for glass slippers” (214). So that by the age of 13 boys are undergoing an “apprenticeship of violence” while girls “are forbidden to venture, to compete physically, to extend the limits of the possible and to assert themselves above other people” (Bell, 1986; 145). As the adolescent females’ body matures she finds that her ‘femaleness’ becomes more and more reinforced by those around her; her parents, teacher, coaches and especially her peers (Harris, 1980). Thus, the middle school adolescent girl feels incumbent to de-emphasize her interest in masculine pastimes, such as sport.

This pressure for students to conform in the physical arena is allocated typically through a hierarchal peer system that circumscribes the value and social acceptability of various activities, often at the expense or reward of social popularity. As a consequence, at the middle school level, the most important sport activity for females is cheerleading and dance team, while for boys it is football and basketball (Eder & Parker, 1995; Weinberg, 1997). Michener (1976) was bewildered by the emphasis and
desire that the activity of cheerleading held for girls, but the pervasiveness of the process of gender socialization coupled with peer pressure is indeed potent.

Peer Pressure

Physical education is rapidly becoming a place where students learn how they are to perceive of themselves and assimilate their role possibilities or limitations. Unfortunately, the literature suggests that possibilities are typically constructed for males and limitations are created for females. These limitations are typically based on socially constructed constraints and are more related to behavioral expectations than to physical ability. Child development literature indicates that the junior high years are characterized by the social domain among peers and it could very well be that physical education, by its interactive nature, is providing an avenue for that social interaction (Stewart, Green, & Huelskamp, 1991).

By the time children complete elementary school they are able to shift their attention from structures, tasks, and schedules, to their relationships with people. Thus it is found that students selective perceptions of what is significant in the school environment differs from what teachers (LeCompte & Preissle, 1992; Weinstein, 1983) parents and researchers (Oldfather, 1995) hold as important. Initially students attend to both teachers and peers and beginning in middle school they focus their attention almost entirely on their peers and on their interpersonal relationships and peer networks (LeCompte & Preissle, 1992). This is shown in a study by Juvonen and Murdock (1995) who found that fourth grade students showed high effort in an attempt...
to gain approval from both teachers and peers and those students who were in grade
eight became reluctant to be perceived by their peers as expending effort at school to
please the teacher.

Even while they reinterpret, negotiate, and resist the meanings and
status implications of their social identities based on categories salient
in the peer culture - jocks, greasers, socies, hoods, lads, to name but a
few- youth often unreflectively reproduce the distinctions that govern
how esteem is distributed in the larger social context (Shaw, 1994; 92-
93).

There is considerable research that has shown a link between students’ social
relationships and their beliefs and behaviors in schools (Epstein, 1983, 1989; Jovonen
& Weiner, 1993; Urdan & Maehr, 1995). Although people do not necessarily become
what others think of them, they do use others as a referral system in the construction of
their ‘self’ s’ (Baumeister, 1998). Consequently, many adolescents fixate easily upon
the nature and extent of social expectations for females and males in the social groups
to which they attach themselves (Vertinsky, 1995). Since adolescents have a need to
belong as well as developing identity they readily form social attachments that become
difficult bonds to break (Baumeister & Leary, 1995). Standard prestige models for
youth in American culture encourage participation in a narrow range of activities
confined mainly to the school (Shaw, 1994). Clearly adolescents are aware of the
status differences associated with different sub-cultural identities within their peer
society.

Adolescents find security in being part of a social group at a time when
identities are being shaped or reshaped. In a study describing how middle school
students form their own groups, Smith and Goc Karp (1996) state that "As these groups formed, exclusionary tactics were used to protect membership, maintain group boundaries, establish power, maintain status and friendship, and exclude unwanted persons, those deemed physically inept or socially unpopular" (38). It appears that students select and re-select friends on the basis of similarity of educational beliefs and achievement levels and their proximity to each other (Urdan & Maehr, 1995).

Social Goals

Attempts to understand why students are not motivated to achieve in today's schools have led to the development of social systems (King, & Allen, 1995; Smith, & Goc Karp, 1996) and social goals (Hayashi, & Culp, 1998; Schilling, & Hayashi, 1997; Urdan, & Maehr, 1995; Wentzel, 1989, 1991, 1993, 1994, 1998; Wentzel, & Caldwell, 1997; Wentzel, & Wigfield, 1998). Allen (1986) found, for example, that students had two major goals, 'socializing' among others in the class and 'passing the course' which would meet the expectations of the school. Female students in physical education, find little value in the experience, may feel alienated in their classes, and seem to be more inclined to use the time as a social opportunity (Carlson, 1995; Griffin, 1984, 1985; Hastie, & Pickwell, 1996; O'Sullivan, 1989; Sparkes, 1997).

Achieving a good grade in this often peripheral subject area is not considered a strong incentive (O'Sullivan, 1989), and consequently teachers have difficulty holding students accountable for instructional and/or managerial tasks (Hastie, & Pickwell, 1996). Students seem to be motivated by their own interests, which in physical
education is maintaining peer group status. Failure to do this puts one at odds with peers, many of whom feel that conforming to adult norms would constitute a negative peer interaction behavior, although it may place one in a positive position with respect to the teachers (Allen, Weissberg, & Hawkins, 1989). Consequently, not to perform the expected behaviors at the right time may "mean the difference between being accepted into a social group and being rejected or excluded from the group" (Sparkes, 1997; 93).

Athletic Involvement and Social Status

Many male students report high levels of status among their peers based on their athletic involvement (Chandler & Goldberg, 1990; Coleman, 1961; Duda, 1987; Eder, & Kinney, 1995; Eitzen, 1976; Kennedy, 1996; Spreitzer & Pugh, 1976; Thirer & Wright, 1985; Thorne, 1995; Williams and White, 1983). Starting in elementary school boys achieve higher status based on athletic success (Adler, Kless, & Adler, 1992), and involvement. As they age the development of social status based on physical competence and ability becomes even more salient. Bull (1985) found that male athletes held higher status among their peers across four age groups: grade 9, grade 12, first, and fourth year of university. Further, not only did sport activity convey status, it also was an important basis for self-identity, especially for sports considered to be more masculine (Bissinger, 1990; Holland & Andre, 1994; Kleiber & Kirshnit, 1991).
Meanwhile for females physical competence is not as valued (Thirer & Wright, 1985) and social rewards are more often given for academic success (Kennedy, 1996) or for being part of a popular social group (Chandler & Goldberg, 1990; Eder, 1985). One criteria important in the social hierarchy for females is to limit participation to activities that are considered gender appropriate. Students apply peer pressure to discourage non-sex stereotyped choices.

Physical self-presentation and social support were more important sources of confidence for females than males, emphasizing that body image along with social approval from others is learned to be important for females when participating in sport. Female athletes learn that maintaining socially defined feminine qualities affords them social acceptance and approval due to the emphasis placed on how women look in our society (Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998; 67).

Given societal stereotypes about sport involvement, individual’s choices of physical activities may be affected by their perceptions of the self-presentational implication of participating in various activities (Leary, 1992).

Men and women alike may forego participating in certain physical activities because other people associate these activities with the other sex (Jackson & Marsh, 1986). For example, many men seem to be concerned about the image they would present if they were to become involved in dance or ballet, or even aerobics and women worry about the perceptions others would hold of them if they were to participate in boxing or weight training (Leary, 1992). Harris (1980) feels that this constitutes a “crisis in adolescents when the female athlete perceives the disparity between how she sees herself and how society expects her to be” (228).
Social Cognitive Theories of Behavioral Choices

Social cognitive theories focus on an individual’s thought processes in relation to their perceptions about the environment that they find themselves. These theories would emphasize the role that students’ perception, motivation, affective processes, and attention play in achievement (Lee, 1996), combined with such external stimuli as expectations from parents, evaluation from peers, and feedback from coaches and teachers (Weiss & Glenn, 1992). Hence, student thought mediates learning and thus one’s beliefs shape one’s activities (Lee, 1996; Peterson, 1991). It can be said then that at the root of motivation is one’s sense of self (Maehr & Midgley, 1996).

Motivation

Motivation provides the foundation for learning, skill development, and behavioral change by determining how, where, and to what ends people will invest their capabilities for behavioral self-construction (Ford, 1992). Many theories of motivation have been postulated to attempt to explain the factors that govern why people participate in any number of given contexts (for a review see Ford, 1992). The theoretical frameworks developed to explain motivation to learn within the physical education setting include Bandura’s (1986, 1989) theory of self-efficacy; Harter’s (1981a, 1981b, 1982) competence motivational theory; Eccles, Adler, Futterman, Goff, Kaczala, Meece, and Midgley’s (1983) expectancy-value model of achievement; Weiner’s (1985) attribution theory; and achievement goal theory (Ames, 1984; Dweck & Elliot, 1983; Maehr, 1984; Nicholls, 1984; Treasure & Roberts, 1992). Thus, social
learning theory has combined internal characteristics held by the individual and their perceptions of the external milieu in which the learning is to take place.

Most learning opportunities in physical education are highly visible to others. The influence that others have on one’s ability to learn or engage in learning opportunities therefore becomes even more salient. People are effected and affected by what they think others think of them and this in turn may alter their behavior in sport and exercise settings (Leary, 1992).

**Achievement motivation** While no single motivational theory exists to explain all achievement behaviors, much has been learned about the cognition which impact and enhance achievement behavior (Prawat, 1992; Roberts, 1992). Most notable has been the social cognitive theories that link confidence to achievement (Lirgg, 1992).

Ford (1992) defines achievement as the attainment of a goal that is socially or personally valued within a particular context. Eccles et al (1983) theoretical model of achievement related choices consist of a self in society who will then make achievement choices as a result of their perceptions of them interacting with their environment. Many agree (Halpern, 1992; Deaux, & LaFrance, 1998), that Eccles et al’s (1983) model has thus far been one of the most comprehensive in explaining sex differences in academic achievement.

It takes into account factors of expectations for success (both from an individual’s and others’ perspective, the subjective value attached to each option, how gender roles are conceived, and other ‘identity’ concerns (Deaux, & LaFrance, 1998).
Consequently it links together goals, motivations, self-definition, and perceived costs. The model includes both internal and external factors which lead to expectations of success based in part on perceived competence and past experiences, and the level of personal affect that the choice to achieve in an endeavor may require or bring. Duncan (1993) has suggested the strength and importance of these affective relationships are valid determinants of future expectancies and choice of activities. She also suggests that affect is built through high expectations of success, esteem support and companionship from peers, feelings of personal control, and prior experience with physical activity.

One aspect of the Eccles et al. (1983) model links the specific gender self-schema and racial self-schema to the socialization process that exposes the individual to a narrower range of alternatives for behavior. When the child encounters a learning environment, interpretations of causal attributions and locus of control also come into play. These attributes link past experience and beliefs to actual aptitudes of existing abilities. The model has been particularly helpful in explaining the gender differences in academic achievement.

Behavioral decisions reflect success explanations derived from three perceptions: ability, value, and utility (Eccles, Barber, Upegraaff, & O'Brien, 1995). Chen (1996) concluded that a student's interest in a specific activity was linked to being interested in the activity and valuing the activity. An individual's choice to participate in sports has been found to highly correlate with self-concept of ability,
interest or enjoyment, and importance or usefulness that is attributed to involvement within that activity.

People tend to seek out opportunities, stay engaged in activity, and strive for success more while involved with things that they positively value. There are four dimensions to task value. Attainment value, which is the importance of doing well. Intrinsic-interest value which is built by holding feelings of interest and enjoyment in the activity in question. Third, is utility value. This implies that one feels that they have the ability to set and achieve both short and long term objectives that they feel working within the activity make it worthwhile. Lastly, there is the dimension of perceived costs in which one measures what is given up or suffered in order to work on the present task and basically asks the question “is it worth the effort?”. Remember as well that the perspective that a teacher holds for a student’s progress may not be interpreted the same way by the student would interpret the task value.

Perceived Competence: Self perception of ability refers to how one perceives their own ability or adequacy to confront a particular task or to perform a role appropriate behavior, and is typically weighted in response to others (Nicholls & Miller, 1984; Treasure & Roberts, 1995). Ford (1992) defines competence as the attainment of relevant goals in specified environments, using appropriate means and resulting in positive developmental outcomes. This perceived competence strongly mediates conceptions about one’s ability to learn. Less well known is just how profoundly this might effect their actual ability to learn. Learning a task in an
educational setting is not an isolated endeavor, it is contextual, it takes places within a very specified social arena.

Research has determined that self-perception of ability is multidimensional in nature (Harter, 1982), domain specific (Harter, 1982), situational specific (Feltz & Brown, 1984; Pajares, 1996), and amendable to intervention (Goodway & Rudisill, 1996; Goodway, Rudisill, & Blume, 1995; Rudisill & Goodway, 1996).

The strength of perceived competence in relationship to its effect on many aspects of involvement and achievement within sport and learning of physical activity has been well documented in the literature, along with its relationship to self-esteem. Hence, Hall and Kerr (1997) concluded that it is critical to study young athletes’ perceived competence in order to more fully understanding patterns of athletic investment, performance-related cognition, and participants’ affective responses to participation in physical activity.

The importance of this construct has gained momentum since Dale, Corbin, and Abadessa, (1997) found that both boys and girls who held higher physical competence beliefs in relation to their peers were more vigorously active. It was also found that students who valued physical competence would be more likely to have a higher perception of their own perceived physical competence. In contrast low perceptions of ability are related to negative attitudes toward future learning and result in avoidance of the learning tasks at hand (Bandura, 1986; Lee, Carter, & Xiang, 1995).
Identity Development and Impression Management

Many theories of motivation have been influential in determining what drives some people more than others to succeed. Although these achievement related motivational models have been effective, perhaps a model that better examines females participation, or failure to participate in physical education and sport will be a motivational framework that is based on ‘impression management’.

Impression management, also called self-presentation, is a theoretical framework that encompasses and incorporates a decision making process based on issues of identity, socialization, goals, values, and self-development. The model combines internal processes and external influences. McAuley and Burman (1993) add credence to the usefulness of this framework because “Exercise and physical activity settings provide ample opportunities to be evaluated by other people and consequently these self-presentational processes may well be in operation as frequently as they are in other social settings” (1049).

Self presentation refers to the process by which people monitor and control how they are perceived by other people (Leary, & Kowalski, 1990; Schlenker, 1980), as they attempt to convey information or images of themselves to others (Baumeister, 1998). Impression management incorporates “self concept, social identity, the relationship between the person and society, and the ways in which people influence themselves and others” (Schlenker, 1980; 6).
Through varied rewards and punishments (both interpersonal and material) people learn what impression will be more salient to significant others at the time one begins to rely on social comparison impression management gains strength. Making a desirable impression serves as a means of achieving two significant social goals, inclusion and status (Baumeister, 1998). Hence, the value of this model in relationship to adolescent peer group affiliations. The behaviors that one uses to transition through adolescents typically form the basis of the strategies that they will continue later in life. This can not always be articulated because as Pervin (1992) recognized, sometimes we are not conscious of what exactly it is that is motivating us.

Not only may the model explain present participation patterns exhibited by adolescent females with regard to physical activity, it may also foreshadow their future sport and physical activity involvement. Thus it may generate into a working framework to develop and implement future physical education programs that may modify participant behavior. Leary and Kowalski (1990; 36) present the impression management framework as consisting of two components; impression motivation and impression construction.

<table>
<thead>
<tr>
<th>Impression Motivation</th>
<th>Impression Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Goal-relevance of impression</td>
<td>* Self-concept</td>
</tr>
<tr>
<td>* Value of desired goals</td>
<td>* Desired and undesired identity images</td>
</tr>
<tr>
<td>* Discrepancy between desired and current image</td>
<td>* Role constraints</td>
</tr>
<tr>
<td></td>
<td>* Target’s values</td>
</tr>
<tr>
<td></td>
<td>* Current or potential social image.</td>
</tr>
</tbody>
</table>
The first component, impression motivation, seeks to identify the conditions under which people will choose to manage the impressions they would like observers to hold of them. This is an important component because sometimes even though someone may want to manage his or her impressions they do not do so (Leary, & Kowalski, 1990). The second component, impression construction, comes into effect when there is motivation to present a specific self presentation. So it asks “what do I need to do to present the image of myself that I wish to?”.

Even though many are concerned to some extent about the impression that others have of them, they typically do not try to control aspects all of the time. To do so would leave no time to do anything else and will likely have a labeled distinction in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). Thus, most people are not concerning themselves with the impression others may make of them at all times. What may materialize then is a distinction between a private and public self. In public appearances an individual feels compelled to expend energy to project desired images of themselves. Within the public sphere, the choice to manage impressions may be developed by ascertaining the situational and dispositional factors responsible for determining how attentive people are to information regarding how they are coming across to others.

While impression construction concerns are present the actual amount of self monitoring that occurs can be placed along a continuum. With one extreme being a sense of “subjective self-awareness,” where people are so involved in an activity that
they do not process self relevant information. This may be akin to having a sense of flow (Csikszentmihalyi, 1975, 1990, 1993), where a person is not the object of their own thoughts due to such an intense degree of embodiment. At the other extreme one may be 'unembodied' in which there is a hyper-consciousness of their body presentation and the creation of a false self (Laing, 1965, 1990). The body as object, is self-scrutinized, and consequently the impression others may be forming becomes more important than anything else.

Like other forms of behavior impression management is goal directed. Leary and Kowalski (1990) define the three interrelated but distinct goals as maximizing one's reward=cost ratio in social relations, enhancing one's self-esteem, and facilitating the development of desired identities.

The first goal is very much part of the expectancy value motivational framework (Schlenker, 1980). People expect to be able to gain something they desire by expending some of their resources. It is hoped that by being able to present an appropriate impression that some reward (a desired outcome) will be gained or some punishment will be avoided. The rewards can be interpersonal or material. In schools it is easy to see how a students' peer-teacher mediation fits in. The social reward of friendship with peers and the reward of a good grade from the teacher would be the ideal relationship to hold. Sometimes if one of these two goals becomes more salient then the other, it costs the student. In this case he or she will either have to join a new peer group or sacrifice a good grade.
Impression management serves the purpose of regulating a person's level of self-esteem in two ways. The first is to elicit positive feedback from others. Behaviors such as doing a particularly good job on an assignment are exhibited to solicit complements and praise which will help raise self-esteem. In contrast self-esteem is deflated by criticism. Not only is self-esteem affected by others’ comments and direct appraisal it is also affected by what one imagines another person’s reaction to them has been and on personal evaluations of performance.

Individuals strive to create and maintain a consistent social identity to present to relevant others within a particular social milieu. To this end, they will engage in “performances,” which are activities designed in order to create or sustain an impression or image (Featherstone, 1991). Examples may be: I am an exerciser, I am an athlete, I am a basketball player. It is believed that each of these identity constructions consist of character traits that then would have to be exhibited. When exhibited, these are in effect, identity roles being played out. Since people define themselves in part through social situations and the eyes of others, some of these identity roles appear fixed (i.e., gender roles) and others are the result of personal efforts and abilities (Schlenker, 1980). Roles, give an individual the motivation to exhibit behavior by influencing both direction and purpose.

In enacting a role there is in society certain perceptions and expectations for how the role will be exhibited (stereotypes). These stereotypical behaviors are based on a form of social agreement about the proposed attributes, and consequently “society
encourages and rewards proper role enactment and discourages out-of-role behaviors” (Schlenker, 1980; 68). The stereotypes from perceiver, form expectations and influence the behavior of the people attempting to enact the role (Geis, 1993).

Consequently, the reactions of significant others’ to one’s performance can mean the difference between an identity being confirmed or being denied (Sparkes, 1991). As people develop their identity they will typically take on the attributes and behaviors of the role they would like to display. Even though people hope to choose roles compatible with their interests, roles shape personality more that personal dispositions influence how a given role will be developed (Geis, 1993).

Endorsement for a role being played, comes from social validation. The person begins to receive benefits from their enactment, they then internalize the role more completely, and begin to ‘wear it well’, they are so comfortable with what all this role allows them to gain (Schlenker, 1980). Thus, they now believe that they can meet the expectations of the role and the privileges that come along with it. Rewards that are received by acting out a desired image will build self-esteem, whereas punishment without reinforcement from other significant actors will eliminate or cause the image to regress into the person’s unconsciousness. A cautionary note is offered by James Baldwin (1962) “The world tends to trap you in the role you play”. Thus one has to internalize both compensation and consequences that come with their identity development.
Most people have a certain ideal image of the person they would like to be. It is not enough merely to act like that person or to convince oneself that one resembles that person. *Identity requires social validation.* (Baumeister, 1998; 705).

The profound influence of society on individual development is thus highlighted. As the model shows, people are unlikely to devote themselves to activities that convey impressions that are inconsistent with their roles, values, or social norms (Leary, 1992; Leary & Kowaski, 1990).

Conclusion

The task of explaining why some people choose to participate in physical activity and other's do not is difficult to articulate in a comprehensive way. Many of the factors at work go to the very roots of one's existence. People are, at the same time, both what they make of themselves and what others would wish them to be. Identity, the self we think we create, is mediated by those with whom we interact.

Interactions during the early years seem to impact identity development the most. Early care givers are the first to introduce children to their possible worlds. Then over time children can choose to emulate some of the qualities that are afforded to them and abandon others. In addition to the early care givers students are influenced by siblings, peers, coaches, teachers, and many others within the community in which they grow up.

Much teaching for learning process in physical education is done publically. It is seldom that learners work independently to such a degree that others are not aware of how skilled someone else is. This publicity reinforces the impression management
as a framework because it is thought that “the more public one’s behavior, the more likely one is to be concerned with how it appears to others, and the more motivated one will be to impression manage” (Leary & Kowalski, 1990; 38).

What happens then, as a process of development, people can produce a number of different public images to try on. Each image has its own costs and benefits which make some more rewarding and others restrictive. But the possibilities are not endless and each comes with its own share of responsibilities. Within physical activity and sport perhaps the greatest impression management is done by those who are often made to feel the most disenfranchised by others in their attempts to participate in some form of physical activity or sport. For example, the women and men who challenge sex stereotyping in order to participate in a greater variety of different activities.

Physical education in its purest sense must provide a variety of movement experiences for boys and girls which run contrary to gender stereotypes (Leeman, 1986). O’Donnell (1995) indicates that a perceptual shift from gender inappropriate to gender appropriate is possible through the use and availability of role models. But ways of enhancing participation, must be arbitrated by the realization that adolescent peer-group subcultures have a powerful impact upon teenagers’ social identities (Vertinsky, 1995).

Additional References


Bull, S. J. (1985). Reasons for according status to the athletic star versus the academically outstanding person within the peer group at four academic levels. Paper presented at the Canadian Society for Psychomotor Learning and Sport Psychology Annual Conference (Montreal, PQ, October).


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


F. (Eds.), *Sport, men, and the gender order*. (pp. 211-221). Champaign, IL: Human Kinetics.


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


McCoy, D. B. (1990). The impact of socialization on personality formation and gender role development. ED340476


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX B
PILOT STUDY
PILOT STUDY

In a pilot study, 435 University students (299 females and 136 males) completed the Conceptions of Hockey Questionnaire Parts I and II. This data was collected by two research assistants who went into a wide variety of kinesiology classes. When the subjects completed Part I of the questionnaire those who were filling in an even numbered pre-coded questionnaire stayed in the room to watch videotape A (girl model). All subjects who had an odd numbered questionnaire moved to an adjoining room to watch videotape B (boy model). The videotape showed either a female or a male model performing the hockey wrist shot. The subjects then completed Part II of the questionnaire.

The questionnaires were surveyed to begin the process of identifying the learning groups for this study. Males were eliminated from this procedure because previous research literature suggests that the effect of perceptions of gender appropriateness of the skill and conceptions of ability does not mediate perceptions of confidence in males as profoundly as it does for females. The pilot study indicated that both females and males reported hockey to be a masculine sport or gender neutral not feminine (means; females 3.84, males 3.92 with 1= only for girls, 3=for both girls and boys and 5=only for boys). Significant differences were found in the following variables: perceived confidence for learning the skills of hockey (females=3.57 and males=4.16), difficulty in learning the skills of hockey (females=2.66, males=2.98), and confidence in ability to learn the hockey wrist shot (females=3.96, males=4.58).
Females were divided into groups based upon their responses to question one of both Part I and Part II of the Conceptions of Hockey Questionnaire. In part one, question one asked the subjects their perception about the gender appropriateness of the activity of hockey. In part two, question one asked the participants their beliefs about conceptions of ability.

The questionnaires that were completed by the females were sorted based on their response to Part I question one. The responses ranged from 3 (n=62; For Both Females and Males) to 5 (n=33; For Males Only) with most of the respondents scoring a 4 (n=200; Mostly for Males). The participants who scored with a 4 were eliminated from the secondary analysis for subject selection for this study. Next the remaining 95 questionnaires were sorted based on their responses to question one of Part II which asked about their conception of ability belief. Due to a low number of respondents who scored this item a 1, 2, or 3 these groups (n= 19; 1, 8, and 11 respectively) were collapsed together to represent the participants who held some belief that ability is innate. In order to separate this group from those who believed that ability was more strongly acquired those who scored this item a 4 (Agree task can be learned with practice but natural ability helps n=194) were eliminated. Those who scored the item 5 (n=83) were kept as the potential subject pool. The remaining subjects were placed into their appropriate learning groups to reflect the following combinations Masculine activity- Innate(MI, n=20), Masculine activity - Acquired (MA, n=20), Neutral - Innate (NI, n=15), and Neutral - Acquired (NA, n=15). The identified subjects for the
four MA and MI groups each contained five learners. Whereas, due to the lower number of respondents who indicted a conception of ability belief that was innate, the NA and NI groups each contained four learners except one group of NI and one group of NA which each contain only three learners.
Conceptions of Hockey Questionnaire Part I

1. The physical activity of hockey in general would be considered
   __ Only for Females __ Mostly for Females
   __ For Both Females and Males __ Mostly for Males
   __ Only for Males

2. What is your interest level for hockey when compared to other sports in the U.S.?
   __ No Interest __ Below Average Interest
   __ Average Interest __ Above Average Interest
   __ Lots of Interest

3. Describe your previous hockey experience.
   __ No Previous Experience __ Minimal Instruction in PE
   __ Instruction in PE and/or camp __ Club or Recreational Participation
   __ Varsity Hockey

4. How difficult would it be for you to learn the skills of hockey.
   __ Very Difficult __ Difficult __ Somewhat Difficult
   __ Easy __ Very Easy

5. Rate your current level of ability in hockey.
   __ Very Bad __ Bad __ Average __ Good __ Very Good

6. With instruction, how confident are you that you could improve your hockey skills
   __ Not at all Confident __ Not Confident
   __ Mildly Confident __ Confident
   __ Very Confident

7. How important is it to you to be good in hockey?
   __ Not Important at All __ Not Important
   __ Sort of Important __ Important
   __ Very Important
8. How interested are you in improving your hockey skills?
   __ Not Interested at All       __ Not Interested
   __ Sort of Interested          __ Interested
   __ Very Interested
Conceptions of Hockey Questionnaire  Part II

Videotape Viewed:  __ A  __ B

1. Do you believe that being able to do the hockey wrist shot is dependent upon natural ability or is this a task that can be learned with practice?
   __ Strongly agree task is dependent upon natural ability
   __ Agree task is dependent upon natural ability but practice helps
   __ Task is equally dependent on natural ability and practice
   __ Agree task can be learned with practice but natural ability helps
   __ Strongly agree task can be learned with practice

2. Can you already perform the shooting task?
   __ Yes  __ No

3. How confident are you that you can learn the wrist shot in hockey?
   __ Not Confident at All  __ Not Confident
   __ Mildly Confident  __ Confident
   __ Very Confident

Explain what you based your confidence rating on.

4. The wrist shot as a specific skill in hockey would be considered
   __ Only for Females  __ Mostly for Females
   __ For Both Females and Males  __ Mostly for Males
   __ Only for Males

Explain what you based your beliefs about gender appropriateness on.
APPENDIX D

INSTRUCTIONAL PROCEDURES AND SCRIPTS
INSTRUCTIONAL PROCEDURES
AND SCRIPTS

1. Sign consent forms.

2. Introductions - As unobtrusively as possible, try to make sure that students are identifiable on the tape.

3. Brief Explanation of Key Points
   a) Individuals were selected randomly from students who responded on the initial questionnaire
   b) The study is about teaching and learning a novel skill. The video camera is in place to record the teachers’ actions and instructions. The skill will be the hockey wrist shot.
   c) Individuals will watch an instructional video tape, practice for a short period of time and then at the end of the session complete a set of ten trials that will be scored based on the target values on the wall.

4. Show the appropriate video.

5. Complete questionnaires to assess expectation for success.

6. Reinforce the learning cues of “Ready, Wrist Snap, and Follow Through” that are presented on the tape.

7. Assign students to practice stations and ask them to practice the skill. Make sure they understand the scoring system. Rotate from student to student and insure
(as much as you can) that you spend comparable amounts of time with each
student (go up and down the line of learners consistently).

8. Students will practice under your supervision for eight minutes. During that time,
across conditions, you should provide consistent informational or instructional
feedback to all students. You should observe a trial, and provide ONE of the
following statements that applies using this priority system.

Ready phase:
   a) hand position on stick
   b) starting position should be slightly behind the midline of the body (correct
      either too far forward or too far back)

Wrist snap:
   c) palm down to palm up with the lower hand
   d) push down with upper hand
   e) lift the puck
   f) open the face of the stick

Follow through:
   g) bring to waist height
   h) finish pointing at the target

9. Social interaction (feedback that is not instructional/informational) should vary by
condition. When students in the male condition encounter difficulty, make
comments like “this is hard for a women, this is a guy sport, don’t worry about
how you are doing, you are doing fine - for a girl” when they are doing well, say things like “gee, that is really good for a women” or “gee, that was almost as good as some guys do.” For the neutral condition, attempt to reinforce the view that hockey is for males and females. Don’t make references to being as good as guys, rather, make references about showing potential to be on the next Olympic hockey team, etc..

For the innate condition (both male and neutral) when students have difficulty say things like “don’t worry about how you are doing, you just sort of have a knack for this skill” or “this takes a lot of eye-hand coordination, it really is harder than it looks, it is hard to learn this skill” when they do well in the innate condition, say it loudly so others can hear—you must be really athletic—you seem to have a knack for this.

For the acquired condition (both male and neutral), try to reinforce the belief that with effort, everyone can learn the skill—i.e., I can see improvement, the practice is really helping, hang in there and you will get it, etc..

For the male acquired condition, you can say things like, I know girls don’t play hockey much, but this is a skill that you can learn if you practice.

10) After 8 minutes of circulating among the students in a pattern that assures comparable amounts of feedback to all students, you will leave the practice area. Inform the students that they can take a break, or keep practicing, and that
you will give them about 10 minutes until they take the test. Leave the cameras running and leave.

11) Return to the teaching area. Have students fill out the second questionnaire, which asks them about their level of effort, and to predict their score on the skill test. Make sure that they understand the scoring system-i.e., 10 5's would be 50 points, etc..

12) Administer the skill test – 10 trials, scoring and recording each trial as you go.

13) After each student has completed the skill assessment, ask them to complete the third set of questions, asking them about their level of success, as other students complete the test. As soon as everyone has completed the test and the third questionnaire, have them flip over their survey to use the blank side to respond on the appropriate open-ended question based on their learning condition:

Masculine Acquired

On the initial survey, you indicated that you believed that hockey was mostly for males, and that the wrist shot was a skill that could be learned with practice and was not dependent on natural ability. How did your beliefs about the gender appropriateness of hockey and the role of practice in learning the wrist shot affect your effort during practice?
Masculine Innate

On the initial survey, you indicated that you believed that hockey was mostly for males, and to that it was important to have natural athletic ability to learn the wrist shot. How did your beliefs about the gender appropriateness of hockey and the role of natural ability in learning the wrist shot affect your effort during practice?

Neutral Acquired

On the initial survey, you indicated that you believed that hockey was equally appropriate for females and males, and that the wrist shot was a skill that could be learned with practice and was not dependent on natural ability. How did your beliefs about the gender appropriateness of hockey and the role of practice in learning the wrist shot affect your effort during practice?

Neutral Innate

On the initial survey, you indicated that you believed that hockey was equally appropriate for females and males, and that it was important to have natural ability to learn the wrist shot. How did your beliefs about the gender appropriateness of hockey and the role of natural ability in learning the wrist shot affect your effort during practice?

Leave the video tape on and encourage discussion.

14) Debrief:
Thank the students for agreeing to participate. Inform them that we believe that beliefs about physical activity play a major role in patterns of physical activity, and
that the purpose was to investigate how beliefs affect effort. Ask them NOT to discuss the experiment with any other students in their classes that may be participating in phase 2, or to be on the safe side not to discuss the study with anyone for at least two weeks.

**Video-Taped Scripts**

**Neutral Acquired**

The sport of hockey is for both males and females, in more and more locations females are asking for, and gaining the opportunity to participate in this sport. In the United States player development has come along so quickly that the United States Women’s team won the gold medal at the last Olympics.

When I began to learn the skills of hockey I was not very good but I knew I could learn. Through a lot of hard work and persistent practice in which I listened to what my coaches and teachers told me, I have become good at the skills of hockey - in particular the skill of the hockey wrist shot.

This skill is an important one in the game of hockey. It can be used to simply pass a puck to a teammate over a defenders stick or more importantly to score goals. When the puck is in the air, especially on the netminders stick side it becomes very difficult to defend against.

In order to be successful in putting the puck in the air you need to focus on these three critical cues: Preparation - Wrist Snap - Follow Through
- In the preparation phase you move the stick and puck to behind the midline of your body so you can increase the force in which you push the puck.

- In the wrist snap your bottom hand turns quickly from a ‘palm down’ to a ‘palm up’ position as you move the stick from behind to in front of the midline of your body. Your top hand can drive downward at the same time as your bottom hand turns and rises.

- The follow through should be towards your target and to about your waist height.

Now watch a few demonstration shots and follow the teachers further directions.

**Neutral Innate**

The sport of hockey is for both males and females, in more and more locations females are asking for, and gaining the opportunity to participate in this sport. In the United States player development has come along so quickly that the United States Women’s team won the gold medal at the last Olympics.

I come from a very athletic family, we all participate and compete in a wide variety of sports and physical activities. Because of this I know that no matter what the physical skill that I might be asked to perform I will be able to successfully complete the task without any direction from others.

This skill is an important one in the game of hockey. It can be used to simply pass a puck to a teammate over a defenders stick or more importantly to score goals.
When the puck is in the air, especially on the netminder's stick side it becomes very difficult to defend against.

In order to be successful in putting the puck in the air you need to focus on these three critical cues: Preparation - Wrist Snap - Follow Through

- In the preparation phase you move the stick and puck to behind the midline of your body so you can increase the force in which you push the puck.

- In the wrist snap your bottom hand turns quickly from a 'palm down' to a 'palm up' position as you move the stick from behind to in front of the midline of your body. Your top hand can drive downward at the same time as your bottom hand turns and rises.

- The follow through should be towards your target and to about your waist height.

Now watch a few demonstration shots and follow the teachers further directions.

Masculine Acquired

As everyone knows the sport of hockey is for males. In order to be successful you have to be fast, strong, competitive and most of all very aggressive. Hockey is even more masculine than football - you can actually fight someone and only receive a few minutes in the penalty box.

When I began to learn the skills of hockey I was not very good but I knew I could learn. Through a lot of hard work and persistent practice in which I listened to
what my coaches and teachers told me, I have become good at the skills of hockey - in
particular the skill of the hockey wrist shot.

This skill is an important one in the game of hockey. It can be used to simply
pass a puck to a teammate over a defenders stick or more importantly to score goals.
When the puck is in the air, especially on the netminders stick side it becomes very
difficult to defend against.

In order to be successful in putting the puck in the air you need to focus on
these three critical cues: Preparation - Wrist Snap - Follow Through
1. In the preparation phase you move the stick and puck to behind the midline of
your body so you can increase the force in which you push the puck.
2. In the wrist snap your bottom hand turns quickly from a 'palm down' to a
‘palm up’ position as you move the stick from behind to in front of the midline of your
body. Your top hand can drive downward at the same time as your bottom hand turns
and rises.
3. The follow through should be towards your target and to about your waist
height.

Now watch a few demonstration shots and follow the teachers further directions.

Masculine Innate

As everyone knows the sport of hockey is for males. In order to be successful
you have to be fast, strong, competitive and most of all very aggressive. Hockey is
even more masculine than football - you can actually fight someone and only receive a few minutes in the penalty box.

Boys have more of a predisposition to be successful in physical activities and hockey being a very masculine sport enhances this ability. One might say we are born with the ability to excel in these type of physical activities. Males are bigger, stronger, faster and have greater motor control than females. These attributes are important to performing the hockey wrist shot because you want to propel the puck with such a force as to scare the opposition’s goalie.

This skill is an important one in the game of hockey. It can be used to simply pass a puck to a teammate over a defenders stick or more importantly to score goals. When the puck is in the air, especially on the netminders stick side it becomes very difficult to defend against.

In order to be successful in putting the puck in the air you need to focus on these three critical cues: Preparation - Wrist Snap - Follow Through

- In the preparation phase you move the stick and puck to behind the midline of your body so you can increase the force in which you push the puck.
- In the wrist snap your bottom hand turns quickly from a ‘palm down’ to a ‘palm up’ position as you move the stick from behind to in front of the midline of your body. Your top hand can drive downward at the same time as your bottom hand turns and rises.
The follow through should be towards your target and to about your waist height.

Now watch a few demonstration shots and follow the teachers further directions.
APPENDIX E

HOCKEY TASK SURVEY
HOCKEY TASK SURVEY

Name _________________________________

PART 1
With practice, how well do you think you will be able to learn the hockey wrist shot?

NOT FAIRLY PRETTY VERY
AT ALL WELL WELL WELL
1 2 3 4 5 6 7 8 9 10

Why did you circle the number that you chose?

PART 2
Rate your level of effort during practice

NO LITTLE AVERAGE ABOVE AVERAGE HIGHEST
EFFORT EFFORT EFFORT EFFORT EFFORT
1 2 3 4 5 6 7 8 9 10

Why did you circle the number that you chose?

What score do you think you will make out of 50 on the skill test?

PART 3
How would you rate your level of success on the hockey wrist shot?

VERY POOR AVERAGE ABOVE AVERAGE EXCELLENT
POOR AVERAGE AVERAGE
1 2 3 4 5 6 7 8 9 10

Why were you ABLE to be successful, OR why were you UNABLE to be successful?
VITA

Donald Belcher is currently in his first year of teaching in the Department of Kinesiology at the University of New Hampshire after two years at the University of Southern Mississippi. His main responsibilities are in undergraduate teacher education pedagogy. He hopes to teach graduate courses in the near future. He is continuing the line of research initiated with this dissertation as well as branching out into alternative research methodologies to examine the meaning that students and teachers give to involvement in physical education and sport. Don hopes to be able to balance his professional commitments with making Meraiah extremely happy.
DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Donald Gregory Scott Belcher

Major Field: Kinesiology

Title of Dissertation: The Influence of Gender-Related Beliefs on Students Motor Skill Learning

Approved:

[Signatures of committee members]

Dean of the Graduate School

EXAMINING COMMITTEE:

[Signatures of committee members]

Date of Examination: October 1, 1999