**I TALK TO MY SELF:**

**THE RELATIONSHIP BETWEEN SELF-TALK ON FINE MOTOR CONTROL IN THE ACCURACY OF ARCHERY.**

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**Self Talk, Fine Motor Control, and Archery Accuracy**

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The purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers. The population used was 8 total participants 6 male 2 female from a rural Northwest University. This study was IRB approved, and all participants gave informed consent. The study populous was split randomly into a self-talk group and a control group. Subjects were to shoot 3 arrows after a 15 arrow warm up at a FITA regulation target at 20 yards. The control group was asked to shot for fun while the self-talk group was asked to use any means of positive self-talk during the preliminary stages of the study. Once both groups were completed shooting they were given an assignment to create a positive self-talk monologue that could be recorded or memorized that they feel may influence their shooting. Both groups were subjected to the intervention. At the initiation of the study no difference was found between the two groups (control and experimental) on first arrow shot, even though the control group appeared to be more accurate: control group (164.71mm + 49.40 from the target center) compared to experimental group ( 173.05mm + 64.48). However, the 8 shooters were randomly assigned group membership. Yet, sample size (n = 4 control and n = 4 experimental) may be a contributing factor as the variability among shooters is fairly high.

While no difference was found pre to post shooting accuracy with the interactions of group membership by time (first shot, second shot, third shot), the experimental group appeared to benefit from the initial intervention on the pre-experimental condition as their scores were more consistent from shooting period one to shooting period three.

At the second shooting period both groups were asked to use the intervention strategies. Interestingly, both groups appeared to benefit from the strategy as both groups were more consistent from shooting period one to shooting period three. This study has promise and should be repeated with a larger population and a longer time frame of intervention.

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# Chapter One

## I Talk to My Self: The Relationship Between Self-talk on Fine Motor Control in the Accuracy of Archery.

### Introduction.

The history of archery spans back close to 20,000 years with its use for hunting; this use would also make it a very formidable weapon of war. Archery has long since been a very desired skill as well as challenging hobby. In the competitive realm of archery the association that is the governing body is FITA (International Archery Federation). “The international governing body of archery was founded on the 4th of September, 1931, in Lwow, Poland, by seven countries (France, Czech Republic, Sweden, Poland, the United States, Hungry, and Italy with the Olympic principles”(FITA, 11/09). This governing body has the oversight of the world championships as well as the Olympics and any other world sanctioned competition. Sanctioned competition consist of shooting at a distance of 50-60 meters with a target size of 122cm, or shooting from 30-40 meters with a target of 80cm.

Archery is a fine and highly skilled sport. Outstanding archers not only need special mental and physical characteristics but also stable and good skill and perception. A small deviation in aiming can cause a serious problem, so it is difficult for the archer to find out the relationship between the aiming adjustment trajectory and the location the arch on the target with out any aids (Bin Lin, 2005, 253).

Although the history of archery is very interesting, the purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers. “Fine motor control is the coordination of muscular, skeletal, and neurological function to produce small, precise movements. The opposite of fine motor control is gross motor control defined as the ability to make large, general movements requiring little coordination” (Kimmel; 2007, chap 31). Fine motor control relates to accuracy in this study due to the precise movements created by the hand to determine the placement of the arrow on the target. An archer must have extremely fine dexterity in their wrist to have a consistent shot.

Nonetheless, the overall content of the study is to decipher how self-talk can affect the overall product being the accuracy in which the archer strives.

Inner speech is a characteristic of human kind. Thoughts in the form of inner conversation deluge or mind and cognitive theorists have long emphasized the link between what people say to themselves and how they have, suggesting that a person’s thinking can affect emotional and behavioral outcomes (Hatzigeorgiadis, 238).

However self-talk is used, whether negative or positive, humans are always correcting or modifying their thoughts to adjust themselves specially. This causes the question of if we are always using self-talk how can it affect tasks we do on a day to day basis in a positive or negative way? Striving to answer these questions can assist in understanding more about the human psyche and how to better the tasks that we conduct everyday.

### Problem Statement.

The purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers.

#### Independent Variables.

Fine Motor Control Accuracy - will be used to stabilize the bow to use minuet precise movements to contribute to the overall placement of the arrow on the target.

Self-Talk – will be broken down into phases that have a negative and/or a positive connotation that can affect the subjects overall mental status. This use of a mental skill has the potential to contribute to the overall accuracy as well as the fine motor control.

#### Dependent Variable.

The dependant variable will be the accuracy of the shots taken when using fine motor control and self-talk. Accuracy will be measured by the means of shot groupings and use of phrase specific self-talk.

#### Research Sub-Problems.

1. What are the actual effects of negative self-talk?
2. What are the actual effects of positive self-talk?
3. What is self-talk?
4. What are gross and fine motor control?
5. What are adult professional archers?
6. How is archery a fine motor control?
7. What is the purpose?
8. What is the effect on accuracy?
9. How is accuracy affected?
10. What are fine and gross motor control?
11. How does fine motor skill apply to archery?
12. What are the different types of self-talk?

#### Statistical Sub-Problems.

1. What is the effect of self-talk?
2. How is the accuracy affected?
3. What is the effect on gender?
4. What is the effect on distance?
5. What is the effect on phrases used?

#### Hypotheses.

1. No difference exists with the interaction of group by time on shooting accuracy.
2. No difference exists with the interaction of gender by time with shooting accuracy.
3. No difference exists with the interaction of groups by gender by time on shooting accuracy.

#### Assumptions.

1. Subjects participating in the study have the archery skills necessary to hit the target.
2. The subjects have an understanding on how equipment as well as set up.
3. There is an equal ratio from men to women to receive accurate gender differences.
4. Subjects are willing to use the phases for self-talk to receive accurate results.
5. Subjects use this study as a learning experience to better their shots.
6. The target size and distance are uniform for all subjects.

#### Limitations.

1. Having an adequate subject size that will have an equal ratio of men to women.
2. Subjects equipment that has been sighted in and is arranged best for the way they shoot.
3. The subjects only using the self-talk phrases that are assigned to the positive self-talk group.
4. All the subjects are shooting compound bows.

#### Definition of Terms.

1. Self-Talk – An internal dialogue that is a continuous stream of thoughts that can alter mood, emotions, and physical performance.
2. Fine Motor Control – is a coordination of muscle and bone to coordinate small movements that will then create precise movements.

#### Need for the Study.

Research states that there are not reasonable or adequate studies that have been conducted to support how self-talk can affect fine motor control. Thus due to the muddled results, this study would be significant because there has not been many studies on self-talk in general. Furthermore, there are no studies to examine how self-talk has on the can effect fine motor control. The fine motor control component of archery takes place during the aiming phase when the archer needs to hold the bow as steady as possible while using breathing as well as fine movements to stabilize to optimize shots accuracy. By understanding how motor control and accuracy can be affected by self-talk, perhaps we can better understand how to improve and/or understand how to optimized our thoughts to better facilitate an overall outcome.

The individuals who participate in this study may become better shooters in archery. Participates in this study will learn how self-talk can assist them or hinder them. Self-talk research has shown that individuals that use positive self-talk and/or mental skills training have a positive effect on athletic performance (Anderson & Vogel, 1999; Oliver, Markland, Hardy, & Petherick, 2008; Weiss, 2005; Van Raalte, Brewer, & Britton 1995; Harvey, Van Raalte, & Brewer 2006; Gibson & Foster, 2007; Malouff, McGee, Halford, & Rooke, 2007; Hatzigeorgiadis & Biddle, 2001). Participants can use this study as a benchmark to learning what they are doing right or what they are doing wrong, they can then overcome the deficiency and overall show improvement.

Understanding how self-talk affects fine motor control accuracy can facilitate anyone who participates in fine motor movements in sport or in life. Once people learn how they can do things more efficient and improve themselves, we can take steps to use the knowledge and improve on what we already know.

# Chapter Two

## Literature Review

### Introduction.

The purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers.

Archery is highly demanding both physically and mentally and requires the shooter to remain steady as well have a high level of hand eye coordination. .

Archery is a fine and highly skilled sport. Outstanding archers not only need special mental and physical characteristics but also stable and good skill and perception. A small deviation in aiming can cause a serious problem, so it is difficult for the archer to find out the relationship between the aiming adjustment trajectory and the location the arch on the target with out any aids (Bin Lin 2005, 253).

When thinking about archery, accuracy is always a larger consideration. The smallest shift in stance or in a shooters wrist can throw off the trajectory of even the most accurate of shooters. This is why it is very important that a shooter have expert fine motor control.

Taking into account how important accuracy is in archery the next thought would be what kind of mental processes do archery shooters go though prior to release. When looking into mental skills training self-talk seemed to be a very important component to many sports and skills (Van Raalte, Brewer, & Britton 1995; Harvey, Van Raalte, & Brewer 2006). Although there are many studies on self-talk in sports, the topic has not been widely studied. According to a study that was published in 1992, there was only one published study to examine experimentally the effects of both positive and negative self-talk on sport performance (Dagrou, Gauvin, & Halliwell, 1992). Nonetheless there have not been any studies that have correlate self-talk with fine motor control to represent better accuracy.

### Self-Talk.

Inner speech is a characteristic of human kind (Fields, 2002). Thoughts in the form of inner conversation dialogue or mind and cognitive theorists have long emphasized the link between what people say to themselves and how they behave; suggesting that a person’s thinking can affect emotional and behavioral outcomes (Ellis, 1994; Meichenbaum, 1977). Self-talk can be a powerful tool for learning. As an integral part of skill acquisition, self-talk appears to enable learners to interact with the content and become active agents of their own learning. The extent to which we can make the claim that self-talk promotes the cognitive (eg., relate new information to existing knowledge) affective (eg., attribute outcomes to own efforts and metacognative (eg., organize actions prior to performance) activities associated with self-regulated learning is limited (Anderson & Vogel, 1999).

Researchers have shown that self-talk that is positive in nature normally has a positive effect on a situation or a sport. Yet some research has found that this is not necessarily always the case and the result is there are no inclusive results that can prove one way or the other. Some Research has shown that self-talk can be predicted by task or environmental conditions, with individuals using private speech more frequently in more difficult tasks (Behrend, Rosengren, & Perlmutter, 1989). Such findings have been interpreted as support for the premise that self-talk predominantly serves a self-regulatory function (Fernyhoyugh & Fradley, 2005). The results of this research suggest that assigned positive self-talk use, even when the particular self-talk statements are selected by the athletes, may not be beneficial to performance (Harvey, Van Raalte & Brewer, 2002). As a result in such a vast difference and the lack of self-talk studies, there have been studies to determine when self-talk begins to have an effect in life. “Therefore, the change from overt to sub vocal self-talk and the nature of self-talk that occurs during childhood and adolescence appears to be either related to, or a requirement for appropriate cognitive and behavioral development and function and the development of psychological disorders in adulthood” (Gibson & Foster, 2007). Since self-talk has such a disparity in studies, it is important to understand where and when self-talk development is the most important in early life. This understanding will then result in a better knowledge in how individuals may have future problems with confidence, self-perception, and self-esteem.

Nevertheless, an important aspect of self-talk that Gibson & Foster stated was how the phrases ‘I’ and ‘Me’ can effect an individual in a task. “Self-talk allows the individual to take the perspective of the other’ when analyzing or responding to an activity in which the individual is currently involved. Self-talk may be a discussion between a singular ‘I’ and a singular ‘Me’, or may be a multi-party dialogue, with each voice being a different frame of reference” (Gibson& Foster, 2007). In a study that focused on self-talk with adolescent youth by (Anderson & Vogel, 1999) the overall view of self-talk was examined on the effect that it has on learning at the younger ages. Instructional self-talk has been used effectively in both clinical and instructional setting for nearly two decades (Meichenbaum, 1977; Fletz, 1982; Weiss, 1983; Jones, Palinscar, Ogle, & Can, (1987); Brown and Palinscar, 1989; Anderson, 1997). Recent theoretical accounts view learning as an active versus passive process. This view suggests that effective learning assumes greater responsibility for the cognitive and affective though processes associated with the learning task (Schunk, 1991).

#### Accuracy.

Shooting is the simultaneous coordination among breathing; gross motor control of body positioning; fine-motor control of the subjects fingers, hands, elbows, legs, feet, and cheek; and the processing of perceptual cues related to the target, the sights and the peep or string (Chung, Delacruze, De Vries, Bewley, & Baker; 2006).

Accuracy is very determinant in archery on an individual’s ability to have superior hand eye coordination. If a shooter’s sight alignment is off by a fraction of an inch, the shooter is unlikely to hit the target. Fatigue decreases performance by causing shaking, wobble, or other instabilities; flinch or bucking due to the recoil or reaction to the report causes the shooter to jerk. Exacerbating positions instability is the emotional state of the shooter—anxiety can increase heart and breathing rates. Finally, the recoil can cause the bow to feel as if it is being jerked from the subjects arm (Chung, Delacruze, De Vries, Bewley, & Baker; 2006). This visual aspect in relation to accuracy is extremely important in placement of arrows on a target. According to Woodworth (1899), in his two-component model of goal-directed movement, posited that the initial ballistic, distance-covering phase of the movement is followed by a “homing-in” phase in which individuals use visual feed-back to make continuous corrections late in the movement. Although sight is a very important part of this study the only aspect that maybe applicable to sight is that of the sighting in process as well as the ability to coordinate hand eye adjustments.

#### Fine Motor Control.

In archery, there is a relationship among stability of the archer, adjustment made during the aiming procedure, and the targeting coordination (Bin Lin, & Hwang 2005). In a study done by (Edelmann-Nusser, 2006) there is a diagram on pate 216 of the study that depicts the tracking of a prior to release of an arrow. The tracking is depicted as lines on a target with the end result of the arrow hitting the target. This diagram directly depicts how the dexterity and fine motor control directly affect the accuracy of a shot taken from an archer. Much of the research that is related to fine-motor control in this study is directly related to the accuracy component of this study. Therefore, much of the research that has been gathered is within the accuracy portion of this literature review. However, understanding that all movements whether gross or fine are related to the overall outcome of an individuals shot performance. This is why although it is very important to have great fine-motor control as well as hand eye coordination, a subject must possess both gross and fine motor control qualities at one given simultaneous moment. This is why rifle marksmanship as well as archery is so dependant on and individual’s mental processes. These mental processes are critical in controlling all aspects of muscular control that will have an overall outcome on accuracy of a shot.

# Chapter Three.

## Methodology

### Problem Statement.

The purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers.

### Subjects.

The subjects that will take part in this study will be part of two separate archery groups in a Northwest community and local university. The first group that will participate will be a local Northwest archery club. The second group that will participate will be from a rural Northwest University; these subjects will be participating in two classes, Archery for Hunters and Fundamentals of Archery. Subjects will have a vast difference in experience level and knowledge of archery. Sample size has been noted to be 8 people, although more are welcome. This study is examining gender and this will be an important factor to receive an equal amount of men to woman, but this may not be the case.

The sample size will be established by randomly assigning people to three different groups. The two different groups will be a control and positive self-talk. The positive self-talk groups will be assigned phrases that will be associated with their group pertaining to self-talk that they will use during the study. “An important shortcoming of this self-talk research is that participants are typically required to use particular self-talk statements prior to performance of sport tasks. The self-talk is devised or scripted by the researchers and may be unfamiliar to participants”. (Harvey, Raalete, & Brewer, 2006).

All subjects that will participate in this study will be volunteers and will be required to fill out a consent form. No subject that will participate will be under the age of 18, but the age range of subject will be in the realm of 18-65 years of age. Subjects will be using their own equipment; bows, arrows and aiming devices.

### Instrumentation.

The chosen instrumentation that will be used is a self-talk script for the positive self-talk groups. The control group will use whatever they so choose. The method of measuring accuracy will be done with a FITA regulation target. These targets are measured and have point values associated with each ring from the bulls-eye out. For the purpose of this study though we will also measure each distance between each arrow shot. This will give a good depiction of the placement on the target so it can be associated with data gathered for the statistical analysis.

The possible incorporation of a laser is still a consideration to sight in subjects bows in accordance to their eye dominance prior to the study. This consideration is because there is already going to be a great difference in personal ability. It would be nice to have all subjects have no disparities as far as aiming with their equipment.

The last portion of the study will be the intervention treatment. The intervention treatment chosen as follows; Participants will be encouraged to develop a brief self talk script of four or five statements, highlighting their attributes and strengths as archers. The statements could be either written down on a 3x5 card for them to read or recorded for them to hear. Next, they will taught the ABCDE technique for thought stopping and reframing derived from Rational Emotive Behavior Therapy (Ellis, 1999). This technique is a sequential method of identifying, disputing, and reframing negative thoughts into positive statements. Finally, participants will be asked to develop a cue word or shot cue phrase. For cue word/phrase development, participants will be encouraged to write either a specific word or short phrase at the start of each shot or each group of 3 shots (Weiss, 38).

### Procedures.

Prior to subjects participation they will be asked what they know about self-talk and how it can be applied to archery. Subjects who will participate in the study will have 15 shots to warm up and get all their equipment dialed in. The distance the subjects will shot at has not been determined yet, but will be 50-100 feet (15.24m or 30m). Once the subjects have taken their warm up they will then begin to shot for the study. Subjects will shoot in accordance to FITA sanctioned international competition shooting, 1 set of shots shooting 3 arrows at one given time. Point scores as well as measurements will be taken from the center most point of the bulls-eye.

Once all shots are calculated and data is gathered it will then be analyzed. Data will be analyzed in accordance to gender, control, positive self-talk, and negative self-talk. The group that will be receiving the intervention treatment will be the positive self-talk group.

### Data Collection.

Since the subjects will be broken into groups this will make it easier to associate the data with the individual. Due to this study is confidential it is important that when doing the collection the subjects are associated with their results. Once the study is concluded all results will be destroyed. Explained above all shots will be measured from the center point of the bulls-eye giving us a point value and a distance value.

### Statistical Procedures.

The statistical method that will be used is a split plot (mixed) design. The use of a 4x4 design for the pre and post-test will also be utilized due to gender, positive and negative self-talk, and the control will be measured.

***Results***

The purpose of this pre-experimental study is to determine the effects of self-talk on the fine motor control in accuracy on adult archers. The population used was 8 total participants 6 male 2 female from a rural Northwest University. The study populous was split randomly into a self-talk group and a control group. Subjects were to shoot 3 arrows after a 15 arrow warm up at a FITA regulation target at 20 yards. The control group was asked to shot for fun while the self-talk group was asked to use any means of positive self-talk during the preliminary stages of the study. Once both groups were completed shooting they were given an assignment to create a positive self-talk monologue that could be recorded or memorized that they feel may influence their shooting. Both groups were subjected to the intervention.

***Hypotheses***

***Pre-Experimental Condition Accuracy***

An independent t-test was run to examine whether experimental and control groups were similar at the beginning of the study. No significant difference was found between the two groups t (6) -.205, p= .844.

1. No difference exists with the interaction of group by time on the pre-experimental condition shooting accuracy.
   1. No significant difference was found with the interaction of group by time on the pre-experimental condition shooting accuracy Wilk’s Lambda F (2,5) = .888, p=.468, eta2 = .262 (see table 1).
2. No difference exists with the interaction of gender by time on the pre-experimental condition shooting accuracy.
   1. An insufficient number of participants were recruited to the study to answer this hypothesis.
3. No difference exists with the interaction of group by gender by time on the pre-experimental condition shooting accuracy.
   1. An insufficient number of participants were recruited to the study to answer this hypothesis.

Table 1.:Means and standard deviations of control and experimental groups at pre-experimental condition

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Control Mean** | **Control sd** | **Experimental Mean** | **Experimental sd** |
| **Time 1** | 164.71 | 28.72 | 173.05 | 28.72 |
| **Time 2** | 155.31 | 26.06 | 166.72 | 26.06 |
| **Time 3** | 161.40 | 39.87 | 71.12 | 39.87 |

Note 1. No significant difference with the interaction of group by time p=.26

***Post-Experimental Condition Accuracy***

Because both the control and the experimental group received the same treatment for the second three shot sequence, an independent t-test was used to examine whether the two groups were similar at the beginning of second shot sequence. No significant difference was found between the two groups at the beginning (first post shot) of the second three shot sequence t (6) = -.746, p = .484.

1. No difference exists by time on the post-experimental condition shooting accuracy.
   1. A significant difference was found by time on the post-experimental condition shooting accuracy Wilk’s Lambda F (2,5) = .18.439, p=.005, eta2 = .881 (see table 2).
2. No difference exists with the interaction of group by time on the post-experimental condition shooting accuracy.
   1. No significant difference was found with the interaction of group by time on shooting accuracy Wilk’s Lambda F (2,5) = .622, p=.574, eta2 = .199 (see table 3).
3. No difference exists with the interaction of gender by time on the post-experimental condition shooting accuracy.
   1. An insufficient number of participants were recruited to the study to answer this hypothesis.
4. No difference exists with the interaction of group by gender by time on post-experimental shooting condition accuracy.
   1. An insufficient number of participants were recruited to the study to answer this hypothesis.

Table 2.

Means and standard deviations for time on the post-experimental condition shooting accuracy

|  |  |  |
| --- | --- | --- |
| **Time** | **Mean** | **sd** |
| **Time 1** | 167.46a | 11.68 |
| **Time 2** | 140.64b | 20.62 |
| **Time 3** | 87.95c | 20.04 |

Note 1. Means with different subscripts differ significantly at p = .005.

Table 3.

Means and standard deviations of control and experimental groups at post-experimental condition

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Control Mean** | **Control sd** | **Experimental Mean** | **Experimental sd** |
| **Time 1** | 158.74 | 16.52 | 176.17 | 16.52 |
| **Time 2** | 133.33 | 29.16 | 147.95 | 29.16 |
| **Time 3** | 93.11 | 28.35 | 82.78 | 28.35 |

Note 1. No significant difference with the interaction of group by time p=.57

***Discussion***

At the initiation of the study no difference was found between the two groups (control and experimental) on first arrow shot, even though the control group appeared to be more accurate: control group (164.71mm + 49.40 from the target center) compared to experimental group ( 173.05mm + 64.48). However, the 8 shooters were randomly assigned group membership. Yet, sample size (n = 4 control and n = 4 experimental) may be a contributing factor as the variability among shooters is fairly high.

While no difference was found pre to post shooting accuracy with the interactions of group membership by time (first shot, second shot, third shot), the experimental group appeared to benefit from the initial intervention on the pre-experimental condition as their scores were more consistent from shooting period one to shooting period three (see figure 1).

At the second shooting period both groups were asked to use the intervention strategies. Interestingly, both groups appeared to benefit from the strategy as both groups were more consistent from shooting period one to shooting period three (see figure 2). The experimental group receiving the intervention twice appeared to be more accurate over the entire time period and closer to the center at the end of the study compared to the control group who received only one intervention.

Although this study only had an N=8 the results showed that self-talk can be a considering factor in accuracy in archery. Since this study is considered an pre-exparimental study the researcher is still collecting data to have a greater sample size and to determine if the results where due only having an N=8. Thus far the goal is to aquire more subjects and have a equal ratio of male to female to determine if there is a gender affect.

Figure one. Pre to post shooting accuracy with the interactions of group membership by time

Figure one. Pre to post shooting accuracy by time on posttest shooting condition

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# Appendixes

## IRB

### Application Materials

University of Idaho procedures require that the Human Assurances Committee (HAC) review and approve of projects involving humans. The exempt categories and exceptions are described in the introduction. If a project is exempt, a completed copy of this page of the Human Subjects Review Form is to be submitted to the HAC. Official approval from the HAC must be given **before** the researchcan begin.

Forms should be emailed as attachments to [hac@uidaho.edu](mailto:hac@uidaho.edu) in Microsoft Word format.

**If you are a student, you must submit your materials to your UI faculty sponsor. After their review and approval, they will FORWARD your materials to the HAC for review.**

If you are not a full-time faculty member or employee at the UI, you must contact a departmental faculty member, administrator or department chair. This person will become your faculty sponsor.

Once you have submitted the completed application, the Human Assurances Committee will approve it. **You can begin the research ONLY AFTER receiving WRITTEN approval from the committee.**

Please allow at least **six weeks excluding holidays** for the initial review and approval process. [Note: The approval process takes longer when corrections are requested by committee members or when we have a large number of applications].

Please include your UI campus mail code address (83844 - \_ \_ \_ \_) on the summary form inside, or an **address** below where you would like the approval letter to be mailed.

\_\_Brandon Cervantes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Investigator e-mail:** \_Cerv5209@vandals.uidaho.edu\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Faculty Sponsor e-mail if applicable** \_SStoll@uidaho.edu\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Research and demonstration projects which are conducted by, or subject to the approval of department or agency heads, and which are designed to study, evaluate or otherwise examine:*

*(i) public benefit or service programs;*

*(ii) procedures for obtaining benefits or services under those programs;*

*(iii) possible changes in or alternatives to those programs or procedures; or*

*(iv) possible changes in methods or levels of payment for benefits or services under those programs.*

For example, research contracted by the State Department of Health and Human Services to determine the level of access for Medicare patients to primary care would qualify for exempt status.

*Taste and food quality evaluation and consumer acceptance studies, if,*

*(i) if wholesome foods without additives are consumed or,*

*(ii) if a food is consumed that contains a food ingredient at or below the level of and for a use found to be safe,*

*by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food*

*Safety and Inspection Service of the U.S. Department of Agriculture.*

For example, comparing two brands of peanut butter, or two brands of cola.

**Summary**

Identify the previous categories which may be considered: \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

**If NONE are highlighted, then the project DOES NOT qualify for exempt status and you must fill out Form 2.**

**If you highlighted any of categories (1 through 6) answer the following questions on the next page about your human subjects:**

**ANSWER THE FOLLOWING QUESTIONS**

**After hitting insert or overtype,**

**Put a Bold X on the appropriate line for each answer**

YES NO

Can anyone, including the researcher, link the subject’s identity with the data? \_\_\_\_ \_\_X\_\_

Are any participants under 18 years of age? (Other than in an established educational

setting and involving minimal risk) \_\_\_\_ \_\_X\_\_

Are any participants confined in a correctional or detention facility? \_\_\_\_ \_\_X\_\_

Is pregnancy a prerequisite for serving as a participant? \_\_\_\_ \_\_\_X\_

Are fetuses in utero subjects in this research? \_\_\_\_ \_\_\_X\_

Are any participants presumed to be not legally competent? \_\_\_\_ \_\_X\_\_

Are personal records (medical, academic, etc.) used without written consent? \_\_\_\_ \_\_X\_\_

Are data from subjects (responses, information, specimens) directly or indirectly identifiable? \_\_\_\_ \_\_X\_\_

Are data potentially damaging to a subjects' financial standing, employability, or reputation? \_\_\_\_ \_\_X\_\_

Will participants be asked sensitive questions about personal feelings, behavior,

interactions or sexual experiences? \_\_\_\_ \_\_X\_\_

Will alcohol, drug, or any other substance be ingested, injected, or inhaled? \_\_\_\_ \_X\_\_\_

Will blood/body fluids be drawn? \_\_\_\_ \_\_X\_\_

**If the answer to any question above is:**

**YES** **🡪** The project **DOES NOT** qualify for exempt status (COMPLETE FORM 2 ONLY).

**NO** **🡪** The project qualifies for exempt status (COMPLETE FORM 1 ONLY).

**Form 2: University of Idaho Human Subject Review – Non-exempt Projects**

This project qualifies for “Non-Exempt” status. Please complete the following application. In addition, the following information must be included:

1. An electronic copy of certification in PDF or Microsoft Word format that the online course sponsored by

the National Institutes of Health has been completed.

NIH website: <<http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>

2. If applicable, an electronic copy of an Informed Consent Form that includes all components as outlined

on page 4 of this form.

3. If applicable, a copy of the survey, questions intended to be asked, or if conducting qualitative research, initial entry questions and items where the investigator might probe for additional information.

Principal Investigator: \_Brandon Cervantes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Academic Title \_\_Masters Student \_\_\_\_\_\_\_\_\_

Department/Division: \_HPERD\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Campus Zip Code 2429\_\_Phone\_\_5-2103\_

Project Title:\_\_I Talk to my self: The relationship between self-talk on fine motor control in accuracy of archery. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Anticipated Start Date: \_\_\_\_Jan 2010\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Anticipated End Date \_\_\_\_\_\_May 2010\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Sponsor (if you are not principal investigator) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Is the project seeking funds? (Answer using a bold **“X”**) YES \_\_\_\_ NO \_**X**\_\_\_

If yes,

Granting Agency: \_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grant Title: \_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Principal Investigator on Grant: \_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If a continuation, date of previous approval: \_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I. SUBJECTS/PARTICIPANTS

A. Approximate number \_\_\_\_\_\_\_30 +\_\_\_\_\_\_\_\_\_\_\_\_\_\_

B. Age Range \_\_\_\_18-60\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Note: Participants less than age 18 have additional requirements)

C. How will participants be selected or recruited?

On Volunteer Status

D. Are there participants who will be excluded? Why?

N/A

E. Will participants be paid? If yes, how much, when, and how? Must they complete the project to be paid?

N/A

F. Are any of the participants not competent to give consent (e.g., minors, prisoners, institutionalized)? If yes, how will

consent be obtained? From whom? Are there procedures for gaining assent (if appropriate)?

N/A

If appropriate, how will “assent” be obtained? (Participants themselves, even though deemed not competent, must agree to the research.) N/A

G. Will this study be conducted in an Educational (School / Pre K - 12) setting and involve children or teachers actively teaching within the classroom as part of the study? If yes, **ATTACH** documentation from a Teacher and School Principal, Superintendent, or other administrator indicating approval. Also, **ATTACH** appropriate material regarding to FERPA regulations (if applicable). N/A

**II. DESCRIPTION OF PROJECT.** Type answers in the spaces provided. Although you may cut and paste materials from other documents, **Do Not** refer to attached grants, papers, dissertation proposals, etc. Be clear, brief and specific. **The HAC application must stand on its own.**

A. Describe the Purpose of the Research.

The purpose of this pre-experimental study is to determine how self-talk affects fine motor control accuracy in adult archers

B. Describe the Research Design (Survey, Naturalistic Observation. 2 by 3 Factorial Design, Qualitative Design, etc).

Pre-experimental. Pre-experimental, ANOVA Split Plot.

C. Describe the Procedures (What will the Participants do).

Participants will be in 2 different groups, Control and Positive Self-Talk. These groups will be randomly assigned from the total members used.

Participants will have 3 sets of 3 shots that will be tabulated from a specified distance on a target that is FITA approved. Once all participants have shot their baseline they will then shot using positive self-talk. The control group will shoot not using any self-talk.

Once all results are tabulated the subjects will then go though an intervention program that will help then better their concentration as well as self-talk skills.

Subjects will then shoot again in their designated groups to tabulate the over all change if any that will take place from the intervention.

D. If any deception (withholding of complete information) is required for the validity of this activity, explain why this is necessary and **Attach** a debriefing statement.

N/A

**III. ASSESSMENT OF RISKS AND BENEFITS.**

Describe the nature of any potential risks. These include stress, social, legal, discomfort, invasion of privacy, or embarrassment, and side effects.

N/A

Describe how each of the risks in part A will be minimized. Be detailed and complete.

N/A

In the event that any of these potential risks occur, how will they be handled (e.g., compensation, counseling, etc.)?

N/A

Will this study interfere with any subject's normal routine (e.g., school attendance, medical treatment, etc.)?

No

Describe the expected benefits to society and to the individual subjects.

The individuals who participate in this study may become better shooters in archery. Participates in this study will learn how self-talk can assist them or hinder them. Participants can use this study as a benchmark to learning what they are doing right or what they are doing wrong, they can then overcome the deficiency and overall show improvement.

Understanding how self-talk affects fine motor control accuracy can facilitate anyone who participates in fine motor movements in sport or in life.

F. Will blood be taken? (Answer using a Bold **“X”)** YES\_\_\_\_ NO\_**X\_\_\_**

Who will take the blood? \_\_\_\_\_\_\_\_\_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How often? \_\_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How much? \_\_\_\_\_\_\_\_\_\_N/A\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe the procedure for drawing the blood:

IV. CONFIDENTIALITY OF DATA

**Using a bold “X” answer the following questions**

Will data be anonymous (i.e., even the researcher will not be able to link the identity of the subjects/participants with responses)?

YES \_\_\_\_\_ (Go to Part C)

NO \_\_**X\_\_\_** (If NO, complete item IV-B.

B. Will data be confidential? YES\_\_**X\_\_\_**NO\_\_\_\_\_

If **YES,**

Will the data be coded to a master list? YES\_**X\_\_\_** NO\_\_\_\_

Will the list be kept separate from the data? YES**\_X**\_\_\_ NO\_\_\_\_

If **NO,**

Who else will have access to the data? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How will confidentiality be maximized? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C. How will the data will be stored? Locked laboratory\_\_\_ Locked file cabinet \_**X\_\_**

Restricted Computer\_\_**X**\_\_ Other (describe):

D. How will the data eventually be deleted? If not deleted, how will linkage to identities be broken?

Data will be deleted off all computers that it comes in contact with. Any paper data that is used during this study will be shredded and then burned to brake the link to anyone’s identity.

V. ADDITIONAL IMPORTANT CONSIDERATIONS

Using a bold “X” answer the following questions

A. Will any investigational NEW drug (IND) be used? YES\_\_\_\_\_ NO\_\_**X**\_\_\_

B. Will any other drugs be used? YES\_\_\_\_\_ NO\_\_**X**\_\_\_

If **YES** to A or B, list for each drug:

1) the name of the drug;

2) the source of the drug;

3) the dosage;

4) any side effects or toxicity;

5) how it will be administered; and

6) by whom it will be administered.

ATTACH PDR OR EQUIVALENT MATERIAL IN AN APPENDIX TO THIS PROPOSAL

C. Will a new investigative device (IDE) be used? YES\_\_\_\_\_ NO\_\_**X**\_\_\_

IF **YES**, has the Idaho Research Foundation been notified? YES\_\_\_\_\_ NO\_\_\_\_\_

D. Will ethyl alcohol be ingested by the participants ? YES\_\_\_\_\_ NO\_**X**\_\_\_\_

If **YES**, fill out the Alcohol Human Subjects Form found on the HAC website

Refer to the guidelines for administration of ethyl alcohol in human experimentation available from the UI Research Office.

E. Will audio-visual tapes, audiotapes or photographs be taken? YES\_\_**X\_\_\_** NO\_\_\_\_\_

If **YES**:

Where will the tapes be stored? Locked File Cabinet.

When will this material be destroyed? Once the study is complete.

F. Will a written consent form be obtained? YES\_\_**X\_\_\_** NO\_\_\_\_\_

If **YES**: please attach consent form (refer to the Components of a Consent Form included in packet).

If **NO**: how will consent be obtained?

Why is this method being used?

**VI. INTERNATIONAL PROJECTS**

**Using a bold “X” answer the following question**

A. Will the project be conducted outside the United States YES \_\_\_\_\_ NO \_\_\_\_**X**\_\_\_

If **YES**: Has an IRB been contacted in the country where the study will be conducted? YES \_\_\_\_ NO \_\_\_\_

If yes, provide documentation indicating approval.

If no, provide an explanation why an IRB has not been contacted and/or explain how you will comply with the Belmont Report, Declaration of Helsinkior similar document.

**VII: OTHER AGENCIES**

A. Some projects require additional approvals beyond IRB/HAC approval (e.g., Office of Management and Budget for surveys in federal parks, Native American Tribal Councils, U.S. Food and Drug Administration, etc). List additional agencies where project approval has been obtained. Attach appropriate documentation. If materials are under review at these agencies indicate the review is in progress.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

VIII: Sponsored Programs

If this project seeking funding YES \_\_\_\_\_\_\_\_ NO \_\_\_\_\_**X**\_\_\_\_\_\_

Has Sponsored Programs been notified? YES \_\_\_\_\_\_\_\_ NO \_\_\_\_\_\_**X**\_\_\_\_\_

IX: ONLINE COURSE COMPLETION

List the names of all investigators and indicate the date(s) of completion for all investigators taking the

Protection of Human Subjects from the National Institutes of Health on line class. <

<http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>

**FACULTY SPONSOR NOTE**: A copy of the completion certificate or other verification must be included for ALL investigators including laboratory assistants, observation observers, etc.

|  |  |
| --- | --- |
| **Name of Investigator** | **Date of Completion of Online Course** |
| Brandon Cervantes | May 2008 |
| Dr. Sharon Stoll | Aug 2005 |
|  |  |
|  |  |

**If this project will be submitted or will receive external funding, print out the last page sign on the following signature line using a pen, provide the date of submission, and mail it to:**

**Human Assurances Committee**

**University of Idaho**

**POB 443010**

**Moscow, Idaho 83844-3010**

**Currently, an electronic copy or electronic signature is not enough to comply with the Federal regulations/requirements for funded research.**

**If this project will not receive external funding, or if applicable, go to the Consent Form (next) page.**

**Project Signature Page**

**Title of Project\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Principal Investigator**: The information provided above is accurate and the project will be conducted in accordance with applicable Federal, State, and University of Idaho regulations.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Human Assurances Committee**: This project has been properly filed as required by Federal, State and University of Idaho procedures.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Received by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date received \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Consent Form

UNIVERSITY OF IDAHO

Research Participant Information and Consent Form

Title of the Study: The Effect of Self-talk on Fine Motor Control in the Accuracy of Archery

Principal Investigator: Brandon Cervantes (phone: 630-460-1102) (email: [Cerv5209@vandals.uidaho.edu](mailto:Cerv5209@vandals.uidaho.edu))

Student Sponsor: Sharon Stoll (phone: 20-885-2103) (Email: Sstoll@uidaho.edu)

DESCRIPTION OF THE RESEARCH

You are invited to participate in a research study about the effect of self-talk on fine motor control in the accuracy of archery. The study will take place at the University of Idaho and the City of Moscow Fair Grounds. Taking part in this study is entirely voluntary. We urge you discuss any questions about this study with our staff members. Talk to your family and friends about it and take your time to make your decision. If you decide to participate you must sign this form to show that you want to take part.

You have been asked to participate because you are a member of the University of Idaho's Archery class, or a member of Moscow Idaho's archery club that shoots at the Fair Ground. The purpose of this pre-experimental study is to examine at the relationship that self-talk has on accuracy in archery.

This study will include any individual above the age of 18 that has experience shooting archery. All skill levels and genders are invited.

There will be photos taken of the individuals and the targets they have shot to associate them with their results the photos will be retained up in till the study is complete, they will then be destroyed.

WHAT WILL MY PARTICIPATION INVOLVE?

If you decide to participate in this research you will be asked to Once the subjects have taken their warm up they will then begin to shoot for the study. You shoot in accordance to FITA sanctioned international competition shooting, 3 sets of shots shooting 3 arrows at the given time. Point scores as well as measurements will be taken from the center most point of the bulls-eye.

Your participation will last approximately 2 hours per session and will require 2 sessions, which will require 2-4 hours in total.

ARE THERE ANY RISKS TO ME?

We don't anticipate any risks to you from participating in this study.

ARE THERE ANY BENEFITS TO ME?

The potential benefit is the participant will gain a better understanding or archery and may become a better, more accurate shooter.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?

While there will probably be publications as a result of this study, your name will not be used, nor will your photos be used. Only group characteristics will be published.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?

You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact Brandon Cervantes at 630 460-1102 Or You may also call the Student Sponsor Sharon Stoll at 208-885-2103.

Your participation is completely voluntary.

Your signature indicates that you have read this consent form, had an opportunity to ask any questions about your participation in this research and voluntarily consent to participate. You will receive a copy of this form for your records.

Name of Participant (please print):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  | \_\_\_\_\_\_\_\_\_\_\_\_ |
| Signature |  | Date |