2013 WADA FINAL REPORT

“The effects of a moral reasoning educational program on the moral judgment indicators of athletes participating in elite collegiate sports”

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Table of Contents

TABLES AND FIGURES ...................................................................................................................... 3

PROLOGUE: ...................................................................................................................................... 5

INTRODUCTION .................................................................................................................................. 5

METHODS .......................................................................................................................................... 7

The Instrument ..................................................................................................................................... 7

The Intervention ................................................................................................................................... 8

The Participants .................................................................................................................................... 9

Data Collection and Analysis ........................................................................................................ 9

EAMCI .................................................................................................................................................. 9

Level of interest ................................................................................................................................... 9

Responses over time. ......................................................................................................................... 10

RESULTS ............................................................................................................................................ 10

EAMCI................................................................................................................................................ 10

Results of Level of Interest ............................................................................................................. 12

Results of responses over time ......................................................................................................... 14

DISCUSSION ..................................................................................................................................... 16

Limitations of the Study .................................................................................................................... 16

APPENDIX A ...................................................................................................................................... 18

EAMCI Instrument ............................................................................................................................ 18

APPENDIX B: COMMENTS OF STUDENTS ................................................................................... 26

APPENDIX C: REPORT AND RESULTS OF SEMESTER 1 .............................................................. 29
Tables and Figures

TABLE 1. SUMMARY OF DESCRIPTIVE STATISTICS .......................................................... 11
TABLE 2. SUMMARY OF PAIRED T-TEST RESULTS ...................................................... 11
FIGURE 1. BOXPLOT OF PRE-TEST AND POST-TEST SCORES. .................................... 11
TABLE 3. TEST OF SPHERICITY ON INTEREST LEVEL .................................................. 12
TABLE 4. WITHIN SUBJECTS ANOVA RESULTS. ......................................................... 12
FIGURE 2. RESPONSE LEVEL A..................................................................................... 13
TABLE 5. TEST OF SPHERICITY FOR LENGTH OF RESPONSES TO OPEN-ENDED QUESTIONS OVER TIME.............. 14
TABLE 6. REPEATED MEASURES ANOVA FOR LENGTH OF RESPONSES OVER TIME .................................................. 14
FIGURE 3. LENGTH OF RESPONSES .............................................................................. 15
STUDY 1 - TABLE 1: SUMMARY OF DESCRIPTIVE STATISTICS .................................. 29
TABLE 2. SUMMARY OF PAIRED T-TEST RESULTS .................................................................................. 30

STUDY 1 - FIGURE 1: BOXPLOT OF PRE-TEST AND POST-TEST SCORES. .................................................. 30

STUDY 2 - TABLE 1. SUMMARY OF DESCRIPTIVE STATISTICS........................................................................ 35

TABLE 2 - STUDY 2. SUMMARY OF PAIRED T-TEST RESULTS ........................................................................ 36

STUDY 2 – FIGURE 2. BOXPLOT OF PRE-TEST AND POST-TEST SCORES. ................................................... 36
Prologue:

In 2009, Amekela Mazithulela Gwebu was awarded an SSRGP Grant to study “The effects of a moral reasoning educational program on the moral judgment indicators of athletes participating in elite collegiate sports”.

Mr. Gwebu was in residence at the University of Iowa at that period of time. He contacted me, his former Ph.D. professor, and asked if we at the Center for ETHICS* would undertake the development of the “moral reasoning educational study”. Since we have a long history of online intervention curriculums for coaches, athletes, teachers, business people, military, and other competitive folks, we were sure we could accomplish the task. We finished the intervention curriculum within a year, and did a beta test with collegiate athletes from two different universities, University of Idaho and Washington State University. All data were positive. We believed that the online educational curriculum was worthy for the task.

Due to unforeseen problems, Mr. Gwebu was not able to finish the 2009 SSRGP project. He left the University of Iowa. WADA contacted me in the summer of 2011 at the University of Idaho and asked if we could finish the grant by actually doing a study with collegiate student/athletes. We said we believed we could do so.

The grant was switched to the Center for ETHICS* at the University of Idaho in 2012. As of May 15, 2013, we finished the collection of data. Two preliminary documents have been sent to WADA about our progress (Documents in Appendix). Find our final report below.

Introduction

Doping control has evolved over the twentieth century, with less significance being placed on education and more significance placed on detection (Roberts & Olsen, 1989; Houlihan, 1999). The negative effects of the de-emphasis on education is revealed in disturbing research on the health risks that athletes are prepared to take to gain that extra second or inch or pound. The BMA (British Medical Association) reports that a survey of over 100 top American athletes in the late 1970s revealed that nearly 55 per cent of them reported they would be willing to take a drug which would kill them within a year if it could assure them an Olympic gold medal. A follow up to this study in 1984 found that 52 per cent of 198 world-class athletes would take a wonder drug if it guaranteed success, even though it would probably kill them within five years (BMA, 2002, p.11). Research on the use of anabolic steroids conducted in the 1990s reached a similar conclusion, 44% of respondents said they would continue to use anabolic steroids even if it was demonstrated that steroids were a direct cause of life threatening diseases, such as cancer (BMA 2002).

Education as a means to stem “cheating” and “doping” in high level sport has been limited to one shot, short term educational seminars, lectures, or short term online informational presentations. Little research has been accomplished on an actual pretest, intervention,
posttest design to improve moral reasoning in high level sport populations. The pedagogy in anti-doping intervention is primarily focused on the following: information based approach, life skills and value deficit approach, alternative based approach, and peer education approach. Although these are useful at helping sport practitioners and participants understand the legal, psychological, and physiological consequences of using performance enhancing drugs, these methods offer little to understand the complex moral cognitive processes used by participants to make moral decisions about ergogenic aids (Stoll, Gwebu, & Beller, 2006).

In other avenues outside of WADA, researchers have tried to affect moral reasoning of competitive populations. Throughout the last 50 years, researchers such as Piaget (1932), Kohlberg (1969), Rest (1973a, 1973b, 1986 ), Rest & Narváez, 1991, 1994), Rest & Thoma, (1985), Gilligan (1982), Bredemeier and Shields (1984 a, 1984 b, 1986, 1994, 1998 ), Stoll and Beller (1989), Ebbeck, Gibbons, and Weiss (1995), Gibbs (2003), Hersh and Schneider (2005), Hornsby (2007), Mayhew & King (2008), Culp (2012), and Grant (2012) found through empirical research that moral reasoning is a continual process that, under the right conditions, develops consistently throughout one’s lifetime. In addition, these researchers also note that curricular content and the type of pedagogical strategies affect moral reasoning either positively or negatively. However, only a few give explicit information about particular methodological techniques (Culp, 2012; Grant, 2012, Hornsby, 2007). Little research describes the best pedagogical method to enhance moral development.

Kohlberg (1984) and associates (Reimer, et al., 1983) provided a general guideline of a question and answer approach to be used in moral reasoning. In addition, Hornsby (2007) stated that progression of moral reasoning through education does not occur in a linear fashion in which the student reaches a high level and remains static. She claims that it is much more of an ebb and flow process that is continual and needs to be nurtured and challenged through the curriculum and pedagogy. Hornsby (2007) concluded that moral reasoning is a slow development process, requiring time and repeated exposure to ethical scenarios. In addition, her research posits that moral reasoning is a prerequisite for ongoing civic engagement and responsible citizenship for modern society, which should become a learning outcome for any agency that sees development of the individual as a goal.

Given the above, Mr. Gwebu, as a former elite track athlete, believed that education could be effective for high level athletes. And given what he knew of moral reasoning intervention curriculum and pedagogy from his study at the University of Idaho Center for ETHICS*, the purpose of Mr. Gwebu’s original grant concept was to study whether an intense online educational intervention curriculum/pedagogy on doping could affect positive moral reasoning growth. The design of the study was a quasi-experimental with a pretest, intervention, posttest design. The participants were all presently or formerly competitive athletes.

All participants took a pretest of the EAMCI, an instrument to measure moral reasoning about doping in sport.
The intervention was an online curriculum consisting of 11 lessons. Each lesson had four essential parts. A general reading, a video, a set of multiple choice questions in which if a poor answer was chosen the participant was forced to redo the question, and a post lesson assessment with instructor response and feedback.

At the conclusion of the 11 lessons, the participants took a posttest assessment of their moral reasoning about doping in sport.

**Methods**

**The Instrument**

The Ergogenic Aids Moral Competence Inventory (EAMCI) was developed in 2009 to measure reasoning about doping in sport. The EAMCI evaluates the moral judgment of participants concerning conflicts between competing social values and moral values in sport. In addition, the EAMCI examines the underlying cognitive moral decision making processes specific to the context of banned substance use in sport. A result of four pilot studies, the final EAMCI was cross checked against the HBVCI (a valid and reliable test of moral reasoning, Cronbach Alpha at .78-80) in a study of three hundred and thirty-seven (337) participants from one northwest university.

The terminology used in the instrument is based in a 9th grade reading level as evidenced by the Flesch-Kincaide Grade Level (application found on Microsoft Word). For a copy of the EAMCI, please see, Appendix A.

The instrument has five contrived sport and doping context scenarios involving a compilation of the moral values honesty, justice, and responsibility. The moral values were selected in accordance with experts and literature concerning virtue and morality (Kant, 1964; Gibson, 1969; Stoll & Beller, 1993-a-b-c-d, 1995, 1998; Lumpkin, Stoll, & Beller, 2003). The task is to solve a moral dilemma that conflicts with philosophical values guiding the Olympic Movement Medical Code based on three fundamental principles (World Anti-Doping Agency, 2003) which are:

1. Protection of the health of athletes.
2. Respect for both medical and sport ethics.
3. Equality for all competing athletes.

The instrument’s design is to ferret out how participants define important ethical issues of sport doping as well as trying to establish how the participants make the decisions (e. g., Reimer, Paulette, & Harsh, 1983). As such, the five scenarios were carefully designed to create a moral character index (EAMCI index), which combines both the decision process as well as the
reasoning behind the decision. The main five questions of Ergogenic Aids & Moral Competence Inventory are also based in deontic ethics theory. Also, each main question has three sub questions to help flesh out how each individual has answered the five main moral questions.

The moral values of honesty, justice, and responsibility were chosen in relationship to deontological ethics, which implies that there is an inherent rightness apart from all consequences. This means that one would elect to be just, honest, and responsible regardless of the consequences. In addition the moral values of justice, honesty, and responsibility are universal moral values that are an inherent ethical element of sport (Parry, 1999). Consequently, if each question challenges the reader to evaluate justice, honesty, and justice, it can be argued the instrument is measuring moral character.

The scores obtain from the EAMCI should not be used to establish a cause and effect relationship between competitive populations and moral decision making. Rather the EAMCI is a descriptive instrument to describe moral reasoning in a specific population.

The Intervention

The intervention for the project was an intensive 11 lesson online education curriculum with an intense reflective pedagogy.

The online curriculum of 11 lessons takes approximately thirty hours. The 11 lessons are based in principled centered thinking and embrace the International Olympic Committee's charter "to encourage and support the promotion of ethics in sport as well as education of youth." The universal values promoted and supported in this curriculum reside in the 11 Lessons: 1) What is Sport Excellence, 2) What is Character, 3) What is your Mission as an Athlete, 4) Honesty, 5) Justice/Fair Play, 6) Responsibility, 7) Respect, 8) Humility, 9) Patience, 10) Integrity and Sportsmanship, and 11) Empathy, Compassion, and Leadership.

In each lesson, a participant reads a variety of information on the lesson topic, views video through YouTube, and answers five multiple-choice questions. The multiple-choice questions encourage and compel reflection about their choices. If a participant chooses a poor answer or not the best choice, the participant is linked back to start again. The participant cannot skip a question unless he/she shows they have read the material and understands the content. Each must read more information, do more reflection, before choosing an answer.

At the end of each lesson, participants complete a short 5 to 6 question assessment, reflecting on the material learned and their own related experience. The reflective lesson is posted to the instructor. The instructor then responds to the posting. The point here is made that someone is reading responses, and replying. Often the athlete responds again and again and a deep discussion occurs.
The Participants

All participants were 18 – 20 years old. They all were former competitive athletes or present D-I athletes. IRB at the University of Idaho approved the study, IRB number IRB00000843; FWA00005639. All participants gave an informed consent. The study began fall of 2012, and finished in May of 2013. Two different groups were combined for this study, one enrolled in fall of 2012 in a Sport and Society class and one enrolled in spring of 2013 in another Sport and Society class. Forty-eight participants finished the study, meeting all the criteria. Both groups followed the same curriculum, same expectations, same pedagogy, same classroom conditions, and were instructed by the same instructor. All participants self-selected to enroll in a class, Sport and Society, in which this online curriculum was an essential part of the class structure. Participants were not graded for the answers gave on the online doping curriculum; but they were given credit for completing the doping curriculum.

Data Collection and Analysis

EAMCI.

The Ergogenic Aids Moral Competence Inventory (EAMCI) was used to evaluate the moral judgment of participants among competing social values and moral values in sport. Each participant successfully completed an online version of the EAMCI at the beginning of the intervention and again at upon completion of the 11 lesson intervention. Briefly, the instrument requires each participant to answer five questions regarding moral dilemmas relating to the aid of ergogenic aids or banned substances in a sporting context. Each response is scored based upon a 1 through 3 scale and the appropriate value is assigned to each response. The EAMCI score presented is a cumulative score of each of the five responses. Please see Appendix A for the scoring rubric. The cumulative pre-test scores were compared to post-test scores using paired t-tests. Statistical significance for this study was set at α=0.05.

Level of interest.

We wanted to assess how interested the participants were in learning about moral values in regards to doping in sport throughout the intervention. To assess this, the participants were asked questions regarding the level of interest in learning about moral values in regards to doping in sport in weeks 1,2,6,7,8,9, and 10. The responses were ranked using a 6-point Likert scale. Mean scores were calculated from each week to obtain a representative score. These data were analyzed using a repeated measures analysis of variance to observe differences across time in this cohort of participants. The data was analyzed to test for Mauchly’s assumption of sphericity, and the appropriate correction criterion (Huynh-Feldt) were used to examine within subject effects across time.
**Responses over time.**

We also measured the level of interest and the engagement of the athletes in the intervention by asking open-ended responses for each of the 11 lessons. The response consisted of written responses to questions about moral values in regard to sport. Examples of these responses can be found in Appendix B. The data from these responses was analyzed both quantitatively and qualitatively. For quantitative analysis, mean scores of word count were calculated from each week to obtain a representative score of response length. A repeated measures analysis of variance was conducted to observe differences across time in this cohort of participants. Again, the data was analyzed to test for Mauchly’s assumption of sphericity, and the appropriate correction criterion (Huynh-Feldt) were used to examine within subject effects across time.

Qualitative answers were read by an expert in moral reasoning of the age group. Patterns of growth were noted by the responses using moral terminology, principled thinking perspective, and referral to personal growth in relation to others.

**Results**

**EAMCI.**

Forty-eight (48) matched-pair EAMCI instruments were received and analyzed and all 48 matched pair instruments were included in the analysis. Analysis of 48 pre-test and post-test completed instruments resulted in an overall mean for pre-test score of 10.50 with a standard deviation (SD) of 2.836 and a post-test score of 12.56 with a SD of 1.912. See table 1 below for overall descriptive statistics. We observed a mean increase of 2.063 with a SD of 2.716. The increase between the pre-test and post-test score was found to be highly significant \( p<.00001, t=5.260 \). See table 2 for a summary of the statistical analysis and figure 1 for a graphical representation of the scores. These results indicate the intervention effectively enhances the moral reasoning of young athletes in regards to ergogenic aids and doping in sport.
Table 1. Descriptive Statistics for EAMCI

<table>
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<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
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<tbody>
<tr>
<td>Pre-Test</td>
<td>48</td>
<td>10.5</td>
<td>2.836</td>
<td>0.409</td>
</tr>
<tr>
<td>Post-Test</td>
<td>48</td>
<td>12.56</td>
<td>1.912</td>
<td>0.276</td>
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Table 1. Summary of descriptive statistics

Table 2. Paired Sample t-test for EAMCI Scores

<table>
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<tr>
<th></th>
<th>Mean</th>
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<th>95% Confidence Interval</th>
<th>t</th>
<th>DF</th>
<th>P value</th>
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<tr>
<td>(Pre-Test)-(Post-Test)</td>
<td>-2.063</td>
<td>2.716</td>
<td>Upper</td>
<td>Lower</td>
<td>-2.851</td>
<td>-1.274</td>
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Table 2. Summary of paired t-test Results

Figure 1. Boxplot of pre-test and post-test scores.
Results of Level of Interest

Nineteen (19) participants completed every question through the eleven lessons that pertained to interest level. A repeated measures ANOVA was conducted to observe differences across time in this cohort of participants. Initial analysis of the data indicated the data violated Mauchly’s assumption of sphericity ($p<.05$). Therefore, we used the Huynh-Feldt Criterion to examine within subject effects. Within subject analysis revealed there were significant differences across time ($F=3.919, p=.015$). These results indicate the intervention increased interest in learning about moral values in regard to sport. Statistical results for the repeated measures ANOVA can be found in tables 3 and 4. Graphic representation can be found in figure 2.

<table>
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<th>Table 3. Mauchly’s Test for Sphericity</th>
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<tr>
<td><strong>Within-Subjects Effect</strong></td>
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<td>Score</td>
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Table 3. Test of sphericity on interest level

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<th>Table 4. Repeated Measures ANOVA for Level of Interest</th>
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<td><strong>Source</strong></td>
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Table 4. Within subjects ANOVA results.
Figure 2. Response Level A

Response on level of interest on the topic of values related to moral reasoning in sport. Data presented as means and standard deviation. * indicates significant difference from lesson 1 (P<.05).
Results of responses over time.

Nineteen (19) participants completed every open ended response question through the lessons. A repeated measures ANOVA was conducted to observe differences across time in this cohort of participants. Again, initial analysis of the data indicates the data violate Mauchly’s assumption of sphericity \((p<.05)\). Therefore, we used the Huynh-Feldt Criterion to examine within subject effects. Within subject analysis revealed there were significant differences across time \((F=13.875, \ p=.<.00001)\). The findings suggest the intervention increased participant involvement and increased the length of response to open ended questions about moral values in regard to sport. Statistical results for the repeated measures ANOVA can be found in tables 5 and 6. Graphic representation can be found in figure 6. These results indicate athletes provide longer responses to open-ended questions, suggesting they are engaging in deeper thought and reflection during the course of the intervention.

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<th>Table 5. Mauchly's Test for Sphericity for Responses over Time</th>
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<tr>
<td><strong>Within-Subjects Effect</strong></td>
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Table 5. Test of sphericity for length of responses to open-ended questions over time.

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<th>Table 6. Repeated Measures ANOVA for Responses over Time</th>
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<td><strong>Source</strong></td>
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Table 6. Repeated measures ANOVA for length of responses over time.
Figure 3. Length of Responses

Length of responses to open-ended moral reasoning questions over time. Data are presented as means and standard deviation. * indicates significant difference from lesson 1 ($P<.001$).
Discussion

The results of our intervention indicate that our online curriculum appears effective in enhancing the moral reasoning of young athletes in regards to ergogenic aids and doping in sport. Furthermore, we have shown our intervention increases interest and engagement in moral reasoning of young athletes in regards to ergogenic aids in sport. Throughout this intervention, we have tracked the athletes’ reasoning skills quantitatively through the data provided here and qualitatively through the quality of their work alongside their oral and written responses to issues regarding doping and sport.

The written assignments and discussions appear to foster a relationship with the instructor on an academic level through online assessments and the reflections allowed the athletes to discuss and share their experiences and thoughts on a deeper, more personal level. The athletes became more engaged in their discussions and in their writing during the progression of the intervention. The writing produced by the athletes began with surface level analyses of the issues presented and progressed to deep reflection, application of moral principles, and thoughtful, complex decision-making. The online reflections began with short responses from the athletes typically one to two sentences in length; however, in the last few online reflections the athletes provided lengthy, reflective, and personal stories that showed their growth in reasoning and understanding of the importance of honor and integrity in sport. See appendix C for examples of the athlete’s online reflective responses. We are assured that this modality of an informal, online setting is a key aspect of the significant growth we witnessed in this group of athletes.

We believe that our experience with this group of athletes provides us with invaluable knowledge in fostering the development of moral reasoning as it pertains to ergogenic aids and doping in sport. The current results provide a basis for further research and support the implementation of educational interventions to enhance moral reasoning in regards to the use of ergonomic aids in sport.

Limitations of the Study

One of our limitations study was the instructor teaches only one section of Sport and Society each semester. Because of our time line, we could not measure with the EAMCI a class taught by the instructor that did not have the online curriculum. However, we do have other data with other instruments to measure moral reasoning in Sport and Society classes. We wanted to control for instructor bias thus we wanted only one instructor to teach all of the sections. It is true that the instructor of record in Sport and Society has a rather long history of being able, through instructional design and curriculum, to help athletes become significantly more morally reasoned. In each past semester, the instructor did evaluate moral reasoning with a pretest,
intervention, posttest design in her Sport and Society classes. None of these classes had the 30 hours of the online WADA Doping curriculum. None of these classes had any online supplementary information. Even though all of these classes did improve in their moral reasoning, no class has had the magnitude of change that the two classes using the online curriculum has had.
Appendix A

EAMCI Instrument

Please complete the following information:

1. Year of birth: _________
2. Gender: Male □ Female □
3. Class: First-Year □ Sophomore □ Junior □ Senior □ Other □
4. Non-athlete Athlete □ Team Sport Athlete □ Individual Sport Athlete □ Athletic Training Student □
5. Years participating in intercollegiate sport or in ATEP program: _________
6. Sources of information on performance enhancing drugs.
   Coach □ Athletic Trainer □ Physician □ Parents □ Other □
   If your source is other please explain in space provided
   ____________________________________________

DIRECTIONS

This questionnaire contains stories that have occurred in an athletic setting. Please read each scenario. Place an X in the blank next to the number with your choice of what should be done. Then go to the correspondingly numbered shaded box and rate each of the three justifications by filling in the circle under 1st, 2nd, or 3rd based on what helped you make your choice. There are no “right” or “wrong” answers.

Julian, a highly recruited sprinter from Zimbabwe attends every practice, works diligently, and is highly respected by his peers and coaches. He is a good student, sits in front of every class, and is an active participant. He is an NCAA finalist and must miss three days of class for the championships. As per university policy, he contacts all of his professors and receives permission to take his final exams at a different time and place.

What should Julian do?

1. X Julian should skip. (Go to box 1)
2. _______ I can’t decide. (Go to box 2)
3. _______ Julian should not. Skip (Go to box 3)

a. Julian should skip because…..

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1. Arnold is married with two small children. He is the sole provider for his family through a lucrative sports endorsement deal. However, this past year he suffered a severe knee injury and underwent reconstructive surgery. Arnold is in rehab and expected to be back on the field this season. Unfortunately rehab is slow, and it looks as if Arnold will miss the entire season. Arnold’s sponsors have threatened they will withdraw financial support should he not perform this season. He learns about a prohibited substance that can speed up his recovery, for which there is no chance of it being discovered during a test.

What should Arnold do?

1. ___ Arnold should take the drug. (Go to box 1)
2. ___ I can’t decide. (Go to box 2)
3. ___ Arnold should not take the drug. (Go to box 3)

j. Arnold must take the drugs to support his family, regardless of sport rules prohibiting performance enhancing drugs.

k. The drug will be out of Arnold’s system before competition starts, technically it's not cheating.

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<td>b. Julian should skip because …..</td>
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<td>c. Julian should skip because …..</td>
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<tr>
<td>d. Julian should…..</td>
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<td>e. Julian should…..</td>
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<td>f. Julian should…..</td>
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<td>g. Julian should not skip…..</td>
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<td>h. Julian should not skip…..</td>
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<tr>
<td>i. Julian should skip because …..</td>
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1. Arnold will not be caught, so there is no chance of Arnold being suspended or banned from the sport.  

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r. Both options are plausible in such a complicated situation. These are two balanced options; Arnold is not at fault whatever choice he makes.  

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n. I do not care whether Arnold chooses dope or not. As long as it does not impact me, I do not care  

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o. Arnold should do whatever he thinks will produce the most positive outcome.  

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p. Testing positive would bring a lot of embarrassment and humiliation to Arnold's family.  

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q. Arnold should not take the drugs because doping is against the rules. There are no exceptions to this rule.  

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r. Arnolds must not take the drugs because; his opponents have a right to drug free competition and equal opportunity to succeed.  

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2. George, while hanging out at the local gym, learns of a new supplement, Supplement X, which is supposed to improve performance significantly and is rumored to be a precursor for testosterone, which is not presently on World Anti Doping Agency's (WADA) list. George recently learned that his competition is taking Supplement X and beat George last season. Because Supplement X is not on WADA's list, in addition, George learned most of his competition is already using supplement X.

What should George Do?

1. **George should take supplement X (Go to box 1)**
2. **I can't decide. (Go to box 2)**
3. **George should not take supplement X. (Go to box 3)**

a. **Supplement X is not on the United States Anti-Doping Agencies list of banned substances; George is not violating**  

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<td>any rules.</td>
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<td><strong>b.</strong> Society would forgive George for taking supplement X, competition is about getting an edge. It all about doing whatever it takes to get the &quot;W&quot;.</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td><strong>c.</strong> Other athletes are already taking supplement X, George is justified in taking supplement X to level the playing field.</td>
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<td><strong>2</strong></td>
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<td>d. I don't care what supplements athletes take. Its George’s body, if he wants to do it, go for it.</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
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<td>e. If they are all doped, does it really matter?</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td>f. George should do whatever he feels right or comfortable.</td>
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<td><strong>3</strong></td>
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<td>g. George should not use supplement X if he wants to be consistent with his moral beliefs that stress honesty and justice.</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
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<td><strong>h.</strong> George should first ask the athletic trainer or team physician before using supplement X.</td>
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<td>i. If other athletes learn about George and supplement X, they will be forced to take it too, even though they do not want to.</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
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3. Coach Great is a javelin guru and is considered the best coach of the century. His athletes always win. Coach Great has been known to push the rules to the limit in preparing athletes. Rumors exist that he uses a secret supplement formula to help athletes enhance performance. Danny enlists in Coach Great's training camp and his parents pay a hefty fee. Each day the athletes are to take a prescribed cocktail of supplements. Danny feels pressured, because anyone who questions Coach Great’s methods has to leave camp.

What should Danny do?

1. Take Coach Great's cocktail. (Go to box 1)
2. I can't decide. (Go to box 2)
3. Leave Coach Great camp. (Go to box 3)

a. If Danny is caught, he will not be punished, Coach Great will take the blame for giving Danny an illegal supplement.

1st  2nd  3rd
0    0    0

b. Danny is in no position to question Coach Great's methods and tactics, he should just do what Coach Great says.

1st  2nd  3rd
0    0    0

c. Taking the supplements is just a natural progression in Danny's career. Danny is justified in advancing his athletic career.

1st  2nd  3rd
0    0    0

d. Danny should do whatever will make the most people happy or create the least conflict.

1st  2nd  3rd
0    0    0

e. All options are equally valid.

1st  2nd  3rd
0    0    0

f. This does not impact me. I do not care whether Danny dopes or not.

1st  2nd  3rd
0    0    0

g. Other coaches and athletes would not approve of Coach Great giving supplements to his athletes.

1st  2nd  3rd
0    0    0

h. If taking supplements is not consistent with Danny moral beliefs, then he should not take the supplements offered by Coach Great.

1st  2nd  3rd
0    0    0

i. Coach Great's secret supplements and performance boosters are the key ingredients of success in Coach Great's training program.

1st  2nd  3rd
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4. Tony is the kind of athletic trainer whom every athlete is comfortable with discussing any problem. Tony and Andrew have worked together for several years. During that time, Tony has developed a respect for Andrew as a person and his work ethic. They also have a close working relationship. Tony feels extremely fortunate to be friends with an athlete like Andrew. Andrew has been in the sport for fours years and has never failed a drug test. During an in-house random test Andrew tests positive for marijuana. The governing body requires that all positives be reported to the ethics committee. Andrew pleads with Tony not to report the test since marijuana does not enhance performance or cheat fellow athletes.

**What should Tony do?**

1. **Tony should report test results.** (Go to box 1)
2. **I can't decide.** (Go to box 2)
3. **Tony should not report test result.** (Go to box 3)

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<tr>
<td>a. If the positive test is discovered somehow, Tony would lose his job, and reprimanded by the Certified Athletic Trainers Board.</td>
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<td>b. If athletic trainers stop reporting in house tests, the sport will be full of druggies.</td>
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<td>c. If Andrew wants to participate in sport, he should comply with the rules of the sport.</td>
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<td>d. Everybody has different views about what Tony should do; so it is just a matter of opinion. It's up to the Tony to decide.</td>
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<td>e. As long as it does not impact me I do not care.</td>
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<td>f. There is no clear cut solution to Andrew and Tony's situation. It is hopeless to try to arrive at a final answer to this situation.</td>
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<td>g. Reporting the positive test will ruin Andrew's career and reputation. Marijuana is not a performance enhancer anyway.</td>
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5. Ian and William are teammates on a highly successful and competitive track team, whose high-powered and often negative coach expects unrealistic success. Ian is in a slump and his current times are not up to the coaches' competitive standards. Coach has informed Ian that either he will improve or he will be cut. William has overheard the conversation and decided to contact Dr. Smith who has a history of helping athletes get back their competitive edge. Dr. Smith gives William a prescription for Ian guaranteed to help improve Ian's performance.

What should Ian do?

1. ___ Ian should take the prescription medication. (Go to box 1)
2. ___ I can't decide. (Go to box 2)
3. ___ Ian should not take the prescription medication. (Go to box 3)
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<tr>
<td>g.</td>
<td>Ian and William may be fined and kicked off the team.</td>
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<td>h.</td>
<td>If Ian considers himself an honest and decent man he would not take the prescription medication to enhance his performance.</td>
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<td>i.</td>
<td>Ian’s coach is putting sport above human dignity or consideration of fellow man.</td>
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Appendix B: Comments of Students

Week 1

*Question:* As you have traveled through sport, have you experienced Arête. Explain yes or no.

*Responses*

Athlete 1 - “Yes, I have always strived to do the best I could at any sport.”

Athlete 2 - “No, I have never really come across Arete.”

Athlete 3 - “Yes. Any athletic event I've done has been undertaken with the goal of reaching that level.”

Week 5

*Question:* How difficult do you think it is to follow your principles in leading a team?

*Responses*

Athlete 1 - “I do not think it is that difficult to be honest. I mean it all depends on the player and their commitment to their leadership. A prime example is Tim Tebow. I know that he has received a lot of heat for being open about his religion as well as personal life, but he uses those principals to lead Reggie White. I once watched a documentary where the opposing teams lineman had hit Reggie and began cursing at him. Instead of acting up he simply smiles and said, "God bless you." To me, these are prime circumstances where leading by example is the best way to lead a team. I've always been a firm believer in practicing what you preach, so in my eyes, following my principles to lead my team would not be difficult”.

Athlete 2 – “I think there is a lot of pressure in leading a team because everyone is counting on you to make the right plays or decisions. In a competitive world we want to win so it might be really easy to cheat sometimes because everyone looks to you to lead the team and you do not want to let them down”.

Athlete 3 – “I personally have always been a leader but those questions threw me for a loop. For example the first football question. I am a leader but would always go with my gut instead of what the higher ups tell me. If the coach does play the new quarterback the players will not respect them and their for not play with as much heart on the field. He really has a better chance proving the boosters wrong with his current quarterback because in the end they just want to see a state title. They could care less who wins it for them.”

Week 9
Question: Coach John Wooden displayed a great deal of patience during his coaching career. Do you think patience always came easy to him? Describe whether or not you think patience can be learned. Recall a recurring situation that required a great deal of your time and patience. How did you eventually deal with the situation, and how does it affect you today?

Responses

Athlete 1 - “I believe that as ironic as it may sound, patience takes patience. By this, I mean to become patient takes time. I honestly do not believe that coach Wooden was just born patient. I think throughout experiences in his life he had learned how to become patient. So yes, I truly do believe the only why to be patient is to learn how to. There is different levels of patience, although someone may be able to wait a few hours on a friend to go to the movies, that does not mean that they are able to just life take its place. They are not able to do everything they can every day to set themselves up for what they see themselves being in the future; that is true patients. I will admit I am a very impatient person when it comes to short term patience. I like immediate results, I do not like sitting around and waiting. But the situation that required a great deal of my time and patience was the process of my weight loss. I hated weighing myself day after day and not seeing the instant result I wanted. But with persistence and believing if I do all the right things, good things will happen for me and I believe it did. It affects me today by much more than my physical appearance that is not what I took out of the whole process. It affects me today because I took the mindset that if I do the right things I should not have to worry; I believe good things will come. Yes things get frustrating or may not make sense at times, but I know that they will make sense eventually.”

Athlete 2 - “I do not think patience came easy to Coach Wooden. He obviously wanted to win as soon as possible, but had to be patient and teach his players how to be patient as well. I do think that patience can be learned. Even though it may be tough, people can learn how to settle down and wait for things to happen. A lot of good things do not come without patience. A lot of people are forced to learn how to be patient and wait for things, in order to be successful. For myself, I can remember a large period of time that required a great deal of my time and patience. It is when I turned 16 years old. At age 16, many companies will start hiring teenagers to start working for their company. When I turned 16, I wanted a job very badly so that I could have spare money to spend on whatever I wanted. However, during the summer, I played baseball games about every other day and had a lot of football events, including workouts and short practices. This meant that I couldn’t get a job in the summer because I had sports all the time. I had to wait until after my senior year until I could finally get a job. I wish I started working at age 16 today because I would have more money saved up in my savings account. However, I had so much fun playing sports in my life and learned many life lessons from them. Since I’m done with sports now, I have the rest of my life to work and make money. I am glad I played sports in high school and didn’t start working at age 16, even though it did require a great amount of patience”.

Athlete 3 – “I’m sure there were instances in Coach Wooden’s career that his patience was tested. I’ve always been a very passionate and emotional guy, but not a man who wears all his emotions on his sleeve. But nonetheless, I have always been very passionate about women as well, but they always test my patience. But not in the way many may think, I love to listen and don't find ways to be annoyed in
relationships. The situations that test my patience are the beginning of relationships. I believe that if 2 people like each other why not give it a shot? Why wait and lose precious time that could be spent with someone else? I live in the moment in many aspects and find social dating standards and misconceptions are so blinding and ridiculous. Why not dive in and see what could be? I'm sure it is quite apparent I'm very passionate about the social issue of men and women not giving each other a chance. There is no solution, simply persistence and patience rule out. All things will work out eventually, but in the circumstances of relationships I believe in spontaneous love and romance, it's much more fun at this point in my life. Not physical love though. I don't mean for men and women to engage in physical relationships spontaneously. Those relationships require much more thought and time. The emotional bond between 2 people in a relationship is what I'm after, and I believe is the one people don't consider as often as they should and its value. My patience with this issue has been tried many times and I continue to practice patience on the issue with much difficulty”.
Appendix C: Report and Results of Semester 1.

Competing with Honor: To Dope or Not to Dope

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From Sharon K. Stoll, Ph. D.
Statistics by Brad P. Dieter, M.S.

Overall Matched Pair Comments

Twenty-four (24) matched pair student instruments were received and analyzed for this report. All 24 matched pair instruments were included in the analysis. Analysis of the 24 instruments resulted in an overall mean for pre-test score of 8.54 with a standard deviation (SD) of 2.265 and a post-test score of 12.42 with a SD of 1.640. See table 1 below for overall descriptive statistics. We observed a mean increase of 3.875 with a SD of 2.050. The increase between the pre-test and post-test score was found to be significant ($p<.001$, $t=-9.2622$). See table 2 for a summary of the statistical analysis and figure 1 for a graphical representation of the scores.

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<th>Minimum</th>
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<td>Pre-Test</td>
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<td>12</td>
<td>8.54</td>
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<td>Post-Test</td>
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<td>15</td>
<td>12.42</td>
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<td>Valid N (listwise)</td>
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Study 1 - Table 1: Summary of descriptive statistics
**Paired Samples Test**

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<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence</th>
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<th>p-value</th>
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<tr>
<td>(Pre-Test) – (Post-Test)</td>
<td>-3.875</td>
<td>2.050</td>
<td>.418</td>
<td>-4.740</td>
<td>-3.010</td>
<td>-9.262</td>
<td>23</td>
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Table 2. Summary of paired *t*-test Results

![Boxplot of pre-test and post-test scores](image)

**Study 1 - Figure 1:** Boxplot of pre-test and post-test scores.

**Comments on the Current Results**

The current results of the intervention are promising and indicate that our curriculum is effective in enhancing the moral reasoning of young athletes in regards to ergogenic aids and doping in sport. Over the course of the intervention we have been able to track and observe the growth of the
athletes reasoning skills quantitatively through the data provided here and qualitatively through the quality of their work and their oral and written responses to issues regarding doping and sport.

We have witnessed the athletes engaging with the instructor on both an academic and personal level. The written assignments and discussions appeared to foster a relationship with the instructor on an academic level through online assessments and the reflections allowed the athletes to discuss and share their experiences and thoughts on a deeper, more personal level. Over the course of the intervention the athletes became more engaged in their discussions and in their writing. The writing produced by the athletes began with surface level analyses of the issues presented and progressed to deep reflection, application of moral principles, and thoughtful, complex decision making. At the onset of the intervention the online reflections began with short responses from the athletes typically one to two sentences in length; however, in the last few online reflections the athletes provided lengthy, reflective, and personal stories that showed their growth in reasoning and understanding of the importance of honor and integrity in sport. See appendix A for examples of the athlete’s online reflective responses. We believe that this modality of an informal, online setting is a key aspect of the significant growth we witnessed in this group of athletes.

Our experience with this group of athletes has provided us with invaluable knowledge in fostering the development of moral reasoning as it pertains to ergogenic aids and doping in sport. The current results are promising and we feel that we will find similar results in next group of athletes to support our curriculum.
Appendix A of Study One

Week 1

Question: As you have traveled through sport, have you experienced Arête. Explain yes or no.

Responses

Athlete 1 - “Yes, because when playing a sport, you always strive for excellence”.

Athlete 2 - “Yes, we have all seen the one person excel but still be honorable”

Athlete 3 - “I have never experienced Arete because I was never the best at an individual sport.”

Athlete 4 - “No, because I was never excellent at all things I was good at some things but still had a lot of room for improvement”.

Week 9

Question: Coach John Wooden displayed a great deal of patience during his coaching career. Do you think patience always came easy to him? Describe whether or not you think patience can be learned. Recall a recurring situation that required a great deal of your time and patience. How did you eventually deal with the situation, and how does it affect you today?

Responses

Athlete 1 - “I don’t think patience comes easy to anyone - we just aren't "programmed" that way. I believe patience can be learned, yes, but it is definitely not easy. We live in a fast paced world where we want what we want, when we want it, and we complain and whine when we don’t get it. I have had to be very patient and put in a lot of time this last year in track. My junior year I contracted mono two times in a row at the beginning of track season, forcing me to not be able to participate. When my senior year came around, I had transferred schools and had my heart set on going to state. Since my freshman year the only dream I ever really had was to make it to state in track. I knew having to forfeit an entire season my junior was going to force me to have to work twice as hard my senior year if I wanted to make it. When track season rolled around I was so excited - I never missed practice, I worked hard on all the drills, worked hard in the weight room, and would even go running on my own sometimes. 300 Hurdles was my main event and every day that I would have to hurdle in practice, I would run through ‘em until my coach was satisfied and said that it looked good! We would do workouts as a team sometimes, other times we would split off into our specific events and work individually. In both the team workouts and the individual workouts, I always gave more - if we did 2 continuous 800s (running a total of 4 laps alternating walk, jog, and sprint every 100 meters), I would usually do an extra 800. When my coach told me to do 10 starts with the blocks, I would do 15. I wanted state more than anything. Throughout the season, my times started off much higher than where I ended my sophomore year; I ended at regionals sophomore year in the 53 second range, and started my senior year in the 58 second range. It was disappointing but I understood why. With each track meet, my times slowly came
down, but it was almost too slow and began to worry as the season progressed. I kept working hard, still never missed a practice, and even asked some of my friends, one who was a former hurdler who had graduated the year before, and another who had torn his ACL during football, but had ran in the low 40's the previous year. They helped me with technique; I caught on really fast and instantly applied the techniques perfectly - so perfectly my coach said he would hug me if it wasn't against the law. I worked on it and worked on it. Districts came around and I won - I was the fastest in our league the entire year. We took a bus down to Lapwai for regionals and I barely managed to qualify for the finals the second day. At this point I was in tears; I didn't understand why I worked so hard all season and barely qualified for the finals, and some of the other members on my team goofed off in practice and didn't care half as much as I did, but were almost guaranteed to go to state. I went back to the hotel that night with only one thing on my mind: tomorrow was my last chance at ever seeing my dream come true. I went to bed early to get plenty of sleep and ate a good breakfast in the morning. About 3 o'clock that afternoon was my race. It was the warmest it had been all season for us and I spent an hour stretching out before it was my time. My event was called, I set up my blocks in the lane I was assigned ready to run. I was scared and excited at the same time. The words "On your mark", "Set", "Go" were said just before the gun sounded. I ran as fast as my legs could go. I thought about the technique; counting my steps in my head to hurdle at the right time, leaning into it, striking down the lead foot to get an explosive grip on the track for the next step....I reached the finish line. 2 seconds too slow. I turned around barely able to breathe realizing it was over. The timer showed me the stopwatch - the fastest I'd ran all season...but it wasn't enough. I dealt with the situation of knowing I would have to put time and effort in exactly how I feel I should have. I did what was expected of me and more and had I not had the patience....had i been like all the other athletes on my team who showed up, did the workout, and tried to get out of there as soon as they could, I wouldn't have qualified for the finals. I was always the last one at practice and after that final race, I walked over to my coach, he told me I did a great job, and I continued back to the tent and passed my assistant coach. I looked at her and she was holding back tears because she knew how hard I had worked, how much it had meant to me, and that I was devastated. I held it in until I reached the tent and then the tears filled my eyes. It affects me to this day...it affects me EVERY day because it was the only dream I ever really had and I never understood why it had to be that I never made it. It has had more of a negative effect on me than anything because since then I've felt that no matter how hard I try I'll never be good enough and it makes me wish every day I could go back. I loved track - I've loved running since I can remember and it's hard to know I gave it everything I had and it just wasn't enough. Granted, had I not put in so much time and had the patience to do extra in the workouts, I do not believe I would've qualified from the pre-lims to the finals on the first night, so I know it paid off to some degree, but unfortunately it hasn't changed the overall outcome and overall feeling I carry with me day to day because of it".

Athlete 2 - “I do not think that patience comes easy to anyone. Mr. Wooden may have just been better at hiding his frustration than others. I do think that patience can be learned because it happened to me. In the beginning of my golf career, I had little to no patience for the game. But as the years have gone by, I find that I do feel more patient during my round. Yet sometimes it is just one of those days where nothing can bring you out of a bad round, and I find myself displaying my frustration more than I
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Appendix D: Results of Second Semester 2013

*Competing with Honor: To Dope or Not to Dope*

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From Sharon K. Stoll, Ph. D.  
Statistics by Brad P. Dieter, M.S.

**Overall Matched Pair Comments**

Twenty-four (24) matched pair athlete instruments were received and analyzed for this report. All 24 matched pair instruments were included in the analysis. Analysis of the 24 instruments resulted in an overall mean for pre-test score of 8.54 with a standard deviation (SD) of 2.265 and a post-test score of 12.42 with a SD of 1.640. See table 1 below for overall descriptive statistics. We observed a mean increase of 3.875 with a SD of 2.050. The increase between the pre-test and post-test score was found to be significant ($p<.001$, $t=-9.2622$). See table 2 for a summary of the statistical analysis and figure 1 for a graphical representation of the scores.

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<th>Maximum</th>
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<td>12</td>
<td>8.54</td>
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<tr>
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<td>15</td>
<td>12.42</td>
<td>1.640</td>
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<tr>
<td>Valid N (listwise)</td>
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Study 2 - Table 1. Summary of descriptive statistics

<table>
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<tbody>
<tr>
<td>Paired Differences</td>
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<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>(Pre-Test) – (Post-Test)</td>
<td>-3.875</td>
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</tbody>
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Table 2 - Study 2. Summary of paired t-test Results

Study 2 – Figure 2. Boxplot of pre-test and post-test scores.

Comments on the Current Results

The current results of the intervention are promising and indicate that our curriculum is effective in enhancing the moral reasoning of young athletes in regards to ergogenic aids and doping in sport. Over the course of the intervention we have been able to track and observe the growth of the athletes reasoning skills quantitatively through the data provided here and qualitatively through the quality of their work and their oral and written responses to issues regarding doping and sport.
We have witnessed the athletes engaging with the instructor on both an academic and personal level. The written assignments and discussions appeared to foster a relationship with the instructor on an academic level through online assessments and the reflections allowed the athletes to discuss and share their experiences and thoughts on a deeper, more personal level. Over the course of the intervention the athletes became more engaged in their discussions and in their writing. The writing produced by the athletes began with surface level analyses of the issues presented and progressed to deep reflection, application of moral principles, and thoughtful, complex decision making. At the onset of the intervention the online reflections began with short responses from the athletes typically one to two sentences in length; however, in the last few online reflections the athletes provided lengthy, reflective, and personal stories that showed their growth in reasoning and understanding of the importance of honor and integrity in sport. See appendix A for examples of the athlete's online reflective responses. We believe that this modality of an informal, online setting is a key aspect of the significant growth we witnessed in this group of athletes.

Our experience with this group of athletes has provided us with invaluable knowledge in fostering the development of moral reasoning as it pertains to ergogenic aids and doping in sport. The current results are promising and we feel that we will find similar results in next group of athletes to support our curriculum.
Appendix A of Study Two

Week 1

Question: As you have traveled through sport, have you experienced Arête. Explain yes or no.

Responses

Athlete 1 - “Yes, because when playing a sport, you always strive for excellence”.

Athlete 2 - “Yes, we have all seen the one person excel but still be honorable”

Athlete 3 - “I have never experienced Arete because I was never the best at an individual sport.”

Athlete 4 - “No, because I was never excellent at all things I was good at some things but still had a lot of room for improvement”.

Week 9

Question: Coach John Wooden displayed a great deal of patience during his coaching career. Do you think patience always came easy to him? Describe whether or not you think patience can be learned. Recall a recurring situation that required a great deal of your time and patience. How did you eventually deal with the situation, and how does it affect you today?

Responses

Athlete 1 - “I don't think patience comes easy to anyone - we just aren't "programmed" that way. I believe patience can be learned, yes, but it is definitely not easy. We live in a fast-paced world where we want what we want, when we want it, and we complain and whine when we don't get it. I have had to be very patient and put in a lot of time this last year in track. My junior year I contracted mono two times in a row at the beginning of track season, forcing me to not be able to participate. When my senior year came around, I had transferred schools and had my heart set on going to state. Since my freshman year the only dream I ever really had was to make it to state in track. I knew having to forfeit an entire season my junior was going to force me to have to work twice as hard my senior year if I wanted to make it. When track season rolled around I was so excited - I never missed practice, I worked hard on all the drills, worked hard in the weight room, and would even go running on my own sometimes. 300 Hurdles was my main event and every day that I would have to hurdle in practice, I would run through 'em until my coach was satisfied and said that it looked good! We would do workouts as a team sometimes, other times we would split off into our specific events and work individually. In both the team workouts and the individual workouts, I always gave more - if we did 2 continuous 800s (running a total of 4 laps alternating walk, jog, and sprint every 100 meters), I would usually do an extra 800. When my coach told me to do 10 starts with the blocks, I would do 15. I wanted state more than
anything. Throughout the season, my times started off much higher than where I ended my sophomore year; I ended at regionals sophomore year in the 53 second range, and started my senior year in the 58 second range. It was disappointing but I understood why. With each track meet, my times slowly came down, but it was almost too slow and began to worry as the season progressed. I kept working hard, still never missed a practice, and even asked some of my friends, one who was a former hurdler who had graduated the year before, and another who had torn his ACL during football, but had ran in the low 40's the previous year. They helped me with technique; I caught on really fast and instantly applied the techniques perfectly - so perfectly my coach said he would hug me if it wasn't against the law. I worked on it and worked on it. Districts came around and I won - I was the fastest in our league the entire year. We took a bus down to Lapwai for regionals and I barely managed to qualify for the finals the second day. At this point I was in tears; I didn't understand why I worked so hard all season and barely qualified for the finals, and some of the other members on my team goofed off in practice and didn't care half as much as I did, but were almost guaranteed to go to state. I went back to the hotel that night with only one thing on my mind: tomorrow was my last chance at ever seeing my dream come true. I went to bed early to get plenty of sleep and ate a good breakfast in the morning. About 3 o’clock that afternoon was my race. It was the warmest it had been all season for us and I spent an hour stretching out before it was my time. My event was called, I set up my blocks in the lane I was assigned ready to run. I was scared and excited at the same time. The words "On your mark", "Set", "Go" were said just before the gun sounded. I ran as fast as my legs could go. I thought about the technique; counting my steps in my head to hurdle at the right time, leaning into it, striking down the lead foot to get an explosive grip on the track for the next step....I reached the finish line. 2 seconds too slow. I turned around barely able to breathe realizing it was over. The timer showed me the stopwatch - the fastest I’d ran all season...but it wasn’t enough. I dealt with the situation of knowing I would have to put time and effort in exactly how I feel I should have. I did what was expected of me and more and had I not had the patience....had I been like all the other athletes on my team who showed up, did the workout, and tried to get out of there as soon as they could, I wouldn’t have qualified for the finals. I was always the last one at practice and after that final race, I walked over to my coach, he told me I did a great job, and I continued back to the tent and passed my assistant coach. I looked at her and she was holding back tears because she knew how hard I had worked, how much it had meant to me, and that I was devastated. I held it in until I reached the tent and then the tears filled my eyes. It affects me to this day...it affects me EVERY day because it was the only dream I ever really had and I never understood why it had to be that I never made it. It has had more of a negative effect on me than anything because since then I’ve felt that no matter how hard I try I’ll never be good enough and it makes me wish every day I could go back. I loved track - I’ve loved running since I can remember and it’s hard to know I gave it everything I had and it just wasn’t enough. Granted, had I not put in so much time and had the patience to do extra in the workouts, I do not believe I would’ve qualified from the pre-lims to the finals on the first night, so I know it paid off to some degree, but unfortunately it hasn’t changed the overall outcome and overall feeling I carry with me day to day because of it”.
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References and Related Bibliograph


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Stoll, S. K. (1992). *If you don’t know the terms, you can’t play the game*. Moscow, ID: University of Idaho, Center for ETHICS.


