Virtue or Success? It Depends on Self-interest

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Virtue or Success? It Depends on Self-interest

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ABSTRACT

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Virtue or Success: It Depends on Self-interest

Director of Thesis: Mark Alicke

The present studies extend research on contingencies of self-worth (CSW) to the moral domain by demonstrating that moral conflicts are resolved in a way that maximizes benefits to important aspects of self-worth. We use multi-attribute utility theory (MAUT) to model the choices people make when CSW conflict with behaving virtuously. In Study 1, the moral decisions of Division 1 athletes were compared to those of non-athletes across athletic and academic domains. In Study 2, athletes were compared to individuals whose self-worth is staked in business success. Results across both studies indicate that utility, calculated as a function of CSW and anticipated boosts to self-esteem, predicted moral decisions in academic, athletic, and business domains. Differences were found between athletes and non-athletes such that athletes were more willing to set virtue aside for the sake of success in sport. Together, these results suggest that when domains most central to self-worth are challenged, self-interest prevails as otherwise virtuous individuals become more willing to endorse unethical behavior.
ACKNOWLEDGMENTS

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CHAPTER 1: INTRODUCTION

In the 2003 French Open semi-final match against Serena Williams, Justine Henin, one of the most successful and respected players in women’s tennis history, left spectators astonished by her lack of sportsmanship and, seemingly, blatant dishonesty. Toward the end of the third and deciding set, as Williams tossed the ball to serve, Henin raised her hand in the air, visibly signaling for her opponent to wait. Williams attempted to stop her motion but was too far along to prevent contact, so the ball traveled over the net. The oblivious umpire called the serve out and Williams, dumbfounded, vehemently declaimed the injustice. When questioned about her actions, however, Henin remained silent. Even more shocking, perhaps, is that the incident was televised worldwide. Millions of people knew the truth. Yet, Henin still capitalized on the advantage.

The purpose of this example is not to suggest that Justine Henin is an unethical, "bad" person. In fact, when asked about the incident in 2011, a month after retiring, Henin said, "It is true…that is not my proudest moment" (WTA, 2011). Rather, we propose that her decision at the time was guided by the contingencies of her self-worth (CSW), or the domains on which her sense of value in the world is based (Crocker & Wolfe, 2001). She had two options: be honest and allow Williams a first serve, or remain silent and move one step closer to victory.

In this paper, we argue that Henin’s decision reflected the relative importance to her self-worth of success in tennis versus virtue. In particular, Study 1 will compare the moral decisions of Division 1 athletes and non-athletes in athletic and academic domains. When success in sports conflicts with virtue, we expect that the importance of success in
sport to athletes’ self-worth will lead them to set virtue aside in comparison to non-athletes. However, given that both the athletes and non-athletes in our study are students, we expect academic success to be equally important to both, and for decisions within the academic domain to reflect this similarity. Study 2 addresses this similarity by testing differences between groups with non-overlapping CSW. In particular, Division 1 college athletes whose self-worth is contingent upon success in sport will be compared to individuals whose self-worth is contingent upon success in business, but not sport. Ultimately, we hope to demonstrate that the moral decisions of both athletes and non-athletes are driven by the desire to maximize benefits to important aspects of their self-worth.

In their model of global self-esteem and CSW, Crocker and Wolfe (2001) build upon the work of William James (1890) by suggesting that individuals’ sense of value in the world is a function of their successes and failures within domains that are most important to their self-worth. The crucial implication for the present research is that global self-esteem can be altered by successes and failures in the areas in which self-worth is staked (Crocker & Wolfe; Crocker, 2002; Crocker, Sommers, & Luhtanen, 2002). This contingency introduces a pervasive and fundamental moral dilemma when the need for success butts up against the desire to be virtuous. To the extent that success in an important domain conflicts with behaving virtuously, and failure has the potential to reduce an individual’s sense of self-worth, it seems possible, and perhaps even likely, that virtue—the weaker contingency-- will be cast aside in favor of success—the stronger one.
Moral conflicts and compromises are pervasive. Whether it is an athlete deciding to break a rule for the sake of winning a contest, a college student deciding between cheating or receiving a poor grade, or a politician securing reelection by advocating a policy that she does not really endorse, individuals are frequently faced with difficult moral decisions. We assume that the most difficult conflicts are the ones that are relevant to their fundamental sense of self-worth. The important question in this regard concerns the factors that determine whether people take the high road or decide to compromise their moral standards. Why, for instance, did Henin choose to remain quiet? In a more publicized case, what provoked Mark McGuire, despite already being one of the best hitters in baseball, to use steroids? Perhaps, most interesting, is it the case the Henin and McGuire would behave unethically across all domains, or is their unethical behavior limited to domains in which success is most central to their self-worth?

Although the answers to these questions are undoubtedly complex, one way to address them is by framing CSW within multi-attribute utility theory (MAUT). MAUT accounts for the relative important of a given attribute to an individual, as well as the utility, or benefit, that the attribute provides (Baron, 2000). This provides a useful framework within which to understand the role that CSW plays in predicting moral decisions. In particular, MAUT parses the overall utility of a decision into separate attributes that represent facets of value to an individual. For each possible choice, overall utility (MAU) is calculated by multiplying the individual utility of each attribute \( u_i \) by its weight \( w_i \), or importance to the individual (Baron; Hofmann, Hoelzl, & Kirchler, 2008).
MAU = \sum w_{i} u_{i}

What is most relevant for the purposes of predicting moral decisions based on CSW, is that MAUT accounts for the different weights, or importance, of attributes relative to each other (Baron). To illustrate, when buying a car, attributes of interest may include price, safety, and gas-mileage (Baron). For a given individual, price may be the most important attribute relative to the others. As such, the predicted utility and ultimate decision should reflect this ordering. In this sense, utility is defined as the benefit, calculated with regard to both outcome and the importance of the attribute to the individual, that results from a given decision (Baron).

Extending MAUT to CSW, the contingencies on which global self-esteem may be based can be thought of as attributes that, like the color and price of a car, carry different weights. Just as individuals may have to choose between an economy car that gets high gas mileage but is perhaps not as safe as the gas-guzzling SUV, they may face situations in which contingencies on which self-worth is staked may conflict with optimal moral choices. The ultimate decision, as with the choice of car, should reflect the various weights and, thus, the subsequent utilities that each contingency provides. Utility then, in the case of CSW, is more specifically defined as the benefit to self-worth. Extending this more formally to the MAUT equation, the individual utility ($u_i$) represents the boosts to self-esteem that fulfilling a contingency provides, while weight ($w_i$) is reflected by the extent to which the contingency implicated by the decision is important to the individual. To illustrate, if a tennis player decides between cheating and winning a match or being honest and losing, the overall utility of each option is represented by the anticipated boost
to self-esteem and the importance to self-worth of the contingency that is fulfilled by the decision (i.e., being successful or virtuous).

We do not assume that people literally make these calculations. A student who is tempted to cheat does not do arithmetic in the margin of her test before deciding that she may be best served to keep her eyes on her own paper. Nor does a tennis player sit on a changeover with a calculator in hand. Instead, we use MAUT as a convenient way to model the conflict between the anticipated benefits to self-worth of succeeding in more and less important domains pit against the competing value of being virtuous. An important strength of MAUT is that allows for the benefits and costs associated with various aspects of self-worth to be accounted for simultaneously. In particular, by modeling CSW in a MAUT framework, benefits to self-worth can be parsed into different attributes, which may carry different weights. Given that decisions in the real world are often complicated and may implicate more than one contingency, perhaps MAUT’s biggest strength is that is able to simultaneously account for individual differences in aspects most important to self-worth and the relative contribution or cost of each to overall utility.

To summarize, we are interested in the moral choices people make when CSW conflict with behaving virtuously, and we use MAUT to model this conflict. To our knowledge, only one prior study has extended CSW to the realm of moral decision-making. That study found that among males, out-performing others as a contingency of self-worth predicted cheating behavior on an academic test (Niiya, Ballantyne, North, & Crocker, 2008). This finding, however, is limited to the academic domain. We are
interested in the possibility that an individual who is willing to behave unethically to obtain success in a more important domain (e.g., tennis), may be unwilling to behave unethically to obtain success in a less important one (e.g., school). Similarly, more complicated situations could arise in which protecting or acting with regard to one contingency may come at the expense of an alternate contingency. Given these more complex situations, we hope to demonstrate that contingencies of self-worth will vary by domain. Ultimately, MAUT allows for the extension of CSW into the realm of moral decision-making, a connection that has yet to be explored.

Additionally, research on MAUT has been focused primarily in the realm of cost-effective decision-making in economics, health care, and policy (Hoffman, Hoelzl & Kirchler, 2008; Baron, 2000). In economics, for example, a strategist will calculate the expected utility, or value, of alternate outcomes (e.g., the risk and possible return from various stock choices), and then choose according to which outcome will provide the greatest utility (Baron). MAUT has also been successfully extended to the realm of morality. For instance, one study found that individuals tended to weigh the moral outcomes of investing in companies that sell tobacco or alcohol products (i.e., "sin stocks") against the financial gains that investing in such a company may provide (Hoffman, et al., 2008). Similarly, MAUT was found to be a useful decision-making strategy in understanding environmental planning and the potential outcomes, positive and negative, that may result from a given decision (Kwak, Yoo & Kim, 2001) But despite these studies addressing morality as a type of utility, they have done so with a focus on predominately extrinsic outcomes (e.g., making money; choosing a location for
a power plant) and have largely ignored utility associated with intrinsic outcomes (e.g., impacts on self-worth). As such, we hope to extend MAUT to an intrapersonal level by framing contingencies of self-worth as attributes which ultimately will guide moral decisions.

**Contingencies of Self-worth**

Although much has already been said about contingencies of self-worth as being domains in which an individual’s sense of value in the world is staked, the relevant background from which we draw this inference has not yet been discussed. In particular, in their model of global self-esteem and CSW, Crocker and Wolfe (2001) suggest that contingencies on which self-worth is based may differ in importance across individuals and, thus, exert varying levels of influence over behavior. As this relates to the present studies, two important implications follow. First, contingent self-worth is sensitive, as opposed to stable, and places individuals at greater risk for fluctuations in self-esteem (Crocker, Sommers, & Luhtanen, 2002). For instance, in a study in which students applying to graduate school were followed over the course of the application process, it was found that students’ whose self-worth was contingent upon academic success were more likely to experience decreases in self-esteem after a rejection letter and increases in self-esteem after an acceptance letter (Crocker, et. al).

This leads to a second implication, namely, due to the instability of contingent self-worth, the various domains in which self-worth is staked require varying levels of protection and maintenance (Crocker and Park, 2003). For instance, female college students whose self-worth was contingent upon appearance reported more disordered
eating than those whose self-worth was not contingent upon appearance (Crocker, 2002). In this case, the women engaged in behaviors to remain attractive through potentially harmful dietary restriction. This example illustrates the power that maintaining and protecting contingencies most important to self-worth may hold. But, importantly, this example may serve useful in understanding how it could be that contingent self-worth may predict unethical behavior. If individuals are willing to put their own health on the line (e.g., disordered eating) in the name of protecting a contingency, then it seems reasonable to predict that, given a situation in which ethical behavior threatens an important contingency, virtue will be readily set aside.

Taken together, these implications lead to a clearer understanding for the basis of our predictions. Specifically, to the extent that fluctuations in self-esteem are experienced as aversive and have the potential to reduce an individual’s more general sense of self-worth, if faced with a situation in which an important contingency is threatened, a "weaker" contingency, virtue or otherwise, should be readily set aside.

**Moral Decisions across Domains**

One of the primary goals of the present studies is to use self-worth to explain moral decisions. Given that self-worth comprises components that vary in strength and importance, we expect moral decisions to reflect this balance. In particular, we do not believe that people who are willing to cheat in one domain are generally "bad" people who are necessarily willing to cheat in any domain. Rather, we argue for a situational ethics approach, such that ethics will vary across domains based on which decision-ethical or unethical- provides the most benefit to self-worth. To illustrate, if a tennis
player’s self-worth is heavily invested in being successful on the tennis court, a potential threat to the contingency (e.g., losing) would evoke attempts to protect her more general sense of worth. In this case, it is possible that, although virtue may be important to the tennis player, success carries more weight in the athletic domain. As such, given a situation in which dishonesty leads to success and honesty leads to failure, cheating behavior would be predicted. But now imagine that after her match is over, the tennis player has to take an important exam. Midway through, she realizes that despite not knowing the answers, she could easily look at her neighbor’s test without getting caught. The “tennis player-turned-student” has a decision to make: keep her eyes on her own paper and likely get a poor grade, or cheat and retain a chance of receiving an A. In this case, it could be that despite deciding to cheat on the tennis court, the student now decides to forgo success. In other words, with pencil in hand, virtue as a contingency to self-worth carries more weight than does success in school. Thus, her decision reflects this disparity.

The argument we make that moral decisions will vary by domain pits virtue versus situational ethics. The virtue ethics position in philosophy suggests that individual character determines moral decisions and behaviors (Reed, 2012). For instance, Aristotle believed that if people are motivated to understand and practice the good as a part of their daily lives, the good, over time, would become a part of their character (Reed). From this vantage, people, rather than situations they find themselves in, are ultimately in control of their good or bad ethical behavior. In this way, the tennis player's decision to cheat in sports may be explained, not by external pressures or social norms but rather by her poor
moral character.

The social psychological approach gives more weight to the situation, such that the tennis player's decision to cheat would be explained, at least in part, by situational forces (Doris, 2002). For instance, was the tennis player feeling very pressured to succeed? Is there a culture of cheating in her particular sport, such that it is normative and even accepted? Although the debate between internal and external forces still remains vibrant, situational factors as predictors of behavior appear to have more empirical support (Doris). For instance, one study found that children's willingness to donate to charity was largely influenced by situational factors, rather than individual factors such as parenting, temperament, or genetics (van Ijzendoorn, Bakermans-Kranenburg, Pannebakker, & Out, 2010). Similarly, more traditional social psychology studies such as Zimbardo's (1973) prison experiment suggest that even presumably normal, well functioning Stanford students will behave in abusive ways by simply changing their surroundings, dressing them in a uniform, and giving them a billy club.

Our goal, namely, using self-worth as a predictor of moral decisions, seems to find a middle ground in the debate. It is true, in keeping with the virtue-ethics approach, that self-worth is an individual factor. However, we do not argue, as philosophers might, that an individual who is willing to set virtue aside in one instance will be willing to do so in all instances due to a generally lacking character. Instead, we argue that, although an individual factor, self-worth exerts varying levels of influence depending on the situation and, specifically, how important that situation and its' outcomes are to maintaining an
individual's more global sense of value. For some, this may entail cheating in tennis, but not in school. For others, it may entail honesty, or dishonesty, across the board.

With this in mind, we test three primary hypotheses in study 1. First, we expect utility, calculated as a function of CSW and anticipated boosts to self-esteem, to predict moral decisions across academic and athletic domains. Specifically, anticipated benefits to self-worth that result from behaving virtuously or achieving success within important domains will lead to a greater likelihood of endorsing that particular outcome. Second, we expect to obtain differences between athletes and non-athletes in utility and moral decisions, such that athletes will derive more benefit to self-worth from success in sport at the cost of virtue and will be more likely to endorse cheating for the sake of winning. Further, within the athletic domain, athletes will gain more benefit and will be more likely to endorse cheating and winning compared to outcomes that include being honest but losing. We also expect differences between the athletic and academic domains, such that athletes will benefit more from success in sport at the cost of virtue and will be more likely to endorse cheating in sport than in school. The third hypothesis concerns moral judgments. It is more exploratory in nature, as it is not clear that moral judgments will necessarily mirror moral decisions. In particular, we believe that the benefits to self-worth that result from success in sport will override knowledge that an act is morally wrong. In this way, we expect athletes to judge cheating in sport as wrong, despite their endorsement of it.
CHAPTER 2: METHODS: STUDY 1

Participants

Participants included forty-nine undergraduate students enrolled in a psychology course at a large Midwestern university, as well as eight members of a Division I women’s tennis team and fifteen members of a Division I women’s lacrosse team at two different large Midwestern universities. The coach from each of the teams was contacted and asked permission to send online questionnaires to the athletes on their team. No differences were found between lacrosse and tennis players on any of the variables. As such, they were combined into a single “athlete” group (N=23). Participants in the non-athlete group whose CSW-Sport score was higher than four, indicating a self-worth contingent upon athletic success, were excluded from the analysis. As such the total number of non-athletes was thirty-two, including eleven males and twenty-one females. Males were included in the analysis after determining that there were no gender differences among the variables of interest. The disparity in cell sizes is due to lack of participation by members of the sports teams.

Materials

Moral scenarios. Moral scenarios included four “sport” scenarios (two for lacrosse and two for tennis), as well as two “school” scenarios. Participants were asked to imagine that they had made the same decision and experienced the same outcomes as the character in each scenario and then to report their anticipated boosts to self-esteem, the likelihood that they would have made the same decision, and judge the action’s moral acceptability. Each scenario pit success in either sport or school against virtue and was
paired with a scenario that was identical except for the outcome. For example, one scenario stated: “At 8-7 in the third set tie breaker at the NCAA Tennis Championship, Jill’s opponent hits a winner down the line. Jill sees that it hits the line, but to her surprise, the linesman calls it out. Jill thinks it over and decides not to correct the linesman. As a result, she ends up winning the match.” In this case, the character is successful but not virtuous. The paired scenario has only a different outcome (“...Jill thinks it over and decides to correct the linesman. As a result, she ends up losing the match”). In this case, the character fails, but is virtuous in doing so. The school scenario was as follows: “Jill takes an important exam in school. A few days later, the teacher hands the graded exams back to the class and they go over the answers. Jill comes to find out that even though she got an A, the teacher made a mistake in grading her particular exam, such that she actually should have gotten a C. Jill thinks it over and decides not to tell the teacher that her real grade should have been a C. As a result, Jill keeps the A.” In the paired scenario, everything is identical except that Jill decides to tell the teacher about the mistake and receives a lower grade.

**Procedure**

Participants completed the questionnaire online. Participants read four scenarios, presented in random order, involving tennis (for the tennis players) or lacrosse (for the lacrosse players) and school. Participants in the non-athlete group were randomly selected to read either lacrosse or tennis scenarios. All participants read the school scenarios. After reading each scenario and reporting their boosts to self-esteem, moral

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1 Pairing contingencies against each other within a scenario in order to identify the dominant contingency was adapted from a study by Sommers and Crocker (2000).
decisions, and moral judgments, participants then completed the CSW Scale (Crocker, Cooper, & Bouvrette, 2003) as well as demographic information. Finally, participants were debriefed and thanked for their participation.

**Measures**

**Moral decisions.** After each scenario, participants responded to the statement, “If I had been in the same situation as Jill, I would have made the same decision” [1=strongly disagree, 7=strongly agree].

**Self-esteem.** Following each scenario, participants responded to the statement, “If I had made the same decision and experienced the same outcomes as Jill, my self-esteem would get a boost” [1=strongly disagree, 7=strongly agree].

**Moral judgments.** Moral judgments were collected after each scenario. Participants responded to the following statement: “Jill’s decision was morally acceptable” [1=strongly disagree, 7=strongly agree].

**Contingencies of self-worth.** The CSW scale (Crocker, Cooper, & Bouvrette, 2003) is a commonly used measure. Each subscale consists of five items, and participants respond on a 7-point scale [1=strongly disagree, 7=strongly agree]. The subscales in this study include success in tennis, success in lacrosse, academic competence, and virtue. The “success in tennis” and “success in lacrosse” subscales were created by substituting the words “lacrosse” or “tennis” for “academic” in the academic competence CSW subscale. Reliability tests indicated alphas greater than .83 for each scale.

**Utility.** Using the MAUT formula, \( MAU = \sum wiu \) (Baron, 2000; Hofmann, Hoelzl, & Kirchler, 2008), weights were calculated by averaging the relevant items on each CSW
subscales. Boosts to self-esteem reported for each scenario were used as the individual utility \( (u) \). The final predicted utility resulting from each scenario was calculated by multiplying the individual utility by the weight of the contingency.
CHAPTER 3: RESULTS: STUDY 1

Separate simple linear regression analyses were conducted for each scenario. Decisions were regressed on predicted utility (see Table 1). For each scenario, the greater the predicted utility from the stated outcome (success at the cost of virtue, or virtue at the cost of success), the more likely participants were to report making the same decision as the character in the scenario.

Table 1

<table>
<thead>
<tr>
<th>Utility</th>
<th>β</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports: Virtue, no success</td>
<td>.40**</td>
<td>10.01</td>
<td>.16</td>
</tr>
<tr>
<td>Sports: No virtue, success</td>
<td>.46**</td>
<td>13.90</td>
<td>.21</td>
</tr>
<tr>
<td>School: Virtue, no success</td>
<td>.30*</td>
<td>5.13</td>
<td>.09</td>
</tr>
<tr>
<td>School: No virtue, success</td>
<td>.62**</td>
<td>32.33</td>
<td>.37</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01

Group and Within Group Differences

Moral decisions. A 2x4 mixed factor ANOVA (group: athlete or non-athlete by decisions across four scenarios: virtue but no success in lacrosse, virtue but no success in school, no virtue but success in lacrosse, and no virtue but success in school) measured differences in the likelihood of decisions when athletes and non-athletes imagined being successful but not virtuous, or failing but being virtuous in the athletic and academic domains. A main effect for decisions was found, as well as a group by decision interaction, F(3, 159)=5.43, p<.01, η²=.09, F(3,159)=5.83, p<.01, η²=.10. Planned
posttests indicate that athletes were less likely than non-athletes to report making the same decision as the character in the scenario when the outcome was virtue at the cost of success in sports but more likely when the outcome was success in sports at the cost to virtue (see Table 2). No group differences were found for the school scenarios. In addition, athletes reported being more likely to make the same decision when they imagined being successful in sport at the cost of virtue, compared to when they imagined being virtuous at the cost of success. Likewise, athletes were more likely to report making the same decision when the outcome was success in sport at the cost of virtue compared to the same outcomes in school. No within group differences were found for non-athletes.

Table 2

<table>
<thead>
<tr>
<th>Moral Decision</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>2.52a</td>
<td>4.09bc</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>5.43b</td>
<td>4.09c</td>
</tr>
<tr>
<td>School: Virtue, no success</td>
<td>4.35c</td>
<td>4.06c</td>
</tr>
<tr>
<td>School: No virtue, success</td>
<td>3.87c</td>
<td>4.50c</td>
</tr>
</tbody>
</table>

*Note:* For each dependent measure, means in the same row or same column not sharing a common subscript differ p<.05

**Utility.** A 2x4 mixed factor ANOVA (group x utility scores across four different scenarios) resulted in a main effect for utility, F(3, 159)= 3.80, p=.01, η2=.07, as well as
a group by utility interaction $F(3,159)=9.80$, $p<.01$, $\eta^2=.16$. Planned posttests indicate that, compared to non-athletes, athletes gained more utility when they imagined being successful in sport at the cost of virtue (see Table 3). No differences in utility were found between athletes and non-athletes when the outcome was virtue at the cost of success in sport. No group differences in utility were found in the school scenarios. For athletes, being successful in sport at the cost of virtue resulted in more utility compared to being virtuous but not successful. Further, success in sport at the cost of virtue resulted in more utility than the same outcomes in school. There was no difference in utility for athletes across school scenarios. For non-athletes, the trend was reversed. Namely, the utility of being virtuous but not successful in sport was greater than the utility of being successful in sport but not virtuous. Further, the utility of being successful in school at the cost of virtue was higher than the same outcomes in sports. However, being virtuous at the cost of success in school resulted in more utility than being successful in school at the cost of virtue.

Table 3

<table>
<thead>
<tr>
<th>Utility</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>17.10a</td>
<td>19.65ab</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>23.99b</td>
<td>9.12c</td>
</tr>
<tr>
<td>School: Virtue, no success</td>
<td>22.40bc</td>
<td>21.73b</td>
</tr>
<tr>
<td>School: No virtue, success</td>
<td>17.84ac</td>
<td>17.03a</td>
</tr>
</tbody>
</table>

*Note:* For each dependent measure, means in the same row or same column not sharing a common subscript differ $p<.05$
Moral Judgments. A 2x4 mixed factor ANOVA (group x moral judgment across four scenarios) resulted in a main effect for moral judgment F(3, 159)=39.54, p<.01, \( \eta^2=.43 \), as well as a group by judgment interaction, F(3,159)=6.11, p<.01, \( \eta^2=.10 \).

Planned posttests indicate that athletes judged scenarios in which success in sport was achieved at the cost of virtue as less morally acceptable than scenarios in which the outcome was virtue but not success. The least morally acceptable condition for both athletes and non-athletes alike was success in school at the cost of virtue (see Table 4).

Table 4

*Within and Between Group Differences in Moral Judgments*

<table>
<thead>
<tr>
<th>Moral Judgment</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>6.00a</td>
<td>4.53b</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>4.04b</td>
<td>4.84b</td>
</tr>
<tr>
<td>School: Virtue, no success</td>
<td>6.43c</td>
<td>6.28c</td>
</tr>
<tr>
<td>School: No virtue, success</td>
<td>2.96d</td>
<td>3.56d</td>
</tr>
</tbody>
</table>

*Note:* For each dependent measure, means in the same row or same column not sharing a common subscript differ p<.05. Higher numbers represent more acceptability.
CHAPTER 4: DISCUSSION: STUDY 1

The first hypothesis, namely, that utility, or benefits to self-worth, will predict moral decisions, was supported across both the academic and athletic domains. In particular, the greater the anticipated benefits to self-worth from the stated outcome (success at the cost of virtue, or virtue at the cost of success), the more likely participants were to report endorsing that outcome.

Hypotheses concerning differences between athletes and non-athletes in utility and moral decisions were also supported. Compared to non-athletes, the benefits to self-worth of cheating were greater for athletes and they were more likely to endorse cheating for the sake of winning in sport. No differences were found between athletes and non-athletes in the academic domain, which is expected, given that all participants are students. Further, for athletes, benefits to self-worth from cheating and winning in sport were greater than benefits from behaving virtuously but losing. As expected, decisions reflected this difference. Specifically, athletes were more likely to endorse cheating for the sake of winning in sport compared to the opposite outcomes. Likewise, compared to the academic domain, athletes benefited more from success in sport at the cost of virtue and were more likely to endorse cheating in sport than in school.

In fact, the two least desirable outcomes for athletes entailed being honest but failing in sport and *not* being honest, but succeeding in school. This contrast highlights a critical point: individuals stake their self-worth in different domains and, as such, decisions reflect this difference. Further, it suggests that, within sports, success as a contingency of self-worth exerts more influence over decisions than does virtue. Within
academics, the opposite seems to be true: success as a contingency gives way to virtue. Although speculative, it could be that in sports, winning is more central to how success is ultimately defined compared to school. Importantly, however, this contrast demonstrates the value of including a measure that combines both CSW and self-esteem. With only CSW, athletes’ different decisions across athletic and academic domains would seem inexplicable. However, when boosts to self-esteem are accounted for, the importance of success in sport to self-worth, otherwise lost, becomes evident and decisions are explicable.

With regard to moral judgments, athletes judged success in sport at the cost of virtue to be less morally acceptable than being virtuous, but failing. Although this may appear to conflict with the finding that athletes are more likely to endorse success in sports over virtue, it demonstrates further the importance of protecting self-worth. Specifically, despite being aware that one should behave virtuously and forgo success from a moral standpoint, doing so would come at too steep a price for athletes.

Taken together, these findings support the study’s main goal, namely, to explain unethical decisions made by otherwise virtuous individuals. In particular, it is not the case that virtue is simply less important to athletes compared to non-athletes. In fact, although not statistically different, the average CSW-virtue score was higher for athletes. In addition, athletes’ decisions within the academic domain did not differ from those of non-athletes. However, in an athletic domain, while remaining stable for non-athletes, something changed for athletes as they became more willing to set virtue aside.
CHAPTER 5: LIMITATIONS: STUDY 1

Although the primary hypotheses in Study 1 were supported, there are three important limitations that will be addressed in Study 2. First, participants in both groups (athletes and non-athletes) were students. A stronger design would include groups that have non-overlapping contingencies of self-worth (in the domains of interest). With this in mind, Study 2 will measure differences between Division 1 athletes and businessmen and women whose self-worth is contingent upon business success, but not sports. Further, compared to academics, we believe that the expectations for moral behavior in business and athletics will be more similar.

Second, we assumed in Study 1 that the individual utility ($u_i$) resulting from the contingency set aside in each scenario is zero. For instance, in a scenario in which success in sport is pit against virtue, we assumed that the boost to self-esteem, or utility gained, from not being virtuous or from not being successful is equal to zero (see Table 5).

Table 5

*Example of Utility Calculations for Study 1*

<table>
<thead>
<tr>
<th>Success sport</th>
<th>Virtue</th>
<th>Utility Formula</th>
<th>TOTAL UTILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success in sport, no virtue</td>
<td>$u_{\text{suc}}W_{\text{suc}}$</td>
<td>$u_{\text{virt}}(0)W_{\text{virt}} = u_{\text{suc}}W_{\text{suc}} + (0)W_{\text{virt}}$</td>
<td>$u_{\text{suc}}W_{\text{suc}}$</td>
</tr>
<tr>
<td>No success in sport, virtue</td>
<td>$u_{\text{suc}}(0)W_{\text{suc}}$</td>
<td>$u_{\text{virt}}W_{\text{virt}} = (0)W_{\text{suc}} + u_{\text{virt}}W_{\text{virt}}$</td>
<td>$u_{\text{virt}}W_{\text{virt}}$</td>
</tr>
</tbody>
</table>
Aside from it being reasonable to assume that individuals will not benefit from behaving without virtue or from failing when each outcome is taken in isolation, we believe that this method of calculating utility is supportable in this study because only two contingencies were implicated in the decision. Further, because parallel, but opposite scenarios were paired against each other, the effects to self-esteem reflect reactions to perfectly opposite outcomes. However, when multiple contingencies contribute to utility, it important to understand the effects of each contingency independently. One of the strengths of MAUT, not utilized in Study 1, is its ability to model multiple attributes and their relative weights. As such, rather than only measuring success and virtue as contingencies, in Study 2 we will add “others’ approval” to the model. Given that cheating behavior could have social implications, we believe that accounting for this contingency could be important to more thoroughly understanding the relationship between self-worth and ethical behavior. These isolated measures of self-esteem will be used in the overall calculations of utility to predict decisions (see Table 6).

Table 6

<table>
<thead>
<tr>
<th>Example of Utility Calculations for Study 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success sport</td>
</tr>
<tr>
<td>Success in sport, no virtue</td>
</tr>
<tr>
<td>No success in sport, virtue</td>
</tr>
</tbody>
</table>
Additionally, it is possible that asking how much participants — agree or disagree — that they would experience a boost in self-esteem may not have accurately measured the boost (or cost) that they would, in fact, experience. As such, Study 2 will address this possibility by adjusting the wording and scale for measures of self-esteem (discussed in more detail in the methods).

A third limitation, which is not so much a limitation as it is a call to extend the present research, is that the differences in utility that result from being successful at the cost of virtue in academic and athletic settings present the possibility that success is defined differently in school and sports. For instance, it could be that success in sport is defined primarily by wins and losses, while success in school is defined by more intrinsically orientated goals such as knowledge for knowledge’s sake and general intellectual improvement. This is not to suggest that success in sports is solely driven by wins and losses, or that grades play no part in academics. It is to suggest, however, that compared to academics, winning in sports may play a more central role in what it means to be successful. To account for this possibility, Study 2 will include a more in-depth analysis of the components that define success across domains.

Finally, in order to further address conflicts that may arise from cheating behavior and possible social implications, Study 2 will measure anticipated feelings of shame and guilt as a result of making a given decision. Shame and guilt are considered moral emotions in the sense that they influence moral standards and can deter socially undesirable behaviors (Tagney, Stuewig, & Mashek, 2007). Although shame and guilt have been used interchangeably, research suggests that two are distinct in important
ways. In particular, shame is associated with an overall negative evaluation of the core self (e.g. I am bad), whereas guilt is associated with a negative evaluation of specific behavior (e.g. I did a bad thing) (Lewis, 1971). For the purposes of the present study, it could be that shame and guilt play a role in the likelihood of endorsing cheating behaviors.
CHAPTER 6: METHODS: STUDY 2

Study 2 included sports scenarios (lacrosse) and business scenarios, and participants included Division 1 athletes (Group 1) and non-athletes whose self-worth is contingent upon success in business, but not sports (Group 2). The hypotheses were identical as in Study 1, except that we expected a crossover, such that businessmen and women should be more likely to endorse cheating in business and less likely in sports, whereas athletes should be more likely to endorse cheating in sports and less likely in business.

In order to address differences that may exist in how success is defined across domains, Study 2 included a space for participants to list descriptive words of what it means to them to be successful in school, business, and sports. Although exploratory, we expected athletes to define success in sports in more extrinsic terms compared to non-athletes, whereas we expected non-athletes to define success in business in more extrinsic terms compared to athletes. In making this prediction, we assumed that more extrinsic, outcome-related definitions of success should be related to higher motivations to cheat in domains most important to self-worth.

Participants

The coaches of a large northeastern university lacrosse team were contacted and asked permission to send an online questionnaire to the players on their team. Twenty female lacrosse players completed the survey (Mean age=19.9). Participants in Group 2 (businessmen and women) were recruited via Mechanical Turk and paid ten cents for their participation (Mean age=36.5). Only participants that had a CSW-success in
business score above four and a CSW-sport score below four, indicating a self-worth contingent upon business success but not athletic success, were used in the analysis. Recruiting participants for the business group proved to be a challenge, as people whose self-worth is contingent upon business success seemed to also have self-worth highly contingent upon lacrosse success, even if they had never played the sport. However, out of one hundred and thirty original participants, twenty-one (13 females) fit the selection criteria for the business group.

Procedure

As with Study 1, participants completed the questionnaire online. Participants read four scenarios, presented in random order, that pit success against virtue in lacrosse and in business. Following each scenario, they answered questions related to anticipated boosts to self-esteem, moral decisions, moral judgments, and levels of guilt and shame. Finally, participants completed the CSW subscales for virtue, others’ approval, success in business, and success in sport (Crocker, Cooper, & Bouvrette, 2003), followed by a free-write related to definitions of success across domains. Upon completion, they reported brief demographic information before being thanked for their participation.

Materials

**Scenarios that pit success against virtue.** As with Study 1, two sport (identical to Study 1) and two business scenarios included outcomes that pit success against virtue. The following is a business scenario in which success in business is gained at the cost of virtue:

Jill is the CEO and founder of a small business and has to decide whether or not to produce a new software that could change the way in which computing is done
around the world. But Jill did not develop the software. Rather, it was brought to her by a disgruntled employee of a competing company that spent years and most of its resources developing the software. Jill thinks it over and, despite it not being her idea, decides to produce the software under her own company’s name. As a result, the software is a great success and her company prospers.

A scenario that is identical except for the outcome (virtue at the cost of success) was also presented (e.g. “She thinks it over and, because it was not her idea, decides not to produce the software. As a result, her company underperforms and eventually goes out of business”).

The lacrosse scenario (same as in Study 1) is as follows:

With a minute left and down by one goal in an important lacrosse game, Jill takes the ball away from the opposing team and runs down the field. As she gets closer to the goal, she runs by two defenders, sees an opening, shoots, and scores. Even though the referee counts the goal, Jill knows that she was two feet inside the crease when she shot, which is against the rules. Jill thinks it over and decides not to say anything. As a result, her team ends up winning the game in overtime [Jill thinks it over and decides to tell the referee. As a result, her goal is not counted and team ends up losing the game].

Measures

**Moral decision and judgment.** Both items, identical to those used in Study 1, were presented after each scenario.

**Boosts to self-esteem.** The following question was asked after each scenario: “Assuming that you had made the same decision and experienced the same outcomes as Jill, how much of a boost/cost to self-esteem would you experience?” [-5 = a great cost to 5 = a great boost]. This more general measure of self-esteem, used in study 1 (but with a different scale), will be used primarily to replicate the results of Study 1. Isolated boosts to self-esteem (see below) will be used in calculations of the critical utility score.
**Isolated boosts to self-esteem.** After each scenario, participants were asked to report anticipated boosts or costs to self-esteem, given that they had only experienced a single outcome. For instance, after a scenario in which the character cheats but wins, the following three questions were asked: 1. If you imagine yourself only experiencing the same outcome as Jill (i.e., scoring and winning the important lacrosse game), how much of a cost/boost to self-esteem would you experience?; 2. If you imagine yourself only deciding not to tell the referee that you stepped over the crease, and disregard the outcome that resulted (winning), how much of a cost/boost to self-esteem would you experience?; 3. If you made the same decision as Jill, and important others were to find out that you actually stepped over the crease, how much of a cost/boost to self-esteem would you experience. [-5= a great cost to 5 = a great boost].

**Utility.** The isolated measures of anticipated boosts to self-esteem for success, virtue, and others’ approval from a given outcome were each multiplied by their CSW weight and then summed for a total utility score. To illustrate, in calculating the total utility gained from being successful in business at the cost of virtue, the outcomes include success, not virtue, and pleasing others (yes or no, depending on participants’ interpretation). Thus, the isolated boosts to self-esteem that result from only imagining being successful in business is multiplied by the CSW score for success in business. Similarly, the isolated boosts to self-esteem from not being virtuous in business is multiplied by CSW score for virtue, while the boosts to self-esteem from imagining that important others found out that you made the given decision is multiplied by CSW score for others’ approval. These products were then summed for a total utility score.

\[
(U_{\text{suc_bus}} \times W_{\text{suc_bus}}) + (U_{\text{not_virt}} \times W_{\text{virt}}) = \text{Total utility of success in business at the cost of virtue}
\]
**Guilt and shame.** After each scenario, participants were asked, “If you had made the same decision and experienced the same outcomes as Jill, how much guilt [shame] would you experience? [0=None to 10=A great deal].

**Success across domains.** As an exploratory measure, participants were given space to freely list concepts that they believe define success across school, business, and sports. Responses were coded into three categories: intrinsic (e.g., “enjoying the process”), extrinsic (e.g., winning, fame), and virtue-related (e.g., fair play, honesty).

**Contingencies of self-worth.** The four CSW subscales (Crocker, Cooper, & Bouvrette, 2003) measured included virtue, others’ approval, success in business, and success in lacrosse. Alphas for each subscale with the exception of success in business were >.80. Success in business had a lower alpha of .64. With one item removed, it improved to .69. However, no differences were found in any of the analyses when the item was removed, so we chose to retain the original five items.
CHAPTER 7: RESULTS: STUDY 2

To ensure that scenarios in which success was gained at the cost of virtue in business and in lacrosse were comparable in severity, groups were collapsed and moral judgments were compared for each scenario. No differences were found, p>.05.

Utility and Moral Decisions

Separate simple linear regression analyses were conducted for each scenario. Decisions were regressed on predicted utility (see Table 7). For each scenario, the greater the predicted utility from the stated outcome (success at the cost of virtue, or virtue at the cost of success), the more likely participants were to report making the same decision as the character in the scenario.

Table 7

Summary of Simple Regression Analyses of Utility Predicting Moral Decisions (N =41)

<table>
<thead>
<tr>
<th>Utility</th>
<th>β</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports: Virtue, no success</td>
<td>.33*</td>
<td>4.62</td>
<td>.11</td>
</tr>
<tr>
<td>Sports: No virtue, success</td>
<td>.50**</td>
<td>12.84</td>
<td>.25</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>.34*</td>
<td>5.01</td>
<td>.11</td>
</tr>
<tr>
<td>Business: No virtue, success</td>
<td>.55**</td>
<td>17.21</td>
<td>.31</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01

Utility scores were also regressed on the opposite outcomes. For instance, the utility gained from being successful at the cost of virtue in sport was regressed on the likelihood of endorsing failing in sport for the sake of virtue. As expected, we found negative relationships for each pair, such that the more utility gained from a given
outcome (e.g. success in sport at the cost of virtue), the less likely participants were to endorse the opposite outcomes (e.g. failure in sport for the sake of virtue) (see Table 8).

Table 8

Summary of Simple Regression Analyses of Utility Predicting the Opposite Moral Decisions (\(N=41\))

<table>
<thead>
<tr>
<th>Utility</th>
<th>(\beta)</th>
<th>(F)</th>
<th>(R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports: Virtue, no success</td>
<td>-.54**</td>
<td>15.68</td>
<td>.29</td>
</tr>
<tr>
<td>Sports: No virtue, success</td>
<td>-.32*</td>
<td>4.35</td>
<td>.10</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>-.32*</td>
<td>4.44</td>
<td>.10</td>
</tr>
<tr>
<td>Business: No virtue,</td>
<td>-.29(^{1})</td>
<td>3.49</td>
<td>.08</td>
</tr>
</tbody>
</table>

\(*p<.05, **p<.01, ^{1}=0.07\)

For replication purposes, utility was also calculated the same way as in Study 1 (i.e., with the general self-esteem score multiplied by the single CSW score). Consistent with Study 1, utility calculated in this way predicted decisions across each scenario (see Table 9).

Table 9

Summary of Simple Regression Analyses of Utility (calculated with a single self-esteem and single CSW score as in Study 1) Predicting Moral Decisions (\(N=41\))

<table>
<thead>
<tr>
<th>Utility</th>
<th>(\beta)</th>
<th>(F)</th>
<th>(R^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports: Virtue, no success</td>
<td>.43**</td>
<td>8.60</td>
<td>.18</td>
</tr>
<tr>
<td>Sports: No virtue, success</td>
<td>.45**</td>
<td>10.06</td>
<td>.21</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>.48**</td>
<td>11.85</td>
<td>.23</td>
</tr>
<tr>
<td>Business: No virtue, success</td>
<td>.44**</td>
<td>9.47</td>
<td>.20</td>
</tr>
</tbody>
</table>

\(*p<.05, **p<.01\)
**Components of the utility equation.** To further understand which components of the utility equation played the most central role in predicting decisions across each scenario, we conducted backwards regression analyses with each component (self-esteem from success/failure, virtue, others approval, and CSW scores for each) starting in the model. For success in sport at the cost of virtue, the final model predicting decisions included the isolated measure of self-esteem resulting from only imagining being successful in sport ($r=.29$), and from only imagining not being virtuous ($r=.30$), $F(2,38)=6.86$, $p<.01$, $R^2=.27$. For virtue at the cost of success in sport, the final model included only the individual measure of self-esteem resulting from not being successful in sport ($r=.53$), $F(1,39)=15.50$, $p<.01$, $R^2=.28$. For success in business at the cost of virtue, the final model predicting decisions included boosts to self-esteem from not being virtuous ($r=.45$), as well as CSW scores for business success ($r=.35$) and others’ approval ($r=-.27$), $F(3,37)=6.41$, $p<.01$, $R^2=.34$. Of note, the relationship between CSW-others’ approval score and decisions was negative, suggesting that the more self-worth is contingent upon what others may think, the less likely people are to endorse cheating in business. Finally, for virtue at the cost of success in business, the only component remaining in the final model was boosts to self-esteem from being virtuous ($r=.32$), $F(1,39)=4.56$, $p=.039$, $R^2=.11$.

**Shame and guilt.** The role of shame and guilt in predicting decisions were tested. Results indicate that when added to a model containing utility scores, shame, but not guilt, plays an important role in the likelihood of endorsing cheating at the cost of virtue. In particular, when cheating occurs in business domains, the more shame reported, the
less likely participants were to endorse cheating, even in the presence of utility scores, $\Delta F(1,38)=5.22$, $p=.028$, $\Delta R^2=.084$. The same was found for endorsements of cheating in the sports domain, but it was only marginally significant, $\Delta F(1,38)=3.75$, $p=.060$, $\Delta R^2=.068$. Utility still accounted for unique variance in decisions in both sports and business. Without accounting for utility, shame and guilt both independently and jointly predicted decisions when virtue was set aside for the sake of success in business and sports, $p$’s<.05. However, neither shame nor guilt played a role in decisions when the outcome was virtue at the cost of success in either business or sports, $p$’s>.05. This was true in the absence and presence of utility scores.

**Group and Within Group Differences**

**Moral decisions and utility.** A 2x4 mixed factor ANOVA (group x decisions across four scenarios) measured differences in the likelihood of decisions when athletes and non-athletes imagined being successful but not virtuous, or failing but being virtuous in the athletic and business domains. A main effect for decisions was found, as well as a group by decision interaction, $F(3, 117)=6.69$, $p=.000$, $\eta^2=.146$, $F(3, 117)=6.52$, $p<.01$, $\eta^2=.143$. Similarly, a 2x4 mixed factor ANOVA (group x utility scores across four different scenarios) resulted in a group by utility interaction $F(3, 117)=4.514$, $p<.01$, $\eta^2=.104$, but no main effect, $p>.05$.

Planned posttests indicate athletes gained more utility and were more likely to endorse cheating for the sake of success in sport compared to non-athletes (see Tables 10 and 11). Similarly, athletes gained less utility (marginally) and were less likely to endorse
virtue at the cost of success in sport compared to non-athletes. No group difference in utility or decisions were found in the business domain.

Within group differences were also found. In particular, athletes gained more utility and were more likely to endorse cheating for the sake of success in sport compared to the opposite outcomes. No such differences were found in the business domain. However, athletes gained more utility and were more likely to endorse cheating for the sake of success in sport compared to the same outcomes in business. Non-athletes gained more utility (marginally, p=.08) from being virtuous and failing in sports compared to the opposite outcomes. No other within group differences were found in utility scores or decisions.

Table 10

<table>
<thead>
<tr>
<th>Moral Decision</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>2.60a</td>
<td>4.43bc</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>5.55b</td>
<td>4.48c</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>4.7c</td>
<td>4.19c</td>
</tr>
<tr>
<td>Business: No virtue, success</td>
<td>4.00c</td>
<td>4.05c</td>
</tr>
</tbody>
</table>

*Note:* For each dependent measure, means in the same row or same column not sharing a common subscript differ *p*<.05
**Table 11**

*Within and Between Group Differences in Utility*

<table>
<thead>
<tr>
<th>Utility</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>-5.41a</td>
<td>7.52abc</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>12.65b</td>
<td>-9.89c</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>-4.63ab</td>
<td>4.92ab</td>
</tr>
<tr>
<td>Business: No virtue, success</td>
<td>-7.79ac</td>
<td>-.84abc</td>
</tr>
</tbody>
</table>

*Note:* For each dependent measure, means in the same row or same column not sharing a common subscript differ *p*<.05.

†Group and within group differences with respect to adjacent cells, *p’s*=.08

**Moral judgments.** A 2x4 mixed factor ANOVA (group x moral judgment across four scenarios) resulted in a main effect for moral judgment *F*(3, 117)= 14.65, *p*<.01, η²=.27, as well as a moral judgment by group interaction *F*(3, 117)= 4.40, *p*<.01, η²=.101. Planned posttests indicate that, compared to non-athletes, athletes judged cheating for the sake of success in sport as more acceptable (see Table 12). This is different from Study 1, and suggests that athletes may endorse cheating, in part, because they think it is acceptable to do so. Consistent with Study 1, the least morally acceptable condition for both athletes and non-athletes alike was success in business at the cost of virtue.
Definitions of success. Separate poisson regression analyses were conducted to understand the relationship between the frequency of intrinsic, extrinsic, and virtue-related descriptions of success and group membership (athlete or non-athlete). Athletes used more intrinsic terms to define success in sport, on average, compared to non-athletes, $\chi^2_{wald}(1, N=41)=5.47$, $p=.019$, RR=2.5. There was no difference between athletes and non-athletes in either extrinsic or virtue-related descriptions of success in sports, $p$'s>.05. However, it is worth noting that both relationships were in a negative direction, such that athletes described success in sport in less extrinsic terms and virtue-related terms compared to non-athletes.

Consistent with definitions of sports, athletes defined success in business more intrinsically (marginally), on average, compared to non-athletes, $\chi^2_{wald}(1, N=41)=2.84$, RR=2.31, $p=.09$. Further, athletes used less virtue-related descriptions of success in business compared to non-athletes, $\chi^2_{wald}(1, N=41)=5.30$, $p=.02$, RR=.23. No significant differences were found in extrinsic definitions of success, $p=.10$. However, as

Table 12

<table>
<thead>
<tr>
<th>Moral Judgment</th>
<th>Athletes</th>
<th>Non-athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport: Virtue, no success</td>
<td>4.90a</td>
<td>6.10d</td>
</tr>
<tr>
<td>Sport: No virtue, success</td>
<td>4.55ab</td>
<td>3.38c</td>
</tr>
<tr>
<td>Business: Virtue, no success</td>
<td>4.95a</td>
<td>4.95a</td>
</tr>
<tr>
<td>Business: No virtue, success</td>
<td>3.75b</td>
<td>3.24bc</td>
</tr>
</tbody>
</table>

*Note: For each dependent measure, means in the same row or same column not sharing a common subscript differ $p<.05$ Higher numbers represent more acceptability*
with sports, the direction was negative, such that athletes defined success in business in
less extrinsic terms, RR=.45.

For definitions of success in school, no significant differences were found
between athletes' and non-athletes' use of intrinsic, extrinsic, or virtue-related
descriptions, p's>.05. However, as with business and sports, the trends were the same:
athletes used more intrinsic descriptions, but less virtue and extrinsic descriptions.
CHAPTER 8: DISCUSSION: STUDY 2

Consistent with Study 1, utility scores predicted decisions across each of the scenarios. This is particularly important because of the more precise way in which utility was calculated, using multiple attributes. It should be noted that utility calculated with only one self-esteem score and one CSW weight (as in Study 1) was also found to predict decisions across each scenario. But despite this replication, when cheating behavior was endorsed in either business or sports, calculating utility with isolated measures of self-esteem (as in Study 2) accounted for more variance in decisions than the more simple calculations. However, when virtuous behavior was endorsed, the opposite was found, namely, calculating utility with the more general measure seemed to be a slightly better predictor. One possibility for this finding is that cheating behavior may be more complicated and, due to societal norms against cheating, may implicate more contingencies. As such, accounting for multiple aspects of self-worth in the model may allow for a more accurate understanding of unethical behavior. On the other hand, not cheating is more generally accepted and encouraged by norms and socialization. As such, endorsing ethical behavior seems to be less complex, or the default option. Thus, a more general measure of self-esteem may be superior for predicting decisions that entail doing the “right thing,” whereas individual components of self-esteem may be superior for predicting decisions that entail doing the “wrong thing.” Future studies should more thoroughly address this possibility.

The idea that social norms prohibiting cheating behaviors may play a role in ethical compared to unethical decisions was further supported by the role that shame
played in the model. Importantly, the negative relationship between feelings of shame and anticipated decisions was found only when cheating behavior was endorsed and not when virtue was endorsed. This suggests that shame may be an important factor in preventing unethical behavior, but not necessarily promoting ethical behavior, in both sports and business domains.

Consistent with Study 1, group differences were found between athletes and non-athletes. In particular, athletes gained more benefit to self-worth and were more likely to endorse cheating for the sake of success in sport compared to non-athletes. Similarly, compared to non-athletes, athletes benefited less (marginally) and were less likely to endorse virtue at the cost of success in sport. Athletes' willingness to endorse cheating was further supported by within group differences. In particular, as with Study 1, athletes gained more benefit and were more likely to endorse cheating for the sake of success in sport compared to the opposite outcomes. Further, athletes gained more benefit and were more likely to endorse cheating for the sake of success in sport compared to the same outcomes in business. These results suggest that, once again, athletes' decisions seem to vary across domains. They are willing to endorse cheating within the athletic domain, but are unwilling to do so within the business domain.

Although we expected differences between athletes and businessmen and women to result in the business domain, the results were similar to those found in the school domain in Study 1. In particular, unlike athletes' endorsement of cheating in sports, it seems individuals whose self-worth is contingent upon business success are unwilling to endorse cheating in business. Further, unlike in Study 1, compared to non-athletes,
athletes found cheating in sports to be more morally acceptable. Together, these results suggest that there may be different standards for sports ethics compared to academic and business ethics, but only for individuals whose self-worth is heavily staked in athletic success. The question that follows from this is why? We know from the results that utility predicts a willingness to engage in a given behavior. But when the components of the utility equation are looked at more closely, it may be telling that, although success and virtue both played a role in endorsements of unethical decisions in sports and business, a decreased sensitivity to others’ approval was an important factor affecting willingness to cheat in business, but not in sports. This suggests that cheating in sports may not only be due to a powerful self-interest need for success, but also a lack of social consequences for cheating. On the other hand, despite the same self-interest need for success, cheating in business may be prevented by the presence of social repercussions. Thus, it could be that the difference between athletes and businessmen and women is not in individual differences in ethical standards, but rather, in different social consequences for unethical behavior across domains. Future studies should address this possibility in more detail.

Although understanding which components of the utility equation are most central to predicting decisions may shed light on differences between ethical decisions in business and athletic domains, it still does not fully address the question of why athletes are willing to endorse cheating in sports, whereas businessmen and women are unwilling to endorse cheating in business. In Study 1, we suggested that people may define success across domains differently, which may explain different cheating behaviors. In particular, it could be that athletes define success in sports primarily in terms of wins and
losses, whereas success in school (and business) may be defined by more intrinsic goals. Such a difference, presumably, would explain a willingness to endorse cheating in sports, but not school and business. But what we found in Study 2 was the exact opposite: athletes overwhelmingly defined success in sports in more intrinsic terms compared to non-athletes. This is particularly interesting because, at least on an intuitive level, cheating should be associated with more extrinsic definitions of success. It seems counterintuitive, for example, that an individual who describes success as "loving the game" and "looking to become better as a player and person" should be motivated to endorse cheating for the sake of "winning." In fact, only three of the twenty athletes listed any sort of extrinsic description of success in sport, suggesting that there may be a disconnect between what athletes believe success to be (or what they report it being) and their actual goals and subsequent decisions. A second possibility is that virtue-based definitions of success are the distinguishing feature determining ethical from unethical decisions, as only a handful of athletes listed descriptions such as "fair play" and "honesty" in their definitions of athletic success.

Trends were similar in both the school and business domains. In particular, athletes listed more intrinsic definitions of success and less extrinsic definitions of success compared to non-athletes. In fact, although not significant, individuals whose self-worth was contingent upon business success listed more than four times as many extrinsic words to describe success in business compared to athletes. Yet, despite this more outcome-oriented definition, businessmen and women were still unwilling to endorse cheating in business. As was the case with athletes' willingness to endorse
cheating in sports (despite intrinsic definitions of success), business men and women's unwillingness to endorse cheating in business seems contrary to what we would expect of individuals who base success on largely extrinsic features. However, given that businessmen and women tended to describe business success more in terms of virtue compared to athletes, it could be that, again, virtue-based definitions play an important role in the prevention of cheating behaviors.

To summarize, athletes were more willing to endorse cheating in sports compared to non-athletes. Yet, businessmen and women were no more likely than athletes to endorse cheating in business. We believe there are two possible explanations for this finding. First, it could be that individuals who endorse cheating in sport may have a strong self-interest need for success, which is not undermined by a concern for others’ approval in the same way that cheating in business may be. Second, although athletes overwhelmingly defined success in sport in intrinsic terms, there was an absence of virtue-related descriptions of success compared to non-athletes. Future studies should address this possible distinction and, specifically, the inclusion of virtue in definitions of success.
CHAPTER 9: GENERAL DISCUSSION

Taken together, the results of the current studies provide support for our main purpose, namely, to use self-interest to explain moral decisions and, in particular, moral decisions across domains. In the case of athletes, it seems that more benefit to self-worth is gained from success in sport, even if it comes at the cost of virtue, whereas the opposite is true in both school and business: more benefit is gained from being virtuous. Although anecdotal, real life cases in which ethical behavior across domains is inconsistent are readily available. For example, for baseball fans, the image of Mark McGuire on the cover of *Sports Illustrated* embracing his son after breaking the home run record is hard to forget. By all accounts, he appeared to be a great father. Yet, despite his apparent behavior in one domain (family), he later admitted to breaking rules and using steroids during his home run reign. Thus, for McGuire, decisions in one domain (e.g., family), at least to the public, do not correspond to his decisions in the athletic domain.

More generally, these findings shed some light on unethical behaviors in sport. Why was it acceptable in the mind of Mark McGuire to use steroids for the sake of even more success? How is it possible that Tonya Harding would hire her bodyguard to attack Nancy Kerrigan for a slightly better chance at Olympic gold? What made it acceptable for Justine Henin to remain silent when questioned by the umpire at the French Open? On a less severe, but no less important level, how is it that otherwise virtuous Division 1 athletes who report that they would rather receive a poor grade or allow a company to fail than cheat in school or business, readily endorse success over virtue in sports? The results of this study suggest that these decisions can be explained, at least in part, by the
importance of success in sport to the athlete’s self-worth and the utility that follows from it. In short, for athletes, success in sport at the cost of virtue results in more benefit to self-worth than virtue at the cost of success. Thus, when faced with the possibility of failure, such behavior as steroid use, poor line calls, and, yes, even conspiring to assault an opponent prior to competition, seems less surprising.
CHAPTER 10: LIMITATIONS

Although the primary hypotheses were mostly supported across both studies, there are two important limitations. First, we relied on self-report of anticipated decisions. In future studies, it will be important to understand if these results generalize to actual decisions and behavior. A second limitation is that the sample sizes were relatively small and the athlete samples consisted of only females. However, given that athletes and, in particular, female athletes, are underrepresented in psychological research, we believe that studying this population is critical to the goal of more fully understanding the impacts of self-worth on decision-making processes.
REFERENCES


Kwak, S., Yoo, S., & Tai-Yoo, K. (2001). A constructive approach to air-quality valuation


Women’s Tennis Association. Retrieved from

http://wtatourinsight.blogspot.com/2011/02/justine-heninadmits she-cheated-
serena.html on February, 26, 2011.
A determination has been made that the following research study is exempt from IRB review because it involves:

Category 2. research involving the use of educational tests, survey procedures, interview procedures or observation of public behavior

Project Title: Self-Worth and Moral Decisions

Primary Investigator: Sarah Gracey Taylor

Co-Investigator(s):

Advisor: Mark Alicke

Department: Psychology

Rebecca Cale, AAB, CIP
Office of Research Compliance

3/8/13 Date

The approval remains in effect provided the study is conducted exactly as described in your application for review. Any additions or modifications to the project must be approved (as an amendment) prior to implementation.