This is to certify that the

thesis entitled

DIFFERENCES IN SUCCESS AND PARTICIPATION RATES IN ACADEMIC DEBATE

presented by

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has been accepted towards fulfillment
of the requirements for

M.A. degree in Communications

Major professor

Date 8-24-01

DIFFERENCES IN SUCCESS AND PARTICIPATION RATES BASED ON SEX IN ACADEMIC DEBATE

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AN ABSTRACT OF A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Department of Communications

2001

Professor Steven A. McCornack

ABSTRACT

DIFFERENCES IN SUCCESS AND PARTICIPATION RATES BASED ON SEX IN ACADEMIC DEBATE

By

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This project begins with an in-depth look at the existing body of literature pertaining to differences in participation and success in academic debate based on sex. From the deficiencies in existing research, research questions, designed to investigate changes in participation and success rates attributable to sex since the topic merger of CEDA and NDT style debate, attempt to discern the effects of discrimination and determine if the topic being debated impacted the measures of success in any way.

A study analyzing three national circuit college tournaments each year over a four-year period is analyzed and discussed. Results of this study clearly indicate that disparate participation and success rates women experience relative to men continue to plague national circuit tournaments of CEDA and NDT style intercollegiate policy debate. Men outnumber women competitors by a factor of 3:1. Four-fifths of the judges placed in the high-high debates analyzed in this project were men. Men are 7 % more likely than women to win an extra debate, which could make the difference between advancing in the tournament and being eliminated, and at least part of this variance is attributable to sex factors rather than the factors incorporated under the rubric of talent.

This study confirms that intercollegiate policy debate is still plagued by inequity based on sex. Self-reflection is encouraged to improve recruiting, scholarship distribution, hiring practices, judging criteria, and travel decisions to make the debate community an environment more conducive to participation and success by women.

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I. Introduction

Women's participation in academic debate has in many ways mirrored the changing social role of women in society at-large. A few decades ago, women could not publicly express opinions without a barrage of criticism from both men and women (Richmond & McCroskey, 1975). Accordingly, women were excluded from academic debate altogether until some time this century (Chenoweth & Good, 1972). Even after women were finally permitted to participate in debate they were regarded as inferior debaters. Thirty years ago debate tournaments commonly provided separate divisions for the two sexes. This practice was grounded in the assumption of male superiority in forensic endeavors (Hensley & Strother, 1968). While sex-based divisions are a thing of the past, recent studies reveal that disparities remain between women and men in both participation and performance in academic debate (Stepp, 1997; Bruschke & Johnson, 1994).

Academic debate provides an ideal context to evaluate the extent to which women's ideas and arguments are given equal weight to those of men. Modern policy debate, as practiced by the National Debate Tournament (NDT) and the Cross Examination Debate Association (CEDA), pits two teams against one another on opposing sides of a predetermined topic. Each team, comprised of two individuals, presents arguments in direct contradiction to those advanced by the opposing team. In this adversarial environment, countless situations are created in which one's arguments are challenged and evaluated by members of both sexes. A judge or panel of judges evaluates the substance of the arguments in order to render a decision determining the winning team of each debate. In addition, judges assign speaker points and ranks to each

individual. Thus, in addition to providing a natural context to evaluate differences in the amount of credibility assigned to arguments based on sex, convenient quantifiable measures exist.

This project seeks to examine differences in levels of success in policy debate based on sex. That is, the goal is to determine the extent to which the performance measures used in modern debate evaluate women differently than men based on sex alone. The study will analyze the effects that speaker sex, partner sex, judge sex and topic have on win-loss record and the assignment of speaker points after controlling for the influence of talent. The outcome will shed light on whether or not male dominance continues to pose challenges to the debate community. If judges continue to evaluate women and men differently based on sex alone, only by recognizing the problem can individuals reevaluate their own conscious and subconscious practices that may contribute to these disturbing trends.

This thesis is divided into four sections – the literature review, research questions, research methods, and a discussion of the results. The literature review will begin by examining several studies relevant to sex differences in social influence in general before focusing more acutely on research that has been done on sex differences in academic debate. The research questions portion describes the deficiencies in existing research that this study seeks to address. The methods section describes the study conducted herein. Finally, the results, their implications, and suggestions for future studies are discussed.

II. Literature Review

As expected, the social influence literature on sex differences is quite extensive; the studies on sex differences discussed herein merely scratch the surface. Many of these studies establish an empirical basis for the assumption that men tend to employ different communication tactics than women. Research has shown that men: tend to be rated as more dynamic speakers than women (Mulac et al., 1986); interrupt women to control conversations (Tannen, 1994; Spender, 1980); employ less indirection than women (Tannen, 1994); and control the topic choice in conversations with women (Spender, 1980). One study (Larson & Vreeland, 1985) shows that some of these same conversational differences exist between men and women during the cross-examination periods of academic debates. Substantial research during the past three decades indicates that the majority of societal changes occur through interpersonal communication (Richmond & McCroskey, 1975). If this is true, the possibility that men still control the primary vehicle for social change in academic debate warrants considerable concern.

This section will focus on past research that has addressed sex differences in the areas of social influence and debate. Topics include: sex differences in argumentativeness and level of verbal aggression; disparities in self-confidence between women and men; whether men or women serve as opinion leaders on different topics; and finally, different styles and levels of success attained in debate based on sex.

Argumentation and Verbal Aggression

Infante (1989) conducted a study analyzing sex differences in argumentativeness. Argumentativeness differs from verbal aggression in the locus of attack. In the former, criticism of the argument is the focus while the latter involves assassinations of the

personal character of the individual making the argument. Infante cites previous studies that illustrate the possibility those individuals more inclined toward argumentation were more likely to be the target of verbal attacks. Further, studies have shown that males tend to be more verbally aggressive than females. If becoming argumentative entails increased verbal attacks, students may refrain from using argumentative abilities. Infante's study seeks to further clarify the conditions under which argumentativeness triggers verbal aggression. Preferences for the use of verbal aggression were analyzed as an effect of an individual's sex, as an effect of an adversary's sex, and whether or not the adversary employed verbal aggression.

Subjects included 200 students at a large mid-western state university divided evenly between males and females. The subjects were randomly assigned to the four testing conditions – an equal number of males and females were assigned to each condition. Each subject was provided a book containing a persuasive situation in which the following variables were being manipulated: the sex of the adversary and whether argument or verbal aggression was employed. The situation consisted of three exchanges in which the subject had a range of message strategies to choose from ranging from rewarding, punishing, argumentative, to verbally aggressive.

When the adversary responded argumentatively, no difference between male and female responses occurred. However, when the adversary responded with verbal aggression male subjects were more likely to select a verbally aggressive strategy while females were more likely to pursue an argumentative strategy. Whether the adversary was male or female had no effect on preferences for message strategies. Infante's results

were consistent with previous research indicating that males are more verbally aggressive than females, especially when provoked by verbal aggression exhibited by an adversary.

The results of Infante's study may provide insight into how to avoid provoking verbally aggressive strategies. Since males are more likely to respond to verbal aggression in kind, the avoidance of verbal aggression in interactions with males will likely reduce verbally aggressive responses.

The potential implications for debate are significant. It is possible that judges reward male debaters for verbally aggressive strategies. Forms of verbal aggression, such as ad homonym attacks, may undermine the perceived credibility of an opponent and may be perceived as harmless verbal sparring that enhances the enjoyment of the debate round in the eyes of the judging community. If male debaters are likely to employ more verbally aggressive strategies than women and are subsequently rewarded for this behavior by judges, this may provide an explanation for discrepancies in success rates between males and females, although further studies would be required to test this hypothesis.

Self-confidence

Substantial research has examined success and failure attribution, sex, and self-confidence; however, few studies have examined these factors in a communication setting. Moreover, most data focusing on sex differences in the attribution process are dated given the social changes witnessed over the last decade. Andrews (1987) performed a study to: determine if a sex difference exists in reported self-confidence in approaching a persuasive communication task; investigate the possibility of a sex difference in the self-rating of a performance after the communication task; determine if the sexes differ in

their attribution of success or failure to internal or external factors; and explore differences in arguments advanced by the opposite sexes.

Andrew's study (1987) included eighty subjects, evenly split between males and females, were selected from a large mid-western university. Each subject was provided a copy of the Kidney Machine Decision case in which the subject must choose one of five candidates to receive treatment necessary to save their lives due to constraints on medical resources. The subjects are notified that they will be asked to justify their decision to a graduate student. The sex of the listener is a manipulated variable, and an equal number of males and females are assigned to each condition. Prior to presenting their decision to the graduate student, the subjects are given a confidence test. The listener then ranks their performance. After the presentation, the subject is asked to rate his or her own performance and explain reasons for their success or failure of their persuasive endeavor. Finally, the transcripts were coded for argument types employed by each subject.

Andrew's study did not identify any differences between individual confederates, providing assurance that variability in listener trains is not a source of error. Men were more confident prior to presenting in front of a male, while women exuded more confidence in expectation of appealing to another woman. The ratings from the graduate student listeners indicated that no success difference in actual performance occurred between the sexes. In retrospect, men perceived themselves as having argued more successfully than did women, regardless of the sex of the confederate. Men were more likely to attribute success to natural ability, while women tended to attribute their success to hard work. On the other hand, men were more likely to attribute failure to lack of effort on their part as well as on external factors such as difficulty of the task, whereas

females attributed failure to a lack of communication abilities on their part. Arguments advanced by males tended to be more based in the criteria outlined by the case material while females tended to advance arguments focusing on familial or social contributions rather than the preordained criteria. Moreover, both sexes were more likely to use family or social contribution arguments to appeal to a female audience as compared to a male audience.

The combined implications of the above findings are intriguing. Females approach a task with less confidence and rate themselves lower in retrospect than men despite the lack of difference in actual performance as measured by the rater. Thus, negative self-expectations do not appear to impede performance. This also suggests a perceptual distortion by both men and women on their performance – men evaluated themselves higher than the rater and women evaluated themselves lower than the rater. Men take responsibility for their failures, but are also more likely to point to external environmental factors as explanations for shortcomings.

Future studies are needed to explore the reasons for differences in the way females and males perceive their communicative abilities and performances, as well as the effectiveness of different argumentative techniques in various contexts. The relevance to debate is apparent: if raters found no difference in performance between males and females, then one would not expect debate judges to evaluate males and females differently. However, research documenting the relative success of males and females in debate discussed below contradicts this notion. Andrew's study is limited to a single performance by the subjects. Debate involves multiple performances and skills that are acquired over a period of several years; all of which involves repeated

interactions with the same partners, opponents, and judges. Perhaps if women have lower self-confidence in their performance both before and after each debate, this has a cumulative effect that impacts their long-term performance and debate styles. This study also highlights the possibility that debating in front of a judge of the same or opposite sex may have an impact on the confidence of the speaker. Andrew's results also indicate differences in the type of arguments advanced by males and females that could alter a judge's evaluation of which team won or lost, as well as an individual speaker's performance in a competitive forum such as debate.

Opinion Leaders

Opinion leaders – people whom others seek out for advice on a particular topic – play a crucial role in the communication process that is responsible for social change. These people are perceived as more credible and competent providing them with substantial influence. If the vast majority of opinion leaders in our society are men, the social and political environment will continue to be defined by men. One study (Richmond & McCroskey, 1975) examines the different issues for which men and women tend to serve as opinion leaders. This study reveals significant progress towards reducing the sex differences in opinion leaders. Women, who used to suffer criticism from both sexes any time they offered a public opinion on almost any subject, are now primary opinion leaders on many topics such as fashion. However, the study concludes that men are the primary opinion leaders on issues such as public policy and politics. In these areas, not only were male sources considered more credible overall, but also the differences were more pronounced for women raters. In short, female deference to male opinion leaders on political issues was significant. If this holds in a debate context,

female judges might contribute more to any disparity in assessing male and female debaters than male judges on public policy issues. The study proposed below examines differences between the success of male and female debaters over the course of four years with a different topic for each year. An interesting comparison should examine any differences in success rates based on sex that can be attributed to the topic material.

Success in Debate

Research (Stepp, 1997) indicates that women were underrepresented in intercollegiate debate in the 1980's and 1990's. While improvements in female participation are clear, the proportion of female debate participants still falls short of the percentage of undergraduate students that are women. Stepp (1997) examines data from five CEDA National Tournaments from 1991-1995. This research indicated the ratio of male to female debate directors and coaches exceeds the proportion of male college faculty members and graduate students respectively. This under-representation of female role models might alienate female participants.

Stepp also addresses the relative success of male and female participants at the CEDA National Tournament over the years. Her analysis concludes that the vast majority of final round participants, tournament winners, and receivers of top twenty speaker awards were white males. These numbers were not merely reflective of the fact that males make up a majority of the participants. The proportion of female participants in the tournaments significantly exceeds the proportion of females receiving the aforementioned accolades. While this study suggests that males, at the expense of females, attain a disparate level of success in debate, it fails to examine the causes of this disparity. Perhaps the explanation for this difference is simply the superior skills

exhibited by men in policy debate. To determine whether this is the case, or whether any part of the difference is attributable to the sex of the participants, requires further study.

Hensley & Strother (1968) published the first study that attempted to determine whether the differential in debate success was attributable to sex. They found that male-male teams had no significant advantage over female-female teams in terms of winning and losing debates. However, the study concluded that male-female teams performed better than both male-male teams and female-female teams. These results were generated by comparing the performance of an equal number of each of the three possible sex configurations to what would be expected due to chance alone, 50%. Multiple possible explanations exist for these results. Perhaps the dynamic of mixed sex teams provided more versatility than same sex teams. The authors suggested the possibility that coaches only placed females with the best males, viewed as capable of making up for the deficiencies of their female counterpart. Again, this study is simplistic and does not attempt to control for any variables such as skill in order to isolate the effect sex has on success.

Examining the rank order of the four individuals in the round provides an improvement over the win/loss procedure for comparing males to females. For example, the win/loss record does not account for the possibility that the majority of the judges found one debater to be consistently better than her or his partner.

A study (Hayes & McAdoo, 1972) was conducted examining data collected from several collegiate debate tournaments from 1967 through 1970 fielding a wide range of experience levels. Debates including only male or only female participants were excluded from the sample. During each debate, individual speakers were assigned a rank

order from 1 through 4. Both males and females should be evenly distributed among the four ranks according to random chance. This study analyzes whether or not there is a difference between the actual distribution and the expected distribution for either males or females.

Results revealed that women received more rankings of "one" and "three" than would be expected and less rankings of "two" and "four" than would be expected due to random chance. Conversely, males received a disproportionately high number of "two" and "four" rankings and fewer rankings of "one" and "three".

Several possible explanations exist for these results. First, female debaters may perform better than men. This may not be indicative of any superior natural ability on the part of females, but merely those women participating in the study exhibited a higher level of debate performance. Second, the findings may be a result of some factor on the part of male judges. Previous studies demonstrate that men in general are more lenient in their evaluation of women. Thus, it may be the case that the predominantly male judging pool possesses a leniency factor when evaluating females. This study only addresses the fact that there is a difference between the speaker rating performance between males and females without addressing the reasons for this difference. Further research addressing the reasons for the differences – such as different scholastic achievement between male and female debaters, differences in high school debate training, and differences in verbal abilities – is recommended.

Research analyzing the relationship between sex, position, and side to the outcome of competitive debate rounds is sparse. Previous studies researching these relationships have several limitations: They are limited to a single forum (i.e. college

debates). Some of the studies are limited to only a few tournaments and all are limited to a single topic year. The study method did not analyze all ballots and the relationships between all sex pairs and debate wins (i.e. the winning records for male-male, female-female, and female-male teams). These studies analyzed the ranking data only (how individual members performed in direct comparison to the other debaters in the round) and not quality points which attempt to rate a speaker's general ability. Finally, many studies, which attempt to analyze sex issues in debates, do not consider a closed system of debates. A closed system in the context of debate means every debate is analyzed for every relevant attribute (i.e. for every win there is a loss, for every person ranked "1" there is one person ranked "2" etc.).

Subsequent studies have become increasingly complicated in an effort to address limitation identified in previous studies. For example, Rosen, Dean, and Willis (1978) designed a study to: examine a different population, i.e. high school debaters; analyze debater ranking and quality points in addition to win-loss records; use data from closed debate systems in which an entire tournament is analyzed; and evaluate results from more than one debate topic. This study analyzed three high school debate tournaments over the course of two years in order to reduce the chance the topic might interact with the three independent variables, which included sex combinations of the two-person debate team, side (affirmative or negative), and position (i.e. first speaker or second speaker). For each tournament, all ballots were analyzed and the total number of males and females taking part was recorded, in addition to the number of male-male, female-female and male-female teams. Victories and losses for the three sex combinations were recorded. Speaker ranks and quality points were compared to sex of debater, side and position.

The proportion of wins and losses for affirmative and negative sides did not differ for the two topics, and results indicate there is no reliable difference between the numbers of affirmative or negative wins. The number of male-male, female-female, and male-female teams did not differ from chance considering the total number of participants and the fact that a majority of the participants are male (65% in this study). This study did indicate mixed-sex teams were more likely to have won their debates. The relationship between win-loss records and rankings of individual teams produced a significant effect. In this study, teams receiving ranks of 1 and 2 or 1 and 3 always won. When the distribution of ranks was examined in relation to position, the analysis revealed that the second position seems to have an advantage over the first position for either side of the debate. The final analysis compares quality points, assigned to each of the four debaters, to the three variables of sex, speaker position, and side. None of these comparisons yielded interactions approaching significance.

The implication for this study is that the perception of male superiority to females in high school debate is unfounded. Results also indicate that side is not related to winning the round; however, it appears to be advantageous for the individual debater to be affirmative, as the affirmative debaters are more likely to receive the ranking of "1" or "2." The conclusions of this study reconcile the inconsistency between the facts that there is no overall advantage to being affirmative or negative, but that the affirmative debaters are more likely to receive higher ranks in the round. It is theorized that the negative debaters are more likely to win in a "split decision" and that this statistic tends to balance the overall comparison between the affirmative and the negative. Position (first speaker and second speaker) could not be compared to winning since each side

contains both positions; however, the second speaker appears to receive high speaker points than the first speaker position.

Brushke and Johnson (1994) collected data from result sheets from several large intercollegiate NDT tournaments during the 1989 through 1992 debate seasons. Tournament locations were geographically diverse. To account for the covariance between talent and success only high-high power matched rounds were used so that the teams were matched as evenly as possible. In addition, both prior records at the tournament and victory in the round were treated as covariates to isolate results due primarily to sex. Four independent variables were coded – speaker sex, partner sex, judge sex, and topic side. These variables were crossed with one dependent variable, speaker points.

An ANOVA showed that both previous record and victory in the round had significant effects on speaker points. Again, these two variables were accounted for by treating them as covariates. Female judges hearing teams on the negative showed significant effects for speaker sex, partner sex, and the interaction between speaker and partner sex. No significant difference existed for female judges hearing teams on the affirmative. Male judges, when hearing teams on either the affirmative or the negative, exhibited a significant interaction effect, but neither main effect. Female judges gave females debating on the negative lower points, especially when debating with a female; no difference exists on the affirmative. Male judges gave same sex teams higher speaker points than mixed-sex teams but no difference exists between male only and female only teams, regardless of whether the team was affirmative or negative.

Overall Brushke and Johnson (1994) draw three main conclusions. First, females receive fewer speaker points than their male counterparts due to their sex. That there are noteworthy examples of successful female debaters or that discrimination is not apparent from a cursory scan of a results packet from any one tournament does not deny that females must outperform males to receive equivalent scores. Second, female judges are the primary contributors to the trend of lower speaker points. Third, teams comprised of same sex participants are evaluated as better than mixed sex teams, especially by male judges. Bruschke & Johnson's study is the most complete study encountered during the research for this project. By controlling for talent, side of the topic, and looking at cross-sex effects of the speaker, the partner, and the judge this study addresses some of the limitations that were apparent in preceding studies. However, this study is not without limitations. Bruschke & Johnson, by their own admission, make no attempt to analyze the causes of the sex-based success difference identified in their study.

Larson and Vreeland (1985) conducted a study of CEDA debate at four California tournaments that focused on different styles and traits exhibited by women and men in debates. Exchanges during cross-examinations periods were recorded and subsequently coded for attempted interruptions, successful interruptions, and question type. Larson and Vreeland conclude that women asked more open-ended questions than their male counterparts who relied more on closed or leading questions. In addition men tend to attempt interruptions more on balance than women, and men were more likely to interrupt a woman during an exchange than a man. On the other hand, women had a higher success rate of regaining control and rebuffing attempts at interruptions than did males. Perhaps women have simply learned to deal with the tendency of male debaters to

interrupt more during the cross-examination periods. Larson and Vreeland theorize that these differences indicated a superior ability on the part of males to control cross-examinations. This could explain discrepancy in participation or success rates, but no test of this theory is conducted in the Larson and Vreeland study. Further investigation would be necessary to make the connection between interruptions and question type and success in debate.

Knutson (1996) is the one attempt surveyed during this project that attempts to explain the causes of disparate participation and success in academic debate. She theorizes that the reasons that women are underrepresented and achieve less success in debate is attributable to the public policy focus of the topics, especially those focused on the military, and the war metaphors surrounding debates. According to Knutson's theory, women are forced to step outside their traditional roles and enter what has traditionally the male sphere of debates about public policy and military security. In addition, the terminology of debate relies heavily on the metaphor between arguments and wars: arguments are classified as "offensive" or "defensive", one can "win" or "lose" arguments, people "attack" their opponents arguments, debaters employee "strategies", etc. These metaphors, Knutson argues, force women to engage in rhetoric that less familiar to them forcing them to speak men's language, since women have been historically excluded from military service and military policymaking. Thus, the topics of the debates and the metaphors utilized to describe arguments create a masculine environment that discourages female involvement and limits their ability to succeed when compared to the male standard, according to Knutson. Although the works cited for this piece offer extensive support for this theory, Knutson did not perform any quantitative

study to test her theory. Perhaps looking at the effect the subject of the debate topic has on disparate levels of participation and success could provide support for this theory.

Literature Summary

While past research provides some intriguing insights, further investigation is clearly justified on several fronts: to update the findings of past research to determine whether there continue to be different levels of participation and success based upon sex; to further determine whether the differences exhibited between men and women are attributable to discrimination or some other factor such as talent or work ethic; and to investigate possible causes of the observed disparity such as the topic being debated, argumentative choices, or stylistic traits.

First, all of the research on debate described above is dated: Brushke and Johnson's study (1994) analyzes data from 1989 – 1992; Stepp (1997) analyzes data ranging from 1991 – 1995; everything else can comfortably be categorized as archaic. Much has changed in the intervening time period that could have altered the sex dynamics in academic debate. The older studies focus on individual speaker ranks (one through four), a measure that has little importance in modern debate given the advent of the 30-point quality speaker point scale. Hopefully, both the debate community and society at-large have continued to evolve by embracing a more egalitarian perspective. The turnover rate for debate is high since one can only compete during the four years of college; hence, the debaters of today comprise a completely different set of subjects than those covered in all previous studies. In contrast, the judging pool is more stable since many people have made careers out of coaching debate. At the same time, however, there is undoubted a significant turnover among judges since many debaters coach and

judge for a year or two once their eligibility expires before moving on to other pursuits. The fluid composition of the debate community may have ushered in fresh perspectives that altered the bias indicated by past studies. Most importantly, the formal merger of CEDA and NDT through the adoption of a joint topic process in 1996 represents a dramatic cultural shift that changed the composition of both the competitors and the judges in the world of academic debate. No study examining differing levels in debate success attributable to sex has been conducted since the merger, and no study done prior to the merger included subjects from both CEDA and NDT communities. It was widely held at the beginning of the merger that CEDA judges typically awarded higher speaker points overall than did their NDT counterparts. Thus, the merger stood to alter both the social composition of the debate community and the distribution of speaker points. All of these changes in the intervening period since the studies discussed herein were conducted justify a more timely study to investigate modern differences in debate success attributed to sex.

Second, only the Brushke and Johnson study attempt to control for talent when analyzing the effect of sex on speaker points. While all the previous studies show that there is a disparity between the results of men and women, without controlling for talent, these studies do not conclusively prove that sex discrimination exists in debate. It may be the case that men outperform women because they possess more natural talent, greater experience, or they work harder to research and prepare for debates. While these findings are important, it is also necessary to distinguish between disparate performance based on talent or some similar factor and differences attributable to sex discrimination. Further

investigation utilizing methods that control for talent is required to better determine the source of any disparity.

Finally, no attempt has been made to determine the cause of the disparate results between men and women in debate by any of the studies described up to this point. Most of the studies cited above focus exclusively on debate success based on sex without looking at the underlying causes of the differences. Only the Larson and Vreeland (1985) explores stylistic differences in debate based on sex, but this study does not analyze the possible effects the stylistic choices may have on success. It is also possible that men and women make different argumentative choices, rely on different strategies, or employ different styles to win than men, and that this difference accounts for the discrepancies in success. The Andrews study (1987) examines the different argumentative choices made by the sexes, and concludes that women are more likely to advance arguments that appeal to family or social value while men's arguments focused more on the pre-ordained criteria in the study. Both sexes were more likely to make arguments focusing on social contributions or family when appealing to a female evaluator according to Andrews. It is possible that men rely more on particular types of arguments in academic debate that tend to be more appealing to the overwhelmingly male judging pool. Further study is needed to investigate the possibility that women and men make different argumentative decisions and that these differences have an effect on success. Richmond and McCroskey's study (1975) indicates that women and men are perceived as more or less credible and competent based on the topic being discussed. This study revealed that women are treated as opinion leaders when the topic was fashion, but that men were deemed more credible on topics concerning public policy and politics. Since many CEDA and NDT

debates focus on political subjects that require public policy decisions, the topic of debate could have a major impact on different levels of participation and success between the sexes. No study encountered during this project addresses this possibility. It is also possible that the changes that have occurred in society since the Richmond and McCroskey study was conducted potentially afforded women more credibility on some public policy issues than others. Further investigation of these possibilities is clearly warranted.

III. Research Questions

While the present study does not purport to resolve all of the deficiencies in the existing body of research, it is hoped that the study herein makes a positive contribution in answering some of the remaining uncertainties. Specifically, this study seeks to examine whether or not disparate levels of participation and success based on sex continues to plague academic debate. This project also seeks to discern whether or not any disparities that emerge are attributable to discrimination. Finally, this research examines the effect the yearly topic has on varying success levels.

Predicting that there is a difference in success based on sex, or worse that discrimination is rampant in the debate community, is an uncomfortable proposition. Beginning with hypotheses, with the goal of determining if the data supports or rejects the hypotheses, does not seem like a good starting point for investigative research; an open ended approach that does not seek to prove any suggested theory provides a more objective starting point. In addition, finding that there is a difference in participation or success based on sex is not the only possible significant result. Indeed, if no statistically significant differences in success or participation rates based on sex, the results would indicate a significant and positive result since it illustrates an improvement in the debate environment for female participants and constitutes a major change from past findings. As such, the following research topics and questions are posed for research and examination:

Topic #1: Participation Disparities

a) Is there a difference in participation based on sex among competitors in intercollegiate policy debate since the topic merger of CEDA and NDT?

b) Is there a difference in actual team composition (all male, all female, and mixed sex) from what one would expect based on the overall participation rates?

c) Is there a disproportionate representation of the sexes among the judging pool in intercollegiate policy debate since the topic merger?

d) Does any tournament exhibit a greater or lesser tendency toward equal representation of the sexes among either competitors or judges?

e) Does any topic induce greater or lesser equality of representation among debaters or critics?

Topic #2: Disparities in Win-Loss Records

a) Do debaters of both sexes attain equal levels of success in debate as measured by win-loss record since the topic merger?

b) Does the sex of the speaker's partner alter the level of success as measured by win-loss record in the post-merger environment?

c) If disparities are found between female and male debaters, can these findings be attributed to sex or are they the result of some other factor such as talent?

d) Does the sex of the judge produce a bias in the way debates are evaluated under the CEDA-NDT merger?

e) Does the interaction of the speaker sex, partner sex, and judge sex amplify or mitigate the main effects of each of these variables?

f) Are any observed disparities in success as measured by win-loss record attributable to observed differences in participation rates between men and women, or are the differences in win-loss records disproportionate after accounting for differences in participation rates?

Topic #3: Disparities in Speaker Points

a) Do debaters of both sexes attain equal levels of success in debate as measured by speaker points?

b) Does the sex of the speaker's partner alter the level of success as measured by speaker points?

c) If disparities are found between female and male debaters, can these findings be attributed to sex or are they the result of some other factor such as talent?

d) Does the sex of the judge produce a bias in the assigning of speaker points?

e) Are any observed disparities in success as measured by speaker points attributable to observed differences in participation rates between men and women, or are the differences in speaker points disproportionate after accounting for differences in participation rates?

f) Does the tournament have an effect on the assignment of speaker points?

g) Do speaker points vary depending on the topic being debated?

h) Do the interactions of speaker sex, partner sex, judge sex, tournament, and topic amplify or mitigate any observed main effects?

IV. Methods

To address the research questions identified in the previous section, a study of three major intercollegiate tournaments held year during the first four topic-years after the CEDA-NDT merger was concluded.

Subjects

Three major national caliber tournaments representing geographically diverse locations were included in the study. These tournaments were hosted by: the University of Northern Iowa, the University of Kentucky, and Northwestern University. These tournaments were selected because they have consistently been major tournaments attended by most all, avid college policy debaters. While this sample probably doesn't include every single individual that participated in debate during the four years of the study, these tournaments undoubtedly reflect a very substantial sample of the overall population of collegiate policy debate that this study seeks to examine. Subjects included all judges and debaters of the aforementioned tournaments from each of the four seasons between 1996 through 2000. The participants at these three tournaments over four years yielded 2900 cases for evaluation. Debaters must be currently enrolled undergraduate college students. Eligible judges must have either already used all four years of debate eligibility or have completed an undergraduate degree. Most judges are former debaters that have become graduate assistants, coaches, or administrators employed by the various debate programs competing at each tournament. Many judges and debaters participate in more than one tournament over more than one year in this study. Since many debaters judge debates once their eligibility is exhausted, some subjects may participate as both competitors and critics; others may participate at only one tournament.

Procedures

Each tournament collects data for each debate that occurs. Each judge fills out a ballot (see appendix A) in which they record one and only one winner for each debate, speaker points for each individual ranging from 0-30, and rank order of the four participants in each debate. It is this data that determines speaker awards, teams qualifing to compete in elimination rounds, the winners of tournaments, and awards for the schools and teams with the best records throughout each year. The data for all of the preliminary debates for each tournament is compiled into results packets.

Data from these results packets will be used to perform this study. Debate tournaments typically begin with between two and four random preset preliminary debates. Based on the outcome of these debates, the remaining preliminary competitions are power matched such that teams with equivalent win-loss records are pitted against one another to the greatest extent possible. Some rounds are powered high high within brackets such that the top two teams in each win-loss bracket will compete against one another; others are powered high-low such that the team with the highest speaker points will debate the team with the lowest speaker points with the same win-loss record. This study will only examine high-high rounds of each tournament so as to maximize the extent to which teams competing against one another are evenly matched ensuring the results are not skewed by the occurrence of drastically lopsided debates between teams with drastically different levels of experience, talent, preparation, resources, etc. Some tournaments may be over-represented in the sample due to years in which they had two high-high power matched rounds instead of only one. Results listed in cases where a debate did not actually occur due to a bye or forfeiture were excluded from the analysis

since given the lack of a judge and the fact that the speaker points reflected an average of the speaker points in the other seven debates rather than an assessment of performance in the high-high debate.

Variables

Data for several variables was coded based on the information provided in the results packets. For each speaker listed in the results packet the following variables were coded:

- *Tournament Identification:* University of Northern Iowa, University of Kentucky, or Northwestern University.
- *Topic Being Debated:* United States policies regulating environmental pollutants; United States security assistance policies toward Southeast Asian nations; United States civil rights policies protecting against race and/or gender discrimination; and United States economic sanctions policies toward "rogue" nations.
- *Sex of the Speaker:* Male, female, or unknown.
- *Sex of the Speaker's Partner:* Male, female, or unknown.
- *Sex of the Judge:* Male, female or unknown.
- *Judge's Decision:* Whether the debate at hand was won or lost by the subject.
- *Overall Win-Loss Record: A*ll tournaments in this study had eight debates, so the number of wins possible for each subject could range from zero to eight.
- *Speaker Points:* The quality points ranging from zero to thirty assigned to each speaker by the judge.

The sexes of the various participants in the debates were determined by name recognition. In many cases, first hand information was available to determine the sex

based upon the familiarity of the author with the debate community. In other cases, the use of gendered first names made the sex of the subject obvious. In situations where the sex of the individual was not known based upon recognition or gendered naming, efforts were made to determine the accurate sex by contacting coaches from the school with which the student was affiliated. In cases where the sex of the subject was still indeterminate, no data was entered for that variable. The SPSS statistical software automatically excludes cases as invalid when information is missing for selected variables.

It should also be noted that there is a 100% overlap between the sex of the speaker and the sex of the partner variable. For each debate, there are four participants that are each treated as separate cases. Hence, every speaker has a partner, and in turn functions as a partner for another speaker. The partner variable was included to allow a determination of the sex combinations of the teams in the study. Based upon the aforementioned variables, several additional variables were created to parcel the data in order to examine interaction effects:

- *Team Sex:* Essentially a variable that accounts for the interaction of speaker sex and partner sex – all female team, all male team, or opposite sex team.
- *Team Sex * Judge Sex:* A variable that parcels out the data for the interaction between sex of the speaker, partner, and judge – female judging all female team, male judging all female team, female judging all male team, male judging all male team, female judging mixed sex team, and male judging mixed sex team.
- *Topic * Debater Sex:* Females debating environmental regulations; males debating environmental regulations; females debating security assistance; males

debating security assistance; females debating civil rights; males debating civil rights; females debating economic sanctions, males debating economic sanctions.

- *Topic * Judge Sex:* Females judging environmental regulations; males judging environmental regulations; females judging security assistance; males judging security assistance; females judging civil rights; males judging civil rights; females judging economic sanctions, males judging economic sanctions.
- *Topic * Judge Sex * Debater Sex:* Females judging females debating environment, males judging females debating environment, females judging males debating environment, males judging males debating environment. These same parcels are made for the data on the security, civil rights, and sanctions topics.

Statistical Design

Frequency distributions are employed to determine the participation ratios for both debaters and debate judges. Similar analysis is used to assess the ratio of all female teams, all male teams, and mixed-sex teams. The interactions of the topic variable and the tournament variables are explored. A means comparison is conducted to further illuminate these findings.

Speaker points and win-loss record are treated as scale variables and function as the dependent variables. Speaker sex, partner sex, judge sex, team sex, topic, and tournament are treated as independent variables, as are the interaction variables of team-judge sex, topic-debater sex, topic-judge sex, and topic-debater-judge sex.

It is widely recognized that there is a substantial relationship between winning or losing a debate and the quality of individual speaker points received by the participants.

In most cases, debaters that successfully persuade judges to vote for them are also evaluated more favorably when the judge assigns speaker points. Thus, the decision about who won or lost the debate at hand is treated as a covariate when analyzing the effects of sex on win-loss record and speaker points in high-high debates.

Because of the large number of variables addressed in this study, a bivariate correlation analysis (see appendix B) is used as a data reduction technique. This further confirmed the choice to use the decision in the debate as a covariate; since results indicated a significant relationship between both speaker points ($\tau = .195$, $\rho < .001$) and win-loss record ($\tau = .280$, $\rho < .001$), but had no relationship to any of the independent variables. This also excluded several variables from the models. For example, neither tournament nor topic would be expected to have an effect on win-loss record since each tournament is structured based on power matching schemes in an attempt to produce a normal distribution of teams at each level of the win-loss spectrum. The correlation analysis confirmed that no significant relationship existed between win-loss record and either tournament or topic.

The data is analyzed using multivariate linear regression since multiple causes for each dependent variable are posited. Regression should be preferred over ANOVA if: a non-experimental design is used, the number of subjects is unequal at different levels of the independent variable, covariates are used, classification variables are used for the independent variables, and different types of variables are analyzed together. All of the above stipulations are true of this study; thus, multivariate linear regression was utilized. In addition, a means comparison analysis in conducted to facilitate a more easily digestible discussion of the results.

In an attempt to discern whether or not discrimination is a factor in any disparity reflected, win-loss record is used as a control variable in a secondary analysis of the speaker point model. The bivariate correlation analysis indicated a strong relationship between record and speaker points ($\tau = .561$, $\rho < .001$). Ideally debates are decided upon objective criteria grounded in the substance of the arguments presented by both teams in each debate. Thus the cumulative win-loss record of each team should represent an objective assessment of the quality of each team that accounts for experience, talent, preparedness, resource advantages, etc. Speaker points are a more subjective measure that attempts to compare each speaker against the backdrop of the entirety of the pool of the competition. No formal criteria exists to guide the assigning of speaker points, and it is widely held that judges employ different standards and utilize different point scales. It is theorized that by using the more objective measure of win-loss record that reflects the quality of a team over the course of eight debates as a covariate, judge bias in assigning the more subjective measure of speaker points could be ascertained.

One concern about the research design emerged as a result of the disparity in participation rates among both competitors and judges. It is possible that the overwhelming number of males could have skewed the results artificially indicating that males were more successful than their female counterparts. To discount this possibility, the cell sizes of team sex were equalized as they would be assuming equal participation and random partnership pairings. Two hundred cases from each possible team configuration – all female, female with male partner, male with female partner, and all male – were randomly selected to form the team sex equalized sample. This also had the net effect of equalizing cell sizes for speaker sex and partner sex. Linear regression

results were compared to the results from the complete models to confirm that the results were not skewed by the disproportionate participation.

V. Results

This study analyzes participation rates and possible effects on win-loss record and speaker points from a variety of variables from speaker sex, partner sex, judge sex, and topic of debate, and the interaction of these variables. For clarity, this section is organized around the three research topics and corresponding questions identified in the previous section. First, participation rates are analyzed to determine if sex-based disparities exist among the population of debaters attending the selected tournaments, the configuration of two person teams, or the judging pool. The annual topic being debated is analyzed to determine if different topics attract a more or less representative group of participants. Second, the results of the win-loss record model are explored to determine if disparities exist that can be attributed to the sex of the debater, partner or judge; and to determine if any disparities can be attributed to bias or discrimination. Finally, the results of the speaker point model are presented. The variables analyzed in this portion mirror those in the win-loss model, except that the tournament host and annual debate topic are included to assess potential contributions to variance in speaker points.

Participation Disparities

At the twelve tournaments analyzed in this study, males represented the overwhelming majority of competitors, comprising 76.3 % of the sample population of debaters whose sex was identified ($\eta = 2054$). Female debaters constitute only 23.7% of the identified population ($\eta = 639$). In short, the number of male debaters exceeded the number of female debaters by a factor of three. Of the total sample, 7.1% of the participants' sex could not be identified ($\eta = 207$) and was excluded from the study.

Given this distribution of competitors, it becomes possible to compare the actual sex composition of teams to what would be expected due to chance alone. Since there were some cases in which the sex of only one of the partners could be determined, there were slightly less cases available to assess the interaction between speaker and partner sex than there were in the participation rates cited above for individual speakers (male η = 2004, female η = 618). Given this participation ratio, one would expect 5.6% of teams to be composed of two females; 36% of teams to be mixed sex teams; and 58.4% of the teams to be all male due to chance alone. Results showed a slightly higher combination of same sex teams, both male and female, than would be expected: 8% of teams were all female; 60.9% of teams were all male; and 31.1% were mixed sex teams. The difference between expected and actual team composition is significant at all three levels of the team sex variable ($\chi^2 = 46.481$, $\rho < .001$).

The female-male ratio among the pool of judges was even more imbalanced than among competitors. Females represented a mere 15.8% of the sex-identified judging pool (η = 436), leaving the remaining 84.2% of identified ballots to be completed by men (η = 2326). Roughly four out of every five judges was male. Judges of unknown sex, which were excluded from the sample, accounted for only 4.8% of the sample (η = 138).

Both tournament and topic revealed a significant relationship to sex of the critic in the bivariate correlation analysis ($\rho < .005$). What follows is a partitioning of the data by both tournament and then topic to determine if there was a difference in participation rates.

The tournament under consideration had no significant effect on the disparate participation rates of debaters. Northern Iowa had a slightly greater proportion of women

participants (24.8%, η = 297) than did either Kentucky (23.0%, η = 144) or Northwestern (22.8%, η = 198). A 95% confidence interval around the means of sex composition of the subjects at each of the three tournaments illustrates the difference between these ratios as non-significant and that the differences could easily be attributed to error.

On the other hand, there is a significant relationship between the tournament being evaluated and the sex composition of the judges of high-high debates. By constructing 95% confidence intervals around the mean critic sex in each of the three tournaments, it can be concluded that the Northwestern Tournament had a higher proportion of female judges (18.7%, η = 158) than either Kentucky (15.4%, η = 110) or Northern Iowa (14%, η = 168). No significant difference between Northern Iowa and Kentucky tournaments was identified, and a 95% confidence interval around the mean proportion of female judges of the entire study (15.5%, η = 436) indicates that both Northern Iowa and Kentucky were within expected variance due to sampling error.

Table 1: Debater Participation by Topic

Topic	% Females	η Females	Mean ratio	Standard Error
Sanctions	26.0%	201	.48	.0315
Environment	25.2%	136	.50	.0375
Security	23.1%	145	.54	.0337
Civil Rights	20.9%	157	.58	.0297

There was a significant difference in participation ratios of women based on the topic being debated (see table 1). By constructing a confidence interval around the overall mean sex ratio in this study (μ = .53), it can be concluded that the economic

sanctions topic and the civil rights topic both fall outside the allowable difference that can be attributed to error. Thus the sanctions topic witnessed a proportion of women participants that was greater than the overall results by a spastically significant margin. On the other hand, during the civil rights topic the ratio of women to men was lower by a significant degree than the overall results, especially those from the environment and sanctions topic.

Table 2: Judge Participation by Topic

Topic	% Females	η Females	Mean ratio	Standard Error
Civil Rights	23.5%	200	.53	.0297
Sanction	15.7%	124	.69	.0260
Environment	10.8%	56	.78	.0272
Security	9.3%	56	.81	.0237

Judge participation also varies substantially based on topic (see table 2). A 95% confidence interval around the mean ratio of the civil rights topic ranges from .47 to .59, indicating an amount of variation that can be dismissed as error. The mean ratios the three other topics fall outside this interval, indicating that the proportion of female critic participation (23.5%) is significantly higher on civil rights than any other topic. In turn, the confidence interval around the mean ratio for the sanctions topic ranges from .63 to .75, indicating that the topic of economic sanctions drew significantly more women than did either the environment or security. No substantial difference exists between the environment topic and the security topic in terms of sex distribution.

Win-Loss Record Model

For this analysis, the tournament and topic variables were excluded from consideration. In a closed tournament environment, the number of wins always equals the number of losses across all of the topics. The bivariate correlation analysis confirms that no relationship exists between tournament or topic and win-loss record. This data reduction technique justifies excluding the tournament and all topic variables from this analysis.

Win-loss record was modeled using linear regression analysis looking for a discernable effect that could be attributed to debater sex, colleague sex, critic sex, team sex (interaction between debater sex and colleague sex), and the interaction of team sex and judge sex. Decision in the high-high debate and speaker points were treated as covariates in an attempt to control for talent.

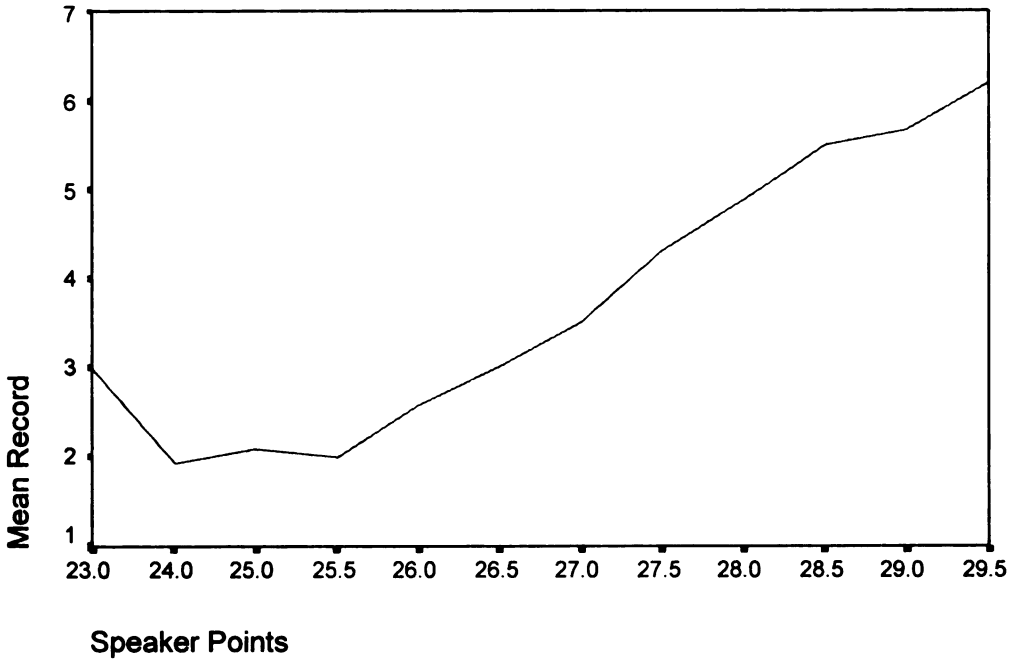
Table 3: Linear Regression Model with Win-Loss Record as the Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-23.757	.890		-26.707	.000
	Decision	.294	.025	.187	11.553	.000
	Speaker Points	1.015	.033	.509	31.176	.000
	Debater Sex	.172	.030	.093	5.781	.000
	Colleague Sex	.169	.030	.091	5.648	.000
	Critic Sex	-2.84E-02	.035	-.013	-.816	.414

Table 3 contains the results of the linear regression analysis of the win-loss record model with debater sex, colleague sex, and critic sex as the factors under investigation, while treating decision and speaker points as covariates. As expected both speaker points ($\beta = .187$, $\rho < .001$) and decision in the high-high debate ($\beta = .509$, $\rho < .001$) both had

significant relationships with overall win-loss record. It should not be surprising that debaters than won their high-high debate won an average of .89 rounds more than those who lost, since each individual win contributes to the overall win-loss record. Graph 1 shows the linear trend that is evident between speaker points and mean record. The seeming upward trend in record as speaker points fall below 24.0 can be discounted as the result of a single score of 23.0 for the entirety of the sample (η = 2862). Taken together, decision and speaker points account 69% of the variance in win-loss record. Including these variables, and looking only at high-high debates should parcel the effect of talent, experience, etc., such that it is possible to test if the remaining variability in record can be attributed to sex of the participants.

Graph 1: Mean Win-Loss Record by Speaker Points



The results in table 3 clearly indicate a significant effect of both debater sex (β = .093, $\rho < .001$) and colleague sex (β = .091, $\rho < .001$) on win-loss record. While the

effects were significant, the effects of the control variables dwarfed the magnitudes of the effects. Still speaker sex and partner sex each account for 9% of the variance in win-loss record after controlling for the effect of talent, which encompasses experience, preparedness, resources, etc. Men, on average, win 53.7% of their debates while women win have a 46.3% winning percentage. Thus, men have a 7% better chance of winning each debate in which they participate than their female counterparts, and at least some of this difference is attributable to the sex of the participants. No significant effect between critic sex and win-loss record was observed.

Team sex and the interaction between team sex and critic sex were excluded by SPSS due to colinearity with other independent variables. This is logical since there is a direct relationship between these two variables and both debater sex and partner sex. Critic sex is also colinear with its interaction term with team sex. To rectify this, a separate linear regression analysis that included only the control variables and the interaction terms that were excluded by SPSS due to colinearity. The drawback of this method is that the interaction effect could appear significant even though the results are attributable to variance for which the main effect has already accounted, increasing type I error (concluding differences exist when none actually does).

Results of the linear regression of the interaction terms are itemized in table 4. There is a significant effect of team sex on success as measured by win-loss records after controlling for talent factors ($\beta = .145$, $\rho < .001$). Thus, it appears that there is a compounding effect triggered by the interaction between speaker sex and partner sex, such that the teams that are evaluated least favorably are comprised of two females. The interaction effect of team sex and critic sex was non-significant (table 4).

Table 4: Linear Regression Model of Interaction Terms with Win-Loss as the Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-23.757	.889		-26.712	.000
	Decision	.294	.025	.187	11.555	.000
	Speaker Points	1.015	.033	.509	31.182	.000
	Team Sex	.355	.043	.145	8.166	.000
	Team Sex * Critic Sex	-1.42E-02	.017	-.014	-.817	.414

To confirm that the overwhelming majority of both the judges and debaters being male did not skew the above results, a secondary linear regression analysis was performed. It seemed preferable to report the results of the entire sample included in this study since, as previously discussed, this sample is highly representative of the entire populace of the debate community during the four-year period being examined. To ensure these results were not caused by the discrepancy in participation rates, another data reduction technique was employed. The composition of team sex was equalized by randomly selecting 200 cases of each of the possible team configurations - all female team, male debater with female partner, female debater with male partner, and all male team – as one would expect to find if participation rates between men and women were equal and partnership pairings were random.

This equalizing technique has a couple of drawbacks that should be noted. First, some teams may be over-represented in the newly constructed sample in all four categories given the way the data is coded. Since each debate is coded one time for each speaker, each two-person debate team is represented by two cases in the sample. Thus, it is possible that some debate teams were included in the reduced sample twice while some teams may have been excluded all together. Second, by randomly selecting cases to

equalize the cell sizes of the team compositions, the cell sizes for variables such as decision in the high-high debate will not necessarily be equal as would normally occur in a closed system of tournament debates where for every win there is a corresponding loss. In the equalized team participation sample, there are 401 wins, 393 losses, and six cases that were excluded due to missing data. A 95% confidence interval around the mean decision (0.011, s = .0355) for this equalized sample indicates that there is no significant difference from the mean decision (0.000) given an equal number of wins and losses.

Table 5: Linear Regression Model with Win-Loss Record as the Dependent Variable for Sex Equalized Sample

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-25.296	1.565		-16.168	.000
	Decision	.306	.045	.196	6.759	.000
	Speaker Points	1.069	.057	.542	18.664	.000
	Debater's Sex	.127	.044	.081	2.870	.004
	Colleague Sex	8.995E-02	.044	.058	2.025	.043
	Critic Sex	-1.45E-02	.060	-.007	-.242	.809

The results in table 5 confirm that the results for the win-loss record regression model for the equalized team sex sample is consistent with the results obtained by using the entire sample gathered in this project. The talent control variables, decision (β = .196, $\rho < .001$) and speaker points (β = .542, $\rho < .001$), have a significant relationship with win-loss record. Debater sex (β = .081, $\rho < .005$) and colleague sex (β = .058, $\rho <$ .05) both still have a significant effect on win-loss record. Although it appears that the effect size of the equalized sample is not as large, indicating a possible exaggeration in the unequalized sample. In addition, the margin of error for this model is higher for both the effect of debater sex and colleague sex, but this can largely be attributed to the greater

power of the model utilizing the larger sample size. There was no significant effect of critic sex on win-loss record. All of these results are consistent with those found using the entirety of the sample size, thereby disproving the possibility that the participation rates skewed the results of the win-loss linear regression model.

Speaker Point Model

The speaker point model provides an opportunity to look at some of the variables that were excluded in the win-loss record model. Unlike record, which is based on wins and losses that are always equal across all tournaments and topics, speaker points vary according the criteria determined by each individual judge. This difference allows the speaker point model to be investigated for sources of variance attributable to tournament factors, topic factors, or critic sex.

Speaker points, the dependent measure of success, were analyzed using a linear regression model that explored the discernable effects of speaker sex, partner sex, critic sex, tournament, topic, and the interaction terms all of these main variables; including team sex, team-critic sex, and the interactions of topic with debater sex and judge sex. As in the previous model, SPSS excluded the interaction terms due to colinearity with the main variable. The same remedy with the associated drawbacks, constructing an additional linear regression model that excluded the main variables so as to analyze the interaction effects, was employed. As in the past model, the other measures of success – decision in the round and win-loss record – are treated as covariates to control for the factors collectively referred to as talent herein, including experience, preparedness, natural speaking ability, intelligence, resources, etc., with the goal of parceling these

factors out of the data leaving only the variance attributable to other factors such as sex, topic, tournament and the like to be analyzed.

Table 6: Linear Regression Model with Speaker Points as the Dependent Variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.206	.040		647.732	.000
	Record	.276	.009	.550	31.561	.000
	Decision	2.824E-02	.013	.036	2.104	.035
	Tournament	.104	.015	.114	6.942	.000
	Debater's Sex	-2.90E-02	.021	-.031	-1.369	.171
	Colleague Sex	3.742E-03	.015	.004	.242	.809
	Critic Sex	-1.53E-02	.032	-.014	-.483	.629
	Topic	-.188	.087	-.379	-2.159	.031
	Debater-Judge-Topic Interaction	5.356E-02	.028	.348	1.924	.054

Table 6 contains the results of the model just described. As expected, win-loss record ($\beta = .550$, $\rho < .001$) and decision ($\beta = .036$, $\rho < .036$) both had a significant effect on speaker points. The decision about which teams won the high-high debate reflects which of the two equally talented teams had the better performance in the debate in which the speaker points were assigned. And the team that goes undefeated during the eight preliminary debates exhibited superior skills during all of the debates than any of the other competitors who did not fare as well. Thus, both of these provide good predictors of the level of speaker points that debaters will receive in high-high debates that are attributable to talent. After the effects of these two factors are parceled out of the data, the remaining variance can be analyzed for effects from the independent variables.

The data indicates that no significant relationship exists between the dependent variable, speaker points, and debater sex, colleague sex, or judge sex. To test the

Table 7: Linear Regression Model with Speaker Points as the Dependent Variable Examining the Sample Equalized by Team Sex

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.142	.069		377.458	.000
	Record	.293	.016	.577	18.584	.000
	Decision	1.979E-02	.024	.025	.813	.417
	Tournament	6.256E-02	.027	.069	2.338	.020
	Debater's Sex	-8.54E-02	.034	-.108	-2.479	.013
	Colleague Sex	9.829E-03	.023	.012	.423	.673
	Critic Sex	-7.37E-02	.058	-.069	-1.277	.202
	Topic	-.299	.157	-.594	-1.908	.057
	Debater-Judge-Topic Interaction	8.900E-02	.050	.569	1.776	.076

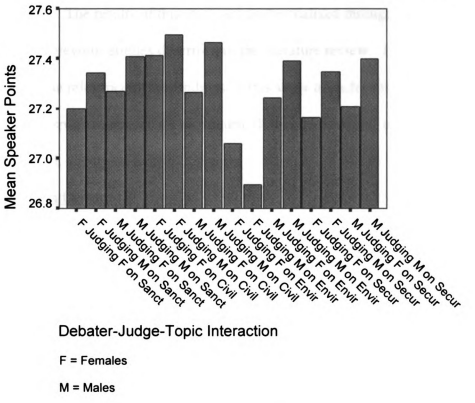
possibility that these results were skewed by the unequal cell sizes for the variables representing the sex of the participants, an identical linear regression model was tested using the sample that was randomly selected to equalize team sex to what would be expected given equal participation and distribution of team composition described in the previous section. Results of this model are provided in table 7.

The results from the speaker point model using the team sex equalized data diverge from the results indicated by the entire sample of this study on the debater sex factor. According to this analysis, there is a substantial relationship between the success of debaters as measured by speaker points and the sex of the debater ($\beta = -.108$, $\rho < .014$) in so far as male debaters receive less favorable speaker points due to their sex after accounting for factors dubbed talent.

The tournament variable exhibited a significant relationship with the variance in speaker points in both the entire sample of the study (see table 6, $\beta = .114$, $\rho < .001$) and

the equalized team sex sample (see table 7, $\beta = .069$, $\rho < .021$). Accounting for this variance in the model allows for more accurate investigation of other factors.

Graph 2: Mean Speaker Points by Debater-Critic-Topic Interaction



The topic also indicates a significant effect on speaker point variance when the entire sample of this study is examined (see table 6, $\beta = -.379$, $\rho < .032$). The results do not support the same conclusion when the equalized team sex sample was analyzed (see table 7, $\beta = -.594$, $\rho > .05$), so it is possible that the skewed participation rate could have contributed to the variance in speaker points across the topics. Finally, the regression model indicates that the interaction term for debater sex, critic sex, and topic fell just outside the level of significance at the $\alpha = .05$ level or both the complete sample (table 6) and the team sex equalized sample (table 7). Graph 2 illustrates the mean speaker points for this three-way interaction effect.

VI. Discussion

This section raises possible implications and provides possible explanation for the results outlined for participation disparities, the win-loss record model, and the speaker point model. The results of this study are contextualized through comparison with findings of previous studies described in the literature review. This discussion attempts to explain the relevance of the findings of this study to each of the research questions under the respective research topic in turn. Finally, limitations of the present study will be addressed.

Participation Disparities

Debate largely remains a male dominated activity, with males comprising 76.3% of debate competitors and 84.2% of the judging pool. After accounting for the overall participation discrepancies among competitors, analysis revealed that there is a disproportionate number same sex teams, both all-male and all-female, in comparison to mixed sex teams. This may reflect preferences to have same sex teams to facilitate teamwork given differing styles or restrictions on males in female dormitories or vice-versa on some campuses.

Given that past research (Andrews, 1987) indicates that women feel more self-confident in anticipation of presenting before a female audience, the lack of female critics may create an environment that is not conducive to encouraging female participation. On the other hand, Andrews concludes that confidence does not have an effect on performance. In addition, Brushke and Johnson (1994) detect results indicating that not only do women fare less well than men based upon the effect of sex of the competitors,

the effect is more pronounced when females are judging females. Thus, the lack of female judges may actually benefit female debaters in measures of success.

Given the preponderance of males among the pool of debaters and debate judges, concerns arise regarding those considered opinion leaders (Richmond & McCroskey, 1975). The high proportion of males in the debate community probably indicates that the balance of female to male opinion leaders, and the corresponding heightened credibility associated with the status of opinion leaders, is equally skewed. If this is the case, the styles and arguments advanced by men may be considered the norm or criteria against which all participants are evaluated; a playing field that could scarcely be considered level for female participants. Women need the space to develop styles and arguments that are suited to them rather than being forced to conform to the overwhelming male norm.

It is possible that the disparity observed in judging does not reflect an actual difference in participation rates among the judging pool or among the coaching population at-large for several reasons. First, while all debaters at a tournament participate in each round, not all critics at a tournament judge each debate. They may only be required to evaluate four of the eight rounds at a tournament. Thus, the results could be a result of a skewed distribution in judging in high-high power matched debates. Second, all of the tournaments utilize a system of mutual preference judging allowing the competitors to influence which judges are assigned to their debates by submitting a preference ranking for each judge prior to the beginning of the tournament. A bias in the preferences expressed by the debaters could cause results that diverged from the participation rates within the judging pool. Also, some debate teams elect to have only a

portion of their staff fulfill the judging obligations, reserving other coaches to ensure their competitors are adequately prepared to maximize performance. It is possible that the skills possessed by women at tournament research and preparation, or some other factor, encourages teams to utilize their female coaches in capacities other than judging.

Regardless of source, however, it is disconcerting that such drastic imbalances in participation rates continue to exist among both debaters and judges. Whether the discrepancy exists due to real participation differences, bias in preference rankings of judges, skewed judge distribution during high-high debates, or individual teams' decisions to hold their female critics out of the judging pool; the net effect is that women's perspectives were not nearly as prevalent as those of men in the ongoing dialogue that is academic debate. Numerous studies have shown that participation in debate teaches students many skills including persuasion, public speaking, proficiency in argument construction, policy evaluation, competitive argumentative speaking, library research, critical thinking, performance and information processing, integration and management (Colbert & Biggers, 1985; Colbert, 1987; Cross, 1971; Ehninger & Brockriede, 1978; Gruner, et al., 1971; Hill, 1987; Jackson, 1961; Whalen, 1991). That women are underrepresented in an activity that aims to empower participants by teaching skills necessary for effective advocacy is a tragedy. This confirms that more efforts are required to evaluate the components of academic debate that discourage female involvement and to enhance recruiting and retention of female debaters.

A first step toward this end is assessing whether some tournaments are more conducive to heightened female participation than others so the characteristics that may contribute to any difference can be modeled in future tournament formats or topic

choices. Northern Iowa's exhibited a significantly lower proportion of female judges than the average proportions at other tournaments, while Northwestern attracted a higher proportion of females than either of the other tournaments examined in this study. Perhaps Northwestern recruits more female critics to judge at their tournament, or uses these judges more often during high-high debates. Whatever the source of the difference, the practices of the Northwestern should be examined to determine if some attributes could be modeled by other tournaments to encourage greater female participation. At the same time, it should be noted that Northwestern's ratio of women (18.4%), while an improvement when compared to other tournaments in this study, is still a far cry from a representative ratio of the two sexes. Much more needs to be done to rectify these imbalances.

The effect the debate topic has on participation rates could also illuminate another possible tactic to address the participation gap between men and women. Since some topics – such as sanctions – attract a greater ratio of women, future topics could be crafted to incorporate the elements of these topics that appeal to female debaters and critics. Of course, the topic preferences of women would require greater study in an effort to predict what future topics might encourage more women to participate in debate since this study merely addresses topics that have already been debated.

The analysis of the effect of debate topic on participation produced some surprising results. One might expect women to be more active participants on the civil rights topic that focused to a significant degree on gender discrimination in the workplace. On the contrary, female participation rates were lower on the civil rights topics than any other topic. Of course, it is possible that the fluctuations in female

participation relative to men could be attributable to another cause such as changing demographics of the overall collegiate population rather than preference for any given topic. While these results show a significant relationship between topic and participation, this represents a significant correlation, not confirmation of causality. To better assess a causal relationship, one would have to conduct further research examining survey responses concerning reasons why participants chose to compete during a given year or topic.

The results on female judge participation seem much more in line with what might be predicted by past research. Both Richmond & McCroskey (1975) and Knutson (1996) suggest the potential of topic to have an influence on the relative levels of female-male participation and success. Knutson suggests that discussions of military policy, in particular has historically excluded women's voices. The low level of participation by female judges on the security assistance topic is certainly consistent with this theory. Richmond and McCroskey suggest that, while public policy in general was still largely male domain at the time the study was conducted, there were some topics on which women were becoming credible opinion leaders. It could be that the civil rights topic, which focused largely on gender discrimination in the workplace, was a topic women's opinions were held in higher regard than other topics. This may have attracted more women to the judging pool because of interest and comfort on the topic. Another possible explanation is supported by the Andrews (1987) study, which concluded that both men and women tended to rely more on argumentative appeals to family or social contributions when appealing to female audiences instead of a male audience. Perhaps the subject matter of civil rights was conducive to the type of arguments debaters deemed

more persuasive to females than males. This evaluation could have altered competitors' preferences for judges in the pre-tournament rankings resulting in a higher proportion of women judging debates even if the overall judging pool did not change in composition.

It is odd that the results for debater participation interaction with the topic variable were in such stark contrast to the judge participation contrasts among the topics. The civil rights topic witnessed both the lowest percentage of female debaters and the highest percentage of female critics when compared to the other three topics. This inconsistency obviously raises questions about the link between sex-based participation and topic. However, it is possible that judge participation is more subject to variance that is attributable to topic than is the composition of the competitors. Most debaters probably participate during college regardless of preferences for or against the selected annual topic because the ability to debate is restricted to those years spent enrolled as an undergraduate student. Judges, on the other hand, may be more fluid based on topic for any number of reasons: former women debaters who have chosen to pursue other interests may return to judge more debates on a topic of interest; women coaches may opt to judge more on a preferred topic than one they dislike; women judges could be more preferred on some topics than others increasing the proportion of females judging high-high debates even if the composition of the judging pool is unaltered by the topic.

In sum, it is important to recognize that even under the most favorable conditions, female participation in intercollegiate policy debate is far from representative among either the competitors or the judges. While we should attempt to learn what tournaments such as Northwestern do differently to attract more female judges, and we should consider crafting topics that have greater appeal to women, much more needs to be done

to rectify these glaring discrepancies in participation rates between women and men in debate.

Disparities in Win-Loss Records

Given that substantially greater numbers of males participate as debate competitors in comparison to females, one would naturally expect aggregate win-loss records of women and men that corresponds with the disparate participation rates. In other words, men as a whole should win a greater number of debates simply because there are more men in the field. This explanation, however, would not suffice to explain disparate levels of success rates attained by the average individual person of either sex. If the playing field in debate is truly level for the sexes, each person should expect to win roughly half of their competitive debates in a closed tournament environment in which there are always equal numbers of wins and losses handed down. Of course, tournaments are paired to induce a normal distribution of win-loss records across the teams competing in an effort to determine a tournament winner. If one of the sexes outperforms the other on average after accounting for discrepancies in participation rates, then another factor must be exerting an influence on success as measured by overall win-loss record. Determining if a substantial difference between success rates of the two sexes exists is the primary goal of this analysis of win-loss record models.

Results of the linear regression model illustrated two main differences in success based on the sex of the participants. Using win-loss as a measure of success, the analysis revealed that male debaters are evaluated more favorably than female debaters, and that speakers with female partners encounter disparate evaluations when compared to speakers who debate with men. Both of these factors contribute to the variance in

success as measured by win-loss record to a statistically significant degree after accounting for variance attributed to talent and all of its variants by treating the decision in the round and speaker points as control variables. The significance effect of the team sex variable indicates that the sex-configuration of the two-person team can have a compounding effect on the observed disparity.

Men have a 7% greater chance of winning each debate in which they compete, in part due to sex factors. Given that the difference of a single victory during preliminary debates often determines whether a team qualifies for the elimination rounds or is eliminated from the tournament, the difference in success that is attributable to sex is discomforting.

An identical analysis was conducted on a sample that had been randomly selected to equalize the team sex as if participation of women and men was equal and partnership distributions were assigned randomly. The results of this secondary analysis were consistent with those gleaned from the unequalized data, illustrating that these results cannot be attributed to skew resulting from the disparate participation rates described in the previous section. Since multiple measure were utilized to control for the variants of talent, these differences indicate that the disparities in part can be attributed to sex bias.

It should not come as much of a surprise that there was no effect of critic sex on win-loss record. While each debater is involved in all eight of the debates that determine the win-loss record, each judge contributes only one decision toward the overall win-loss record of each team. If there were a difference in record between male and female judges, this would reveal a difference in the quality of teams to which male and female judges are assigned more than it would reflect any difference in the way women and men

judge debates differently. This effect could indicate that there is bias toward having men or women judge the more talented team, which could be an important finding; but alas, the findings of this study indicates no significant difference in team record based upon sex of the judge.

To look at judge discrimination in voting would require a model using decision as the dependent variable. Since every time judges vote for one team they are voting against another, there will be no difference between men and women judges in overall voting record. However, by looking at the interaction effects between sex of the judge and debater sex, colleague sex, and team sex on decision in the high-high round, it would be possible to discern any statistical difference between the way women and men judge based upon sex of the competitors. This analysis was not conducted, however, because the bivariate correlation (Appendix B) employed as a data reduction technique indicated no relationship between decision and any of the variables mentioned above nullifying the need for further analysis.

Disparities in Speaker Points

No difference was found in success as measured by speaker points for speaker sex, partner sex, or judge sex under the speaker point linear regression model. Since the win-loss regression model indicated a variance in record that could be attributed to sex of the competitors, it is possible that there is also a disparity in speaker points that is masked by the inclusion of win-loss record as a covariate. In other words, a discrepancy between men and women speakers and partners may exist for speaker points, but this difference is no larger than that already observed in the disparity already accounted for in the win-loss model. This data does not support the conclusion that speaker points are more likely to

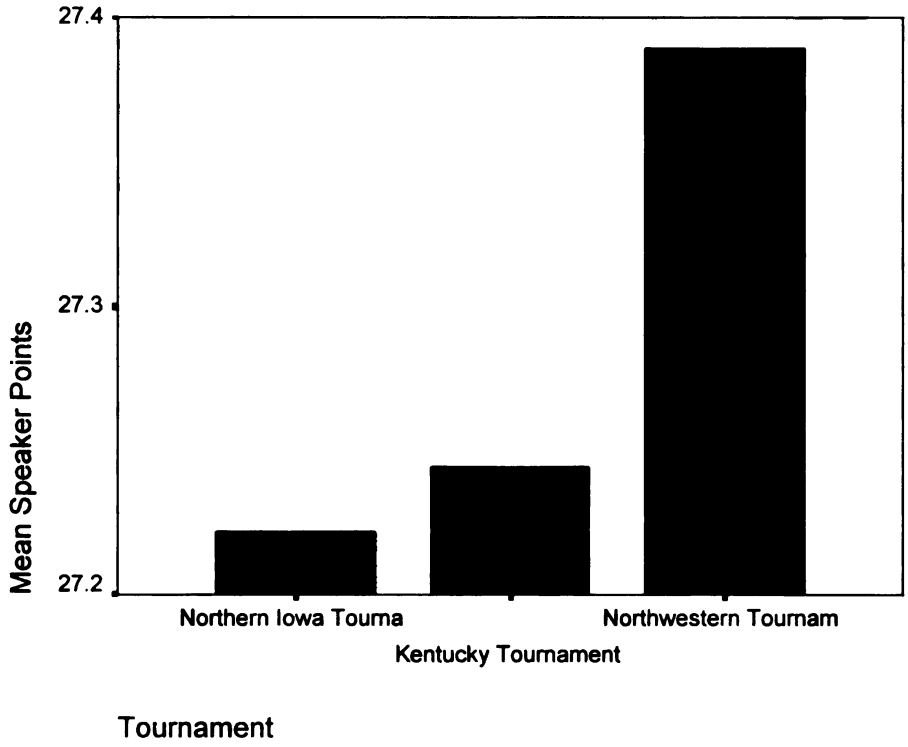
exhibit characteristics due to the subjective nature of judging as compared to the more objective criteria employed to determine winners and losers for debates.

The secondary linear regression analysis of the speaker point model produced an unexpected result. The sex-equalized data set produced results indicative of speaker point disparities that detrimentally impacted male debaters. Rather than disadvantaging women, the data indicates that male debaters are evaluated less favorably as measured by speaker points due to their sex after accounting for the factors dubbed talent when the team sex is equalized in the sample. It is possible to conclude, therefore, that the unequal participation rates among women and men skewed the results in such a way that increased the risk of type II error (data indicated no difference attributable to a factor when a difference actually exists), which masked the disparity in speaker points attributable to sex that disadvantages men relative to women. On the other hand, this finding should be viewed with skepticism since it is inconsistent with the findings described under the win-loss model and previous studies reviewed in this project.

The tournament variable produced significant variance in the assignment of speaker points. Tournament conditions, the judging pool or the quality of the competition a given tournament attracts, could result in skewed speaker point results. The speaker point trend based on a means analysis, however, points to another possible explanation. The tournaments, as represented in graph 3, are in the chronological order they occur during each year of the study. Northern Iowa is the first tournament of the season on a new topic for most all participants and occurs in mid-September. Kentucky follows only a couple weeks later. Northwestern does not host their tournament until February. As the competitors gain familiarity and experience with the arguments and

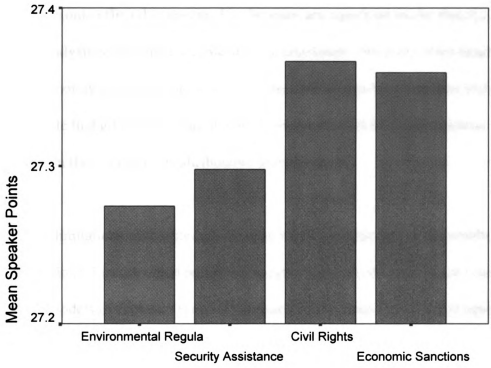
evidence on a given topic, it is likely that they perform better and are evaluated more favorably by critics as the year progresses.

Graph 3: Mean Speaker Points by Tournament



The annual debate topic term also yielded a significant effect on speaker point variance. The topics are ordered chronologically in graph 4. The upward trend in speaker points could be attributed to speaker point inflation over the years rather than any major effect of the topic. This data indicating an average of 27.3 speaker points were given to debaters in this study between 1996 and 2000, in conjunction with the data from Brushke indicating an average speaker points ranging from 26.5 to 27.0 during the 1989 to 1992 period, would be consistent with the speaker point inflation theory.

Graph 4: Mean Speaker Points by Topic



In sum, the linear regression model of speaker points as a function of participant sex yielded few major insights. The covariates, decisions in the high-high debate and win-loss record, both accounted for substantial variance in speaker points as expected. The tournament factor demonstrated the most significant effect on speaker points. This effect is consistent with improvement and familiarity with the topic arguments as the season progresses. The topic variable yielded a significant effect, but the trend is consistent with a chronological increase that could be explained by a speaker point inflation theory every bit as well as a topic variation theory. The topic variable did not indicate a significant response when the equalized team sex sample was modeled, raising the possibility that the disparate participation results skewed the effect of topic increasing the likelihood of type I error. Finally, when analyzing the team sex equalized data, a

disparate assignment of speaker points to the detriment of male subjects was detected. This result is the only effect that appeared in the team sex equalized model that did not appear in the analysis of the entire sample and is inconsistent with every other result obtained by this study as well as the bulk of the literature on sex-based success in debate. It seems probable that given the accumulation of error across all of the comparison performed herein that this result is attributable to type I error.

Limitations

Several limitations of this study have been mentioned throughout the results and discussions sections: First, unequal participation rates based on sex could skew results in the regression models of success. Second, the study suffers from a problem of repeated measures that have not been accounted for in this design. Subjects who competed or judged at more than one tournament are over-represented. In fact, it is possible that some subjects participated in all twelve tournaments included in this study while others participated at only one tournament. Third, the team sex equalized data set used to mitigate the effect of the unequal participation rates suffers from over representation of some teams. Fourth, some inconsistent results emerged in the data analysis. Most notably, the comparisons between the complete data set and the team sex equalized sample yielded divergent results on the effect of topic and speaker sex on speaker point variance. Fifth, there are alternative explanations of the trends observed in speaker point variance attributable to both tournament and topic variables that would require further testing to clarify. Sixth, it is conceivable that the participation rates reflected from this analysis of high-high rounds is not representative of the sex composition of intercollegiate debate coaches, or even of the judging pool at the tournaments included in

this study. Given the use of mutual preference judging at these tournaments to assist in determining judge placement, the preferences of the competitors could have resulted in a skewed distribution given the pairing of the round, such as an effect attributed uniquely to high-high power matched debates. Analyzing mutual preference requests of teams in comparison to judge placement and the success rates with preferred or non-preferred judges offers a host of avenues for further research. It would be interesting to contrast the sex distribution of judging in high-high debates, which are typically deemed to be the best and closed debates since the bracket is structured to pit teams of equal talent against one another, to the distribution in non-power matched rounds or high-low power matched rounds. Also, preference sheets at some tournaments do not go into effect until the third round of the tournament. An interesting study might contrast judge distribution based on sex in rounds employing mutual preference to those using random judging selection. Seventh, the sex of some of the participants could not be identified. Further studies should record the sex of the participants while the tournament is ongoing instead of attempting to reconstruct the team sex configurations a few years later. Eighth, the exclusion of the interaction variables due to colinearity with the primary independent variables resulted in an analysis of the interaction effects that did not account for the variance already accounted for by the main effects. Hence, the results reported for the interaction terms may simply be reiteration of results previously identified by the primary variables.

In addition, there are other limitations that have not been addressed. First, the tournaments selected are only representative of CEDA and NDT national circuit debate. There are numerous healthy regional circuits that are not represented by this study, and

could have differing results. Also, there are other forms of collegiate debate besides policy debate examined in this project, including such styles as parliamentary debate and value focused debate. And, this study is not representative of policy debate participants at the high school level. Further studies on all of these could confirm or deny similarities to these findings on intercollegiate policy debate. Second, other variables could be included as either relevant covariates or independent variables. For example, side of the topic – affirmative or negative – could produce effects that possibly interact with some of the results of this study. The Brushke and Johnson (1994) study found some interaction effects of sex variables and topic. This data is available in the results packets of the tournaments included in this study. Further work on this project could use topic sides as contrasts for the results based on topic side. Furthermore, speaker position – whether the debater is gives the first or second speech for the team – is widely held to influence speaker points awarded in the round. The speaker giving the second speech typically plays a greater role in winning or losing debates for a variety of reasons. Judges often reward the second speaker with more favorable speaker points for fulfilling their greater responsibilities. The Brushke and Johnson study does not attempt to account for the speaker position factor either. Again, collecting this data while the tournament being analyzed is in progress is necessary since it is not provided in many of the results packets. Finally, the study does not investigate effects attributable to the opponents' sex. Further investigation into the interaction effects of speaker sex and opponent sex could provide insightful results.

In the end, it is difficult to discern the effect the sex the participants has on the level of success they attain in debate. Too often attempts to examine disparate success

rates do nothing to distinguish between effects attributable to sex and those attributable to different levels of talent, resources, experience, preparedness, etc. While this study attempts to analyze this distinction by controlling for variables that serve to represent the non-sex factors that factor into success in debate by looking at high-high rounds, and treating decision in the debate and overall win-loss record as covariates, ultimately most of the significant effects that were observed based on sex could be attributable to a variety of non-sex factors. The factors that contribute to success in debate are numerous and the relationships are complex. That one sex outperforms the other may be a function of greater experience, more in-depth research, more affinity for the substance or style of the activity of debate, superior natural speaking abilities, or a number of other possibilities. In the end, sex clearly matters to the level of success in debate, but it is far from clear that such disparities amount to discrimination. It is equally possible that the success disparities result from a mediating factor - such as work habits, argumentative strategies, or stylistic choices – rather than on any of the sex variables in and of themselves. Further research should analyze the relationships between some of these mediating variables and sex-based participation and success differences.

VII. Conclusions

Results of this study clearly indicate that disparate participation and success rates women experience relative to men continue to plague national circuit tournaments of CEDA and NDT style intercollegiate policy debate. Men outnumber women competitors by a factor of 3:1. Four-fifths of the judges placed in the high-high debates analyzed in this project were men. Men are 7 % more likely than women to win each debate, which could make the difference between advancing in the tournament and being eliminated, and at least part of this variance is attributable to sex factors rather than the factors incorporated under the rubric of talent.

Despite the limitations of this and other studies referenced in the literature review, one conclusion remains consistent: there seems to be a difference between male and female debaters. The sexes are disproportionately represented in the collegiate debate community – both among judges and debaters. Men also win a high proportion of the awards and honors than even their excessive representation among the pool of competitors would predict (Stepp, 1997). Males surpass females in measures of success, even after accounting for the variance in success attributable to talent. Females embrace different styles that hinder their ability to control cross-examination periods (Larson & Vreeland, 1985). Females may be or attain mitigated success or experience a lack of interest in debate due to the public policy focus of the topics or the military metaphors employed in debate strategy (Knutson, 1996). This study indicates that annual debate topic has a significant impact on female participation rates in the judging pool, which is consistent with the theories posited by Knutson.

Some of the disparities in participation should be readily apparent in casual observation of tournament demographics. That other disparities are not as easy to detect does not deny the existence of such difference. Numerous females have attained a tremendous degree of success by any measure. These women were not just good female debaters, they compared favorably to their male competition as well. However, these success stories of great female debaters are the exception rather than the rule.

The disparities should be of tremendous concern to anyone who cares about debate or the advancement of women. The debate community cannot pretend to be enlightened if it largely excludes the crucial voices of women in our society. The ongoing dialogue of debate lacks the perspectives women can offer into the marketplace of ideas. Debate training enhances critical thinking and hones research and oral communication skills that can empower women to advance their agenda both in an outside of the debate community.

The collegiate debate community needs to recognize that the evils of disparate participation and success based on sex endured the topic merger of CEDA and NDT. Our activity is not the representative and egalitarian community many have been working so hard to attain. Current efforts to remedy the gaps in participation and success are insufficient and must be redoubled and expanded.

Relevant committees within CEDA and NDT, directors of debate programs, coaches, graduate assistants, judges, and competitors need to use the trends identified in this and other studies as a catalyst for self-reflection. Perhaps practices we engage as judges, coaches, or competitors contribute to these problems. An examination of the topic selection process, recruiting practices, standards for the distribution of scholarships,

decisions regarding travel and competitive opportunities for female debaters, choices about female judging commitments, and criteria employed to evaluate which team won or lost a debate or to assign speaker points, in an effort to create an environment more conducive to the participation and success of women in debate. Only through individual efforts and resistance can the debate community overcome bias and disparities that have plagued academic debate since its inception.

APPENDIX A

Sample Debate Ballot

Sample Tournament Debate Ballot

Round: _____ Judge: _____ Room:_____

Instructions: Determine who won the debate and vote for one and only one team. Assign each speaker quality points (0-30) to assess overall performance and contrast them to the other speakers in this debate by assigning each speaker a rank-order between 1 and 4.

Affirmative: _____ Negative: _____

1A: _____ 1N: _____

Rank: ____ Points: ____ Rank: ____ Points: ____

2A: _____ 2N: _____

Rank: ____ Points: ____ Rank: ____ Points: ____

The better debating was done by the (Affirmative or Negative) representing

_____. _____

School Name Judge's Signature

Reason for Decision:

APPENDIX B

Bivariate Correlation Matrix

Bivariate Correlation Matrix

		Record	Decision	Speaker Points	Tournament	Debater's Sex	Colleague Sex	Critic Sex	Team Sex	Team Sex * Critic Sex	Topic	Topic * Debater Sex	Topic * Critic Sex	Debater-Judge-Topic Interaction
Record	Pearson Correlation	1.000	.280**	.561**	-.011	.158**	.159**	.011	.208**	.081**	.001	.028	.023	.040*
	Sig. (2-tailed)	.	.000	.000	.568	.000	.000	.557	.000	.000	.953	.149	.218	.043
	N	2878	2860	2862	2878	2677	2675	2760	2606	2511	2878	2677	2760	2579
Decision	Pearson Correlation	.280**	1.000	.195**	.001	.020	.019	-.004	.021	-.003	.003	.007	.003	.006
	Sig. (2-tailed)	.000	.	.000	.965	.308	.318	.822	.285	.874	.887	.729	.868	.771
	N	2860	2862	2862	2862	2671	2669	2760	2600	2511	2862	2671	2760	2579
Speaker Points	Pearson Correlation	.561**	.195**	1.000	.098**	.091**	.097**	.022	.123**	.065**	-.041*	-.028	-.017	-.010
	Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.242	.000	.001	.029	.149	.371	.609
	N	2862	2862	2864	2864	2671	2669	2760	2600	2511	2864	2671	2760	2579
Tournament	Pearson Correlation	-.011	.001	.098**	1.000	.020	.018	-.054**	.032	-.043*	.006	.015	-.012	-.009
	Sig. (2-tailed)	.568	.965	.000	.	.297	.360	.004	.103	.031	.763	.439	.531	.661
	N	2878	2862	2864	2900	2693	2693	2762	2622	2513	2900	2693	2762	2581
Debater's Sex	Pearson Correlation	.158**	.020	.091**	.020	1.000	.135**	.026	.754**	.329**	.007	.164**	.017	.103**
	Sig. (2-tailed)	.000	.308	.000	.297	.	.000	.192	.000	.000	.708	.000	.376	.000
	N	2677	2671	2671	2693	2693	2622	2581	2622	2513	2693	2693	2581	2581
Colleague Sex	Pearson Correlation	.159**	.019	.097**	.018	.135**	1.000	.026	.753**	.329**	.008	.037	.019	.038
	Sig. (2-tailed)	.000	.318	.000	.360	.000	.	.180	.000	.000	.677	.061	.338	.059
	N	2675	2669	2669	2693	2622	2693	2580	2622	2513	2693	2622	2580	2513
Critic Sex	Pearson Correlation	.011	-.004	.022	-.054**	.026	.026	1.000	.038	.916**	.107**	.115**	.233**	.248**
	Sig. (2-tailed)	.557	.822	.242	.004	.192	.180	.	.059	.000	.000	.000	.000	.000
	N	2760	2760	2760	2762	2581	2580	2762	2513	2513	2762	2581	2762	2581
Team Sex	Pearson Correlation	.208**	.021	.123**	.032	.754**	.753**	.038	1.000	.435**	.017	.136**	.032	.096**
	Sig. (2-tailed)	.000	.285	.000	.103	.000	.000	.059	.	.000	.371	.000	.113	.000
	N	2606	2600	2600	2622	2622	2622	2513	2622	2513	2622	2622	2513	2513
Team Sex * Critic Sex	Pearson Correlation	.081**	-.003	.065**	-.043*	.329**	.329**	.916**	.435**	1.000	.120**	.164**	.231**	.265**
	Sig. (2-tailed)	.000	.874	.001	.031	.000	.000	.000	.000	.	.000	.000	.000	.000
	N	2511	2511	2511	2513	2513	2513	2513	2513	2513	2513	2513	2513	2513
Topic	Pearson Correlation	.001	.003	-.041*	.006	.007	.008	.107**	.017	.120**	1.000	.986**	.990**	.983**
	Sig. (2-tailed)	.953	.887	.029	.763	.708	.677	.000	.371	.000	.	.000	.000	.000
	N	2878	2862	2864	2900	2693	2693	2762	2622	2513	2900	2693	2762	2581
Topic * Debater Sex	Pearson Correlation	.028	.007	-.028	.015	.164**	.037	.115**	.136**	.164**	.986**	1.000	.980**	.988**
	Sig. (2-tailed)	.149	.729	.149	.439	.000	.061	.000	.000	.000	.000	.	.000	.000
	N	2677	2671	2671	2693	2693	2622	2581	2622	2513	2693	2693	2581	2581
Topic * Critic Sex	Pearson Correlation	.023	.003	-.017	-.012	.017	.019	.233**	.032	.231**	.990**	.980**	1.000	.996**
	Sig. (2-tailed)	.218	.868	.371	.531	.376	.338	.000	.113	.000	.000	.000	.	.000
	N	2760	2760	2760	2762	2581	2580	2762	2513	2513	2762	2581	2762	2581
Debater-Judge-Topic Interaction	Pearson Correlation	.040*	.006	-.010	-.009	.103**	.038	.248**	.096**	.265**	.983**	.988**	.996**	1.000
	Sig. (2-tailed)	.043	.771	.609	.661	.000	.059	.000	.000	.000	.000	.000	.000	.
	N	2579	2579	2579	2581	2581	2513	2581	2513	2513	2581	2581	2581	2581

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

BIBLIOGRAPHY

Andrews, P.H. (1987). Gender Differences in Persuasive Communication and Attribution of Success and Failure. Human Communication Research, 3, 372-385.

Bruschke, J., & Johnson, A. (1994). An Analysis of Differences in Success Rates of Male and Female Debaters. Argumentation and Advocacy, 3, 162-173.

Chenoweth, E.C., & Good, U.Z. (1972). The Rise of Women and the Fall of Tradition in Union Debating at Oxford and Cambridge. Speaker and Gavel, 2, 31-34.

Colbert, Kent and Biggers, Thompson. "Why Should We Support Debate?" Journal of the American Forensics Association 21 (Spring 1985): 237-240.

Colbert, Kent. "The Effects of CEDA and NDT Debate on Critical Thinking," Journal of the American Forensics Association 23 (1987): 194-201.

Cross, Gary P. "The Effects of Belief Systems and the Amount of Debate Experience on the Acquisition of Critical Thinking," diss., U of Utah, 1971.

Ehninger, Douglas and Brockriede, Wayne, Decision by Debate (New York: Harper and Row, 1978).

Freely; C. Gruner, R. Huseman and J. Luck, "Debating Ability, Critical Thinking Ability, and Authoritarianism," Speaker and Gavel 8 (1971): 63-64.

Hayes, M. & McAdoo, J. (1972). Debate Performance: Differences Between Male and Female Rankings. Journal of the American Forensics Association, 3, 127-131.

Hensley, W.E., & Strother, D.B. (1968). Success in Debate. Speech Teacher, 3, 235-237.

Hill, Bill, "The Educational Goals of CEDA: Clarification and Reformulation," The Forensic of Pi Kappa Delta 73 (October 1987): 17-27.

Infante, D.A. (1989). Response to High Argumentatives: Message and Sex Differences. Southern Communication Journal, 2, 159-170.

Jackson, Teddy R. "The Effects of Intercollegiate Debating on Critical Thinking," diss., U of Wisconsin, 1961.

Knutson, Roxanne L. "Metaphorical Construction: Argument is War," Contemporary Argumentation and Debate: The Journal of the Cross Examination Debate Association 17 (1996): 32-42.

Larson, Suzanne, & Vreeland, Amy L. (1985). Gender Issues in Cross Examination Periods in C.E.D.A. Debate. National Forensic Journal, 2, 13-27.

Mulac, A., Lundell, T.L., & Bradac, J.J. (1986). Male/Female Language Differences and Attributional Consequences in a Public Speaking Situation: Toward an Explanation of the Gender-Linked Language Effect. Communication Monographs, 2, 115-129.

Richmond, V.P., & McCroskey, J.C. (1975). Whose Opinion Do You Trust? Journal of Communication, 3, 42-50.

Rosen, N., Dean, L., & Willis, F. (1978). The Outcome of Debate in Relation to Gender, Side and Position. Journal of the American Forensic Association, 1, 17-21.

Spender, D. (1980). Man Made Language. Boston, MA: Routledge & Kegan Paul.

Stepp, P. (1997). Can We Make Intercollegiate Debate More Diverse? Argumentation and Advocacy, 4, 176-188.

Tannen, D. (1994). Gender and Discourse. New York, NY: Oxford University Press.

Whalen, Shawn. "Intercollegiate Debate as a Co-Curricular Activity: Effects on Critical Thinking," Arguments in Controversy: Proceedings of the Seventh SCA/AFA Conference on Argumentation (Annandale: SCA/AFA, 1991) 391-397.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