

# EDUCATIONAL VALUE OF 4-H COMPETITIVE EVENTS AS PERCEIVED BY PARENTS OF 4-H PARTICIPANTS

*Rama B. Radhakrishna, Associate Professor*  
The Pennsylvania State University

## Abstract

*Competitive events are a major component of 4-H programs in the United States. Each year hundreds of youth participate in 4-H competitive events. Literature on competitions indicates both positive and negative effects on participants. The purpose of this study was to determine the educational value of 4-H competitive events as perceived by parents of 4-H participants. A secondary purpose was to identify factors that underlie competitive events using factor analysis. A descriptive-correlational research design with a mail survey was used to collect data. A total of 340 parents responded to a three-section survey which contained 32 statements relative to the value of 4-H competitive events, prior participation in 4-H and demographic information. Factor analysis extracted six factors which explained 62% of the total variance. Reliability analysis of the six factors revealed acceptable reliability (alpha ranged from 0.63 to 0.90). Parents of 4-H participants perceive that 4-H competitions have various positives and negatives. Positives include: helping youth to learn new things, setting goals, development of life skills, creativity, and preparing youth for a competitive world. Negatives were: aggressive behavior, cheating, and development of unhealthy practices. Four of the six 4-H participation variables were related to perceived value of competitive events.*

## Introduction

Competition has been accepted as an appropriate teaching-learning strategy by many youth organizations (National USDA/ES Task Force Report, 1989). According to Wessel and Wessel (1982), the use and value of competitions in 4-H dates back to agricultural clubs and contests created around the beginning of the 20<sup>th</sup> century. Ladewig and Thomas (1987) in their national study of former 4-H members indicated that 4-H programs have used competitive events and activities as a means to promote learning and the development of specific skills of 4-H members. Several researchers indicated that one of the most important goals of 4-H has been to provide educational opportunities for youth through competitive activities (4-H Leader, 1987; Keith & Vaughn, 1998; Weber & McCullers, 1986). Competition as a youth educational experience concerns educators, volunteers, parents, youth educators, teachers, administrators, and youth themselves.

Competition--where someone wins and others lose—is a significant part of American culture (Fetsch & Yang, 2002, p 1). The reliance on competition and material rewards as a means of enhancing performance and motivation is central to the American way of life. 4-H and sports are no exception. Parents, youth educators, leaders, volunteers, coaches, and administrators expressed strong opinions about how competition affects children. A number of organizations, including 4-H and other sports organizations, used competitive activities to promote learning and development of specific skills.

Competition is the process of comparing skills (Midura & Glover, 1999). They identified three main models of competition: the military, the reward, and the partnership. In the military model, players are expected to see the other team as the “enemy”; in the reward model team members compete for rewards, which is winning a game. The partnership model is different from the other two in that players are not expected to view their opponents as the enemy (Midura &

Glover). As with other social-emotional issues, children understand competition differently depending on their stage of development (Perkins, 2000, p. 30).

Synthesis of literature on competition indicates both positive and negative effects. Proponents claim that competitions contribute to 1) learning democratic values, 2) combating juvenile delinquency, 3) fostering responsible social behaviors, 4) helping achieve greater academic success, 5) appreciating personal health and physical fitness, 6) stimulating creativity, 7) motivating members to set goals, 8) completing tasks, and 9) developing life skills. In addition, competitions prepare youth for a competitive world, and motivate them to strive for excellence (4-H Leader, 1986; Fetsch & Yang, 2002; Keith & Vaughn, 1998; Ladewig & Thomas, 1987; Weber & McCullers, 1986; Wessel & Wessel, 1982). Despite these many positive aspects of competition, opponents argue that competition 1) decreases self-esteem and fosters individualism, 2) encourages counter productive activities, 3) aids in imbalanced skill development, 4) makes false judgments about individuals, 5) encourages cheating and unfair practices, 6) requires excessive parental involvement, 7) engages in aggressive behavior, 8) allows for poor sportsmanship, 9) increases improper parental attitudes, and 10) fosters individualism rather than cooperation (Allen et al., 1988a; Allen et al., 1988b; Bell & Suggs, 1998; Clifford, 1989; Fetsch & Yang, 2002; Kohn, 1992; Martens, 1978). Regardless, competition not placed in a proper perspective, coupled with sportsmanship and fairness, may be detrimental to youth development and self-esteem (Perkins, 2000).

Keith and Vaughn (1998) conducted a study in Texas to determine attitudes of parents of 4-H members toward 4-H competitive activities. They also examined relationships between select demographic characteristics and attitudes toward 4-H competitive activities. Keith and Vaughn used a descriptive research design and a mail survey to collect data from parents of 4-H members. Findings revealed that parents tended to agree with statements that were positive toward competition and disagreed

with statements that were negative. Examples of positives were: "competition has helped my child to learn," "children like to compete," "competition is beneficial to youth development," and "competition prepares youth for a competitive world." Examples of negatives included: "competition is not good for young people," "competition destroys teamwork," and "competition promotes aggressive behavior." A majority of the parents in the study believed that participation in 4-H competitions helped youth in the development of personal skills, enhancement of self-esteem, motivation for success, and setting and attainment of goals. Years served as 4-H leader, spouse participation in 4-H camp, and age at first participation were related to positive attitude toward 4-H competitive events. These three variables explained 24% of total variance in the attitude toward 4-H competitive events. All the relationships were positive indicating that as the level of 4-H participation increased, the attitude toward 4-H competitive events also increased. Finally, the major concern expressed by parents of 4-H members was that most 4-H competitive events focused around excessive parental involvement and unethical practices.

Each year hundreds of thousands of 4-H members participate in competitive events across the United States. An equal number of parents take time and effort to prepare their children for competitive events. In addition, some parents travel all the way to camps and other locations to provide moral support for children. In a similar way, extension educators, adult volunteers, and other 4-H program personnel provide their time and expertise so that competitive events are held in a fair and ethical manner. The National USDA/ES Task Force Report on Competitions (1989) found that research on competition in 4-H to be limited and lacking in psychological or educational concepts. Further, very few studies in the literature are found that addressed the educational value of 4-H competitive events. A number of researchers (Fetsch & Yang, 2002; Keith & Vaughn, 1998; the National USDA/ES Task Force on Competitions) recommended that all 4-H competitive events should be revisited and modified to mirror the current

changes that are occurring in 4-H programs and the way competitive events are structured and implemented. Thus, this study was conducted to determine the educational value of 4-H competitive events as perceived by parents of 4-H competitive events participants.

### **Purpose and Objectives**

The overall purpose of this study was to assess the educational value of 4-H competitive events as perceived by parents of 4-H competitive events participants. Specific objectives of the study were to:

1. Describe the demographic and program profile of respondents;
2. Identify factors that underlie the educational value of 4-H competitive events; and
3. Determine relationships, if any, between parents' perceived educational value of 4-H competitive events and their demographic characteristics.

### **Methods and Procedures**

#### *Research Design and Definition and Selection of Sample*

This study used a descriptive-correlational design. The population for the study consisted of all parents whose child or children had registered for participation in the 4-H Sate Achievement Days held in August 2004 at University Park campus of The Pennsylvania State University. The list of parents was obtained from the 4-H Program Management Office located in the Department of Agricultural and Extension Education at Penn State. A total of 820 parents had sent in completed registration forms for their children to participate in the 4-H Achievement Days. Parents who had registered two or more children were counted only once for defining the purposive, non-probability sample for the study. After eliminating the duplicates, a total of 760 parents were identified and considered as a non-probability sample.

#### *Instrumentation*

A survey instrument appropriate for a

mail survey was developed by the researchers based on a review of related literature (Bell & Suggs, 1998; Clifford, 1989; Keith & Vaughn, 1998; National USDA/ES Task Force Report on Competitions, 1989). The instrument had three sections. Section one contained 32 statements relative to 4-H competitions and activities. The 32 statements were measured on a five-point Likert-scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Section two gathered data relative to parents' prior and current 4-H participation information such as 4-H membership, whether or not the parent served as 4-H leader, prior participation in 4-H competitive events, and overall value of competitive events to them as parents and their children. Section three contained demographic information (gender, educational level, place of residence, county, etc.) and open-ended comments.

#### *Validity and Reliability*

The instrument was assessed for content and face validity by a panel of eight experts consisting of three faculty members with 4-H and youth development responsibilities, two Extension program leaders in family, youth, and children programming, two former 4-H/Youth extension agents, and one graduate student in the department of Agricultural and Extension Education. The instrument was pilot tested using 4-H collegiate members (N = 21). Minor changes were made to the instrument to enhance clarity and readability. Cronbach's alpha, an internal consistency measure, was used to estimate the reliability of the instrument. The reliability for the 32-item instrument was found to be acceptable ( $\alpha = 0.83$ ).

#### *Data Collection and Analysis*

Data were collected through a mail survey. A cover letter explaining the purpose of the study, the instrument, and a prepaid return addressed envelope were mailed to all the parents who had sent in the registration forms by the deadline date. After an initial mailing and a follow-up reminder card, a total of 340 parents provided useful data for a response rate of 43.9%. Early and late respondents were compared using procedures suggested by

Miller and Smith (1983) on key variables identified in the study. No significant differences were found between early and late respondents and as such the researchers concluded that parents who did not respond within the deadline date would have responded similarly had they chosen to respond. Data were analyzed using frequencies, means, percentages, and correlation.

Principal factor analysis was used to identify the construct that underlies the educational value of 4-H competitive events. As suggested by Tabachnick and Fidell (1996, p. 40), the general rule of thumb to use factor analysis is to have at least 300 cases and a minimum ratio of five cases for every variable (Gorsuch, 1983, p. 332). The sample size ( $N = 340$ ) and the number of variables (32) used in this study met the criteria for using factor analysis. Descriptive statistics and Pearson Product Moment Correlation tests were computed to describe the relationships. The scale developed by Davis (1971) was used to describe the strength of the relationships.

### Results/Findings

#### *Objective 1: Demographic and 4-H Program Profile of Respondents*

An overwhelming majority of respondents were female (85.6%). Respondents were more or less evenly distributed relative to highest educational level attained—30% high school or less, 27% some college, 31% bachelor's degrees and 11% graduate degrees. Three of four respondents reported that they lived on a farm or a rural area.

As shown in Table 1 (program participation information), 46% of the respondents reported they had been 4-H members, while 56% were not. On average,

respondents had been members of 4-H for 7.63 years. A little over one-half (52.0%) of the respondents indicated they were current 4-H leaders, 8% past 4-H leaders, while 40% had never been a leader or volunteer. Approximately 69% of the respondents had participated in past 4-H competitive events. Fifty-seven percent of the respondents indicated that they helped their children an average of 9.8 hours to prepare them for competitive events. Eighty-six percent of the respondents indicated that 4-H competitive events contribute to community pride. Three of four respondents indicated that the local county Extension office was "somewhat to very helpful" in preparing their children for 4-H competitive events. An overwhelming majority of the respondents viewed 4-H competitive events as "some value - a lot of value" to their children (91%) and to them as parents (84%).

Table 2 presents means and standard deviations for each of the 32 4-H competitive events statements. The statements with which the respondents agreed most were: *competition has various benefits* ( $M = 4.49$ ,  $SD = 0.56$ ), followed by *competition helps youth learn new things* ( $M = 4.46$ ,  $SD = 0.59$ ), and *competition prepares children for a competitive world* ( $M = 4.40$ ,  $SD = 0.68$ ). The statements with which the respondents disagreed were: *children are considered losers if they don't win a prize such as a ribbon* ( $M = 1.77$ ,  $SD = 0.90$ ), followed by *competitive activities decrease a child's motivation to do well* ( $M = 1.85$ ,  $SD = 0.75$ ), and *competitions encourage cheating* ( $M = 1.94$ ,  $SD = 0.86$ ). Overall, respondents tended to agree with statements that were positive and disagreed with statements that were negative toward 4-H competitive events.

Table 1  
4-H Program Profile of Respondents

Variable	<i>f</i>	%	<i>M/SD</i>
<i>4-H Membership</i>			
Member	156	46.0	-
Non member	183	54.0	-
<i>Years as 4-H member</i>	154	-	7.63/3.1
<i>4-H Leader</i>			
Current 4-H leader	175	52.0	-
Former 4-H leader	26	7.7	-
Never been a leader	136	40.3	-
<i>Prior Participation in 4-H Competitive Events</i>			
Yes	227	68.8	-
No	103	31.2	-
<i>Help Child Prepare for Competitive Events</i>			
Yes	193	57.8	-
No	141	42.2	-
<i>Number of hours spent on preparing child for competitive events</i>	295		9.83/3.5
<i>Does 4-H Competitive Events Contribute to Community Pride</i>			
Yes	277	86.3	-
No	44	13.7	-
<i>How helpful were Extension office personnel in preparing your child for 4-H competitive events?</i>			
Not at all helpful	21	6.4	
Slightly helpful	62	19.1	
Somewhat helpful	114	35.1	
Very helpful	128	39.4	
<i>Overall value of competitive events to your child</i>			4.43/0.67
No value			
Very little value	3	1.0	
Neutral	27	8.0	
Some value	127	37.6	
A lot of value	180	53.4	
<i>Overall value of competitive events to you as a parent</i>			
No value	1	0.3	
Very little value	5	1.5	
Neutral	49	14.5	
Some value	127	47.2	
A lot of value	180	36.5	

*Objective 2: Factors Underlying  
Educational Value of 4-H  
Competitive Events*

Principal factor analysis was performed to identify factors that underlie educational value of 4-H competitive events. For reporting factor analysis data, the procedures suggested by Warmbrod (2000) were used. These included: sample size, list and scale of measurement used for the observed variables, means and standard deviations for the observed variables, factor loadings, Eigen values for each factor extracted, proportion of common variance explained for each factor, and total variance. Factors with Eigen values greater than 1 were retained and rotated to a varimax solution for interpretation. In addition, Cronbach's alpha for each extracted factor was reported. Factor analysis extracted six factors which accounted for 62.06% of the total variance.

The final statistics (Eigen values, percent of variance explained, alpha, and factor loadings) for each of the six factors are shown in Table 3. Factor 1 explained 36.44% of the total variance. Seven variables loaded on this factor. The variable, 4-H competitive events prepares children for a competitive world, was most representative of Factor 1 ( $r = 0.762$ ). Factor 2 explained 9.83% of the total variance. Seven variables loaded on this factor. The variable, competitive events help youth set goals, was most representative of Factor 2 ( $r = 0.791$ ). Factor 3 explained 5.3% of the total variance and six variables loaded on this factor. The variable, competitive events contribute to development of unhealthy practices was the most representative of Factor 3 ( $r = 0.812$ ). Factor 4 explained 4.08% of the total variance with three variables loaded on this factor. The statement, 4-H competitive event winners are more successful, was most representative of Factor 4 ( $r = 0.697$ ). Factor 5 explained 3.39% of the total variance with four variables loaded on this factor. The statement, youth who don't win

regularly leave 4-H program, was the most representative of Factor 5 ( $r = 0.782$ ). Factor 6 explained 3.30% of the total variance. Five variables loaded on this factor. The statement, competitive events inhibits teamwork, was the most representative of Factor 6 ( $r = 0.619$ ). The six factors together explained 62.06% of the total variance.

Upon examination of the factor loadings and the items which loaded on each of the six factors, internal consistency estimates were computed for the six factors. The reliability estimates for the six factors are shown in Table 3. The reliability estimates ranged from a low 0.63 (Factor 6) to a high of 0.90 (Factor 2).

The variables which loaded on each of the six factors were given to a panel of experts to "name" the factors. The panel consisted of faculty members, 4-H program coordinator, and graduate students in the department of Agricultural and Extension Education. Making sense of the panel's judgment was very difficult. For clarity and presentation purposes, factor names were grouped into two categories: motivators/positives and detractors/negatives. Factors 1, 2, and 4 were included under the motivators/positives category, while factors 3, 5, and 6 were included under the detractors/negatives category. The names of the two categories and six factors are given below.

**Motivators/Positives**

Factor 1 - Competition's Societal Role  
Factor 2 - Benefits of Competitions to Youth  
Factor 4 - Organizational Role of Competitions

**Detractors/Negatives**

Factor 3 - Negative Outcomes of Competitions  
Factor 5 - Balancing Value of Competitions (Winning vs. Losing)  
Factor 6 - Negative Perceptions of Competitions

Table 2  
*Means and Standard Deviations for 4-H Competitive Events Items (N = 340)*

Items	<i>M</i> <sup>a</sup>	<i>SD</i>
Competition has various benefits	4.49	0.56
Competition helps youth learn new things	4.46	0.59
Children like to compete	4.19	0.63
Competition prepares youth for a competitive world	4.40	0.68
Competition encourages healthy youth development	4.20	0.68
Competitive events help 4-Hers learn to succeed in college	4.04	0.79
Competitive events provide better learning experiences than non-competitive events	3.42	1.02
Competition is an incentive for youth to join 4-H	3.25	1.03
Competition helps life skills development	4.14	0.63
Competition helps in developing self-esteem	4.10	0.77
Competition helps youth set goals	4.30	0.62
Competition stimulates creativity	4.13	0.71
Competition motivates youth to strive for excellence	4.31	0.66
Competition provides opportunities to demonstrate excellence	4.29	0.66
Competition helps 4-Hers achieve goals	4.18	0.70
Competition enhances family social relationships	3.55	0.96
Group method of learning is a better teaching strategy than competition	2.76	0.72
Competition inhibits teamwork	2.38	1.12
Competition requires excessive parental involvement	2.92	1.08
Competition is not good for most young people	2.06	0.75
Children are considered losers if they don't win a prize such as a ribbon/plaque/cash award	1.77	0.90
Activities that are competitive decrease a child's motivation to do well	1.85	0.75
Youth who don't win regularly leave the 4-H program	2.15	0.80
4-H program places too much emphasis on competition	2.00	0.73
Competition encourages cheating	1.94	0.86
Unethical practices may result from competition	2.54	1.11
Competition promotes aggressive behaviour	2.17	0.89
There are better ways to educate youth without using competition	2.73	0.76
Competitive events lead to development of unhealthy characteristics (poor sportsmanship)	2.08	0.84
Competition events winners are more successful in life than non-winners	2.80	1.02
Competitive events encourage improper parental attitudes toward events/activities	2.29	0.96
Competitive events contribute to development of unhealthy practices	2.18	0.85

<sup>a</sup> Mean scale: 1 (strongly disagree) to 5 (strongly agree).

Table 3  
*Factors, Reliabilities, Variance Explained, Eigen Values, and Item Loadings for 4-H  
 Competitive Events Items (N = 340)*

Factor			Factor Loading
Reliability		Items	
Variance explained			
Eigen Value			
<b>Factor 1</b>		Competition has various benefits	.679
.89		Competition helps youth learn new things	.670
36.44%		Children like to compete	.633
11.664		Competition prepares youth for a competitive world	.762
		Competition encourages healthy youth development	.678
		Competition helps youth learn to succeed in college	.651
		Competition helps life skills development	.525
<b>Factor 2</b>		Competition helps in developing self-esteem	.534
0.90		Competition helps youth set goals	.791
9.83%		Competition stimulates creativity	.681
3.147		Competition motivates youth to strive for excellence	.789
		Competition helps 4-Hers achieve goals	.745
		Competition enhances family social relationships	.590
		Competition provides opportunities to demonstrate excellence	.524
<b>Factor 3</b>		Competition encourages cheating	.699
0.87		Unethical practices may result from competition	.781
5.3%		Competition promotes aggressive behaviour	.594
1.602		Competitive events lead to development of unhealthy characteristics (poor sportsmanship, jealousy, etc.)	.712
		Competitive events encourage improper parental attitudes toward events/activities	.673
		Competitive events contribute to development of unhealthy practices	.812
<b>Factor 4</b>		Competitive events provide better learning experiences	.664
0.71		Competition is an incentive to join 4-H	.637
4.08%		4-H competitive event winners are more successful in life than non-winners	.697
1.307			
<b>Factor 5</b>		Children are considered losers if they don't win a prize such as a ribbon, plaque or cash award	.729
0.65		Activities that are competitive decrease a child's motivation to do well	.530
3.39%		Youth who don't win regularly leave the 4-H program	.780
1.084		4-H program places too much emphasis on competition	.441
<b>Factor 6</b>		Competition requires excessive parental involvement	.572
0.63		Competition is not good for most young people	.523
3.05%		There are better ways to educate youth without using competition	.481
1.057		Competition inhibits team work	.619
		Group method of learning is a better teaching strategy than competition	.609

*Objective 3: Relationships*

None of the demographic variables (gender, educational level, residence) was found to be related to perceived educational value of 4-H competitive events (Table 4). However, 4-H participation variables such as being a 4-H member ( $r = 0.185$ ), years volunteered as 4-H leader ( $r = 0.124$ ), helping child to prepare for competitive events ( $r = .144$ ), number of hours spent helping child to prepare ( $r = .109$ ), overall value of competitive events to 4-H participants ( $r = .362$ ) and overall value of competitive events to parents themselves ( $r = .357$ ) were related to perceived educational value of 4-H

competitive events. All relationships were significant at the .05 level. Multiple regression analyses using the ENTER procedure (simultaneous entry of all variables) was conducted to determine the importance of variables in explaining variance in the perceived educational value of 4-H competitive events. Four of the six 4-H participation variables (years volunteered as 4-H leader, overall value of competitive events to their children, overall value of competitive events to them as parents, and 4-H membership) accounted for 18.8% of the total variance in parents' perceived value of competitive events.

Table 4

*Relationships Between 4-H Participation Variables and Educational Value of 4-H Competitive Events (N = 340)*

Variable	<i>r</i>	<i>p</i>
4-H membership <sup>a</sup>	.185	.001
Years volunteered as 4-H leader	.124	.011
Helping child/children to prepare for competitive events <sup>a</sup>	.144	.004
Hours spent helping child/children to prepare for competitive events	.109	.023
Overall Value of competitive events to child	.362	.001
Overall value of competitive events to parents	.357	.001

<sup>a</sup> variables dummy coded 1 = yes, 0 = no

**Conclusions and Recommendations**

Based on the findings of this study, the following conclusions and recommendations are offered for programmatic improvements in designing and implementing 4-H competitive events in the future and for further research.

Overall, parents of 4-H competitive event participants have positive perceptions toward competitive events as evidenced by strong agreement for statements that were positive and disagreement for statements that were negative. In fact, the factor analysis clearly distinguished the statements into positives and negatives.

A closer examination of each statement suggests that parents believe 4-H competitive events benefit their child/children. For example, parents perceive competitive events as helping their children to learn new things, enhancing their life skill development, motivating them to do a variety of things such as setting goals, developing family social relationships, and striving for excellence. On the other hand, parents are concerned about excessive parent involvement, unethical practices and unhealthy characteristics that are prevalent in current competitive events. Findings of this study support conclusions from several other studies (Keith & Vaughn, 1998; Fetsch

& Yang, 2002; Ladewig & Thomas, 1987) relative to the value of 4-H competitive events.

Demographic characteristics (gender, educational level, and residence) are independent of perceived educational value of competitions. However, several 4-H participation characteristics were significantly related to the perceived value of competitive events. All relationships were positive indicating that as the value of 4-H participation characteristics increased, their perceived educational value toward 4-H competitive events also increased. Similar findings were reported by Keith and Vaughn (1998) for 4-H competitive event participants in Texas.

The present study made an attempt to the initial development of factors (constructs) that underlie the educational value of 4-H competitive events. This initial development reflects parents' perspective of the value of competitive events to them and to their children. The factors that emerged as a result of factor analysis are worthy of further investigation, testing, and refinement. For example, a study using participants of 4-H competitive events will be of immense value in understanding the whole concept of competitions. Such a study will aid in developing a common measure for use at a national level.

As discussed throughout the paper, for each of the factors, application of appropriate methodological procedures such as appropriate sample size, ratio of items to sample size, face and content validity, pilot testing and refinement, and retesting were used. The six factors that emerged as a result of factor analysis provide evidence for the development of a valid and reliable measure. However, it is important to re-examine naming each factor so they mirror quantitative/qualitative/conceptual definitions. Furthermore, as suggested by Fetsch and Yang (2002), current findings in 4-H research relative to 4-H competitions and curricula changes should be used to design, implement and evaluate 4-H competitive events and activities.

The findings of this study should be shared with extension educators, extension administration, and specialists in 4-H and youth development so that programmatic

improvements are made relative to organizing and evaluating 4-H competitive events.

It is recommended that this study should be replicated in other states for continuous improvements in 4-H competitive events. Such an effort will aid in developing a valid and reliable measure to document the value of 4-H competitive events.

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RAMA B. RADHAKRISHNA is an Associate Professor in the Department of Agricultural and Extension Education at The Pennsylvania State University, 323 Agricultural Administration Bldg., University Park, PA 16802. E-mail: [brr100@psu.edu](mailto:brr100@psu.edu).