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## The Effect of Competitive and Cooperative Learning Preferences on Children's Self-Perceptions: A Comparison of 4-H and Non-4-H Members

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## The Effect of Competitive and Cooperative Learning Preferences on Children's Self-Perceptions: A Comparison of 4-H and Non-4-H Members

### Abstract

4-H stakeholders have argued for years about the merits of individual competition versus team cooperation. Although a 1988 National 4-H Competition Task Force Report called for more research on competition and cooperation, our Journal of Extension search found only two articles with children's empirical data from 1975 to 2001. In this, the first apparent research-based comparison with a large sample of 4-H and non-4-H members in a mountain state, children preferred both cooperation and competition. Furthermore, cooperation rather than competition was the way to build self-worth. Eight practical recommendations are offered to 4-H/youth development program leaders, specialists, volunteers, and parents.

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### Introduction

Competition in 4-H is about as American as apple pie on the 4<sup>th</sup> of July. Competition--where someone wins and others lose--is a significant part of American culture.

Parents, 4-H agents/club leaders, teachers, coaches, administrators, and youth educators have strong opinions about how competition affects children. Often, fiery debates occur over strongly held beliefs about peer competition, its place in 4-H, and its contributions to youth growth and development. Proponents of competition claim that it contributes to learning democratic values, combats juvenile delinquency, and promotes physical fitness and learning (Martens, 1978 [p. 65]). Opponents argue that competition decreases self-esteem and fosters individualism rather than cooperation--"the increasing complexity of social conditions in our local communities, states, nation, and world demand that we learn to live cooperatively" (Allen, et al., 1988a, p. 2).

4-H stakeholders have questions.

- Does stiff competition decrease self-esteem and increase dropout rates in 4-H, especially for younger females?
- Is individual competition more harmful to younger children than older youth?
- Does competition affect girls differently than boys?

### Background

A review of the *Journal of Extension* (1979-July 2001) found few substantive articles on competition. Most were theoretical (e.g., Astroth, 1994; McDaniel, 1998). Two articles included children's empirical data from small samples (Norland & Bennett, 1993; Weber & McCullers, 1986).

In the literature on competition and cooperation, two reports are outstanding. The first is a meta-analysis of 122 studies of the effects of cooperative, competitive, and individualistic goal structures on achievement (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981). The researchers found that:

1. Cooperation is considerably more effective than interpersonal competition and individualistic efforts in promoting achievement and productivity and
2. Cooperation without intergroup competition seems to promote higher achievement and productivity than cooperation with intergroup competition.

The second outstanding report is the National 4-H Competition Task Force Report (Allen, et al., 1988b). The report found research on competition in 4-H to be limited and lacking in psychological or educational concepts (Allen et al., 1988a). Most of the research had been conducted in formal school and athletics rather than 4-H settings (Parsons, 1988).

The national report emphasized the critical importance of parental support, saying it can be misdirected through excessive pressure from mothers and fathers to win. Query (1985) found that 80% of parents reported their primary reason for encouraging their children to participate in 4-H activities was learning. At the same time, 51% of fathers and 25% of mothers reported pressuring their children to win. Twenty-seven percent of 4-H'ers felt maternal pressure to win, and 23% felt paternal pressure to win. More males felt pressure than females. In summary, the authors found in 35 of 37 studies that cooperative learning classrooms led to positive interpersonal behavior with peers and teachers, and higher self-confidence (Allen et al., 1988a).

The national report (Allen et al., 1988b) recommended that 4-H'ers first be taught cooperative skills before they are involved in competitive and individualistic learning experiences. It also recommended that 4-H day-to-day competitive events be modified to conform to current research information with young people. Allen et al. (1988a) called for more research on all three components of 4-H competition--cooperative (competing against standards of excellence), competitive (competing against one's peers), and individualistic (competing against one's best effort)--to determine which learning experiences help 4-H'ers the most to achieve goals based on the 4-H mission.

### Purpose

This article describes research conducted in response to the national report recommendations. The purposes of the research were to:

1. Compare two groups of rural children (4-H club participants and non-4-H club participants) on three competition factors to determine whether there are any differences between the groups, and
2. Determine what relationships exist with five self-reported competencies related to self-worth.

### Method, Participants, Procedure

Extension field agents in a mountain state approached the first author with observations and concerns about perceived negative consequences of competition from parents and 4-H leaders on 4-H participants, especially younger children. This concern arose in the context of increased encouragement by Extension administration to enroll more young children (grades 1-3) into 4-H activities. Agents' observation was that the stiffer the competition at local and state competitions, the more harmful it appeared to be on children's self-esteem. They requested assistance to test their hypothesis.

After searching the literature for appropriate self-esteem measures, we selected Harter's (1985) Self-Perception Profile for Children (SPPC) because we agreed with her premise that children make distinctions among the domains in their lives. They do not feel equally competent in every skill domain. Harter and we believe a summated scale of responses about specific abilities and attributes cannot accurately measure self-worth. The SPPC is a 36-item instrument with six subscales (scholastic, social acceptance, athletic, physical appearance, and behavioral conduct self-competencies and global self-worth) designed for youth in the third through eighth grades. Harter normed the SPPC on middle-class Colorado youth. The mean of Cronbach alphas across four norming samples was .79 (range = .71 - .86) (Harter, 1985).

To minimize social desirability biases, Harter wrote the SPPC items in a forced-choice, structured alternative format (Harter, 1982, p. 89). An example is Harter's Item #6.

Really True For Me	Sort of True For Me					Sort of True For Me	Really True For Me
_____	_____	Some kids are often <b>unhappy</b> with themselves.	<b>BUT</b>	Other kids are pretty <b>pleased</b> with themselves.	_____	_____	

The child or youth is instructed to use two steps to respond to each item. First, they are to decide whether they are either more like kids on the left side of the "BUT" or are like kids on the right side of the "BUT." Second, they are to mark whether the item is "Sort of True for Me" or "Really True for Me."

Based both on our agents' local needs and on national report recommendations (Allen et al., 1988a; 1988b), we wrote 12 items (see Appendix) to assess children's Unconditional Parental Support levels, Cooperative Learning preferences (working with others), and Competitive Learning preferences (winning over others). We wrote the items in a format to correspond with Harter's forced-choice format to assess the three factors listed above and children's self-competencies related to self worth. We pilot tested the dozen items with a sample of children and youth to refine the items for clarity and readability. Then we invited county agents statewide to join our study of the relationship between learning preferences and self-worth.

Twelve county agents (see Acknowledgements) provided usable data from 13 counties for the present study. The agents were trained by the first author on how to administer the SPPC (Harter, 1985) along with the 12 additional items and demographic items. Finally, in order to compare 4-H club members' learning preferences, competencies, and self-worth levels with those of non-members, county agents were encouraged to survey two groups in their communities matched by socioeconomic level, grade, and gender. Most of the agents did provide data from matched groups, thereby creating two larger samples--one consisting of 4-H club members and the other consisting of non-members. Participants responded to the dozen items (see Appendix) and to Harter's SPPC (1982, 1985). In the present sample, the overall Cronbach alpha for the five Harter scales used was .77 ( $n = 1309-1336$ ).

Our sample included 1,388 children in the third through fifth grades. These grades represent the ages at which 4-H membership is highest. 4-H enrollment and activities peak during fourth grade (United States Department of Agriculture, 1997). Of 1,253 participants reporting their 4-H club membership or non-membership, 53% were current 4-H members. Most of our sample was female (57%). Their average age was 9.5 years (mode = 4th grade). The sample was 73% Anglo, 14.7% Hispanic, 3.7% Native American, 2.6% African American, 0.3% Asian American, and 5.8% mixed ethnicity. 4-H Club members' most popular projects for the present sample included:

1. Grow Lab/Experimental Garden,
2. Cooking for You and Me,
3. Cake Decorating,
4. Decorating Your Duds,
5. Beginning Clothing, Unit 1,
6. Horse Enterprise,
7. Rabbit Enterprise,
8. Glazes, and
9. Swine Breeding.

## Results

### Three Factors

A principal component factor analysis (varimax with orthogonal rotation) of all 12 competition-related items resulted in a three-factor solution (with eigen values greater than one), explaining 50.4% of the variance (Fetsch & Yang, 2001). Cronbach alphas were as follows:

- Unconditional Parental Support = .81 ( $n = 1,216$ );
- Cooperative Learning Orientation = .52 ( $n = 1,082$ ); and
- Competitive Learning Orientation = .67 ( $n = 1,075$ ).

The first factor (Unconditional Parental Support) consisted of three items (Fetsch & Yang, 2001). High scorers define themselves as more like kids who don't feel their parents are unhappy when they don't do well. They perceive themselves to have unconditional parental support. Low scorers perceive both parents' support to be contingent on doing well.

Five items defined the second factor (Cooperative Learning Orientation, i.e., working with others). High scorers:

- Like to work as a team to reach goals and win,
- Learn and feel better working in cooperation with friends,
- Want to be in 4-H for fun and to learn,
- See themselves as winners even if they do not win, and

- Would bring their projects to the fair even if they were not judged.

Low scorers:

- Prefer to work alone to reach goals and win,
- Learn and feel better in competition against others, and
- Are not interested in showing their projects at the fair if they are not going to be judged.

Four items defined the third factor (Competitive Learning Orientation, i.e., winning over others).

High scorers:

- Like to be in activities where only a few win,
- Do 4-H projects to win prizes,
- Learn and feel better when they work in competition against others, and
- Feel anxious when their project places 4<sup>th</sup> at the fair.

Low scorers:

- Prefer activities where everyone wins,
- Do 4-H projects to learn something new,
- Like to work alone against personal standards, and
- Do not feel anxious when their projects place 4<sup>th</sup>.

Relationships between cooperative and competitive orientations and five self-reported competencies were explored. Empirical evidence from the present study suggests that providing more Cooperative Learning experiences to grades 3-5 than Competitive Learning experiences is associated with higher scores in Behavioral Conduct, Physical Appearance, Scholastic Competence, and Social Acceptance--all of which are associated with children's perceived personal competencies. The more competent children see themselves, the greater the likelihood that they will feel positive self-esteem and that they will behave in socially desirable ways. Females preferred non-competitive activities, while males preferred competitive activities.

### **Competition and Cooperation**

Results show that it is not a matter of 4-H competition or cooperation; it is a matter of competition and cooperation. A child can prefer both a Competitive Learning Orientation and a Cooperative Learning Orientation or prefer neither. Likewise, a child can prefer one to the other. The popularly held notion that children view these orientations as mutually exclusive is a myth that does not match the empirical evidence in the present study of how children perceive these orientations.

### **4-H and Non-4-H members**

A comparison of 4-H club participants and non-members found that both groups defined themselves as having Unconditional Parental Support, and both genders scored similarly. Both groups also scored similarly on Cooperative Learning Orientation. On average, 4-H members scored lower on Competitive Learning Orientation than non-4-H-members scored ( $F(1, 769) = 12.66, p < .000$ ).

### **Boys and Girls**

Both boys and girls benefited from their 4-H membership. For girls, membership was associated with higher competitiveness, which may provide more motivation to succeed. But the price for girls is that they feel less attractive and less well behaved. For boys, 4-H membership was associated with their seeing themselves as more competent academically, better behaved, and more attractive. For an explication of additional statistical effects, the reader is referred to Fetsch and Yang (2001).

Children who preferred cooperative learning tended to score higher on all five competencies ( $r = .16-.33$ ), which supports Johnson, Maruyama, Johnson, Nelson, and Skon's findings (1981). In other words, the more children preferred a Cooperative Learning Orientation to Competitive Orientation, the higher they tended to score, especially on Behavioral Conduct, Physical Appearance, Scholastic Competence, and Social Acceptance. Conversely, the more children preferred a Competitive Learning Orientation, the lower they tended to score, especially on Behavioral Conduct, Scholastic Competence, and Physical Appearance. Cooperation rather than competition appears to be the way to build self-worth.

## **Discussion**

Both 4-H members and non-members were similar in their preference for Cooperative Learning and in Unconditional Parental Support. Non 4-H Club members in grades three through five preferred Competitive Learning more than did 4-H Club members. Further studies are necessary to replicate our findings. 4-H/youth development stakeholders are encouraged to use the dozen items included in the Appendix along with Harter's SPCC to determine program impacts from their empirical program evaluation studies.

### **Those Who Score Low on Both**

Youth educators are urged to pay attention to children who score low in both competitive and cooperative orientations. Children who are unmotivated to connect with others either competitively against others or as a cooperative team member could be overlooked, neglected, or ignored. They may be fearful or withdrawn and in need of unconditional support to increase their motivation and desire to engage with peers.

### **Those Who Score High on One and Low on the Other**

Of equal importance is for youth leaders to pay attention to the child who scores excessively high on only one orientation--either competitive or cooperative learning orientation. Such a child may benefit from adult coaching in acquiring more of a balance with the other orientation so he or she can use both life skills as appropriate. Achieving this balance and skill can help reduce the risk of a child's being rejected due to acting competitively in a situation that calls for cooperation (Rubin, Bukowski, & Parker, 1998).

### **Recommendations**

What would a 4-H agent want to know about youth valuing competition, team learning, and cooperation? Based on present and past research findings, we make the following recommendations for 4-H/youth development programming.

- All programming and competitive events should be revisited and modified to correspond with current findings in research, especially related to competition and cooperation.
- 4-H/youth development program leaders are urged to provide a system that rewards cooperation even more than individual competition at county, state, and national fairs.
- All Extension-supported competitive 4-H events should be research based and curriculum based, related to the identified developmental needs of youth.
- Grade 3-5 4-H Club members (especially boys) should be provided more cooperative learning experiences and fewer competitive learning experiences.
- Future researchers are encouraged to use the dozen items in the Appendix along with Harter's (1982, 1985) Self-Perception Profile for Children (SPPC) to document program impacts and changes in children's Unconditional Parental Support, Cooperative Learning Orientation, Competitive Learning Orientation, Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, and Behavioral Conduct. This should be done after providing adequate training to youth educators on how to coach children to select only one of the four alternatives in Harter's forced-choice format.
- 4-H/youth development leaders, specialists, and volunteers are urged to pay attention to children who score low in both competitive and cooperative learning orientations and to encourage them to engage with peers.
- 4-H/youth development leaders, specialists, and volunteers are encouraged to notice the child who scores excessively high in either competitive or cooperative orientation and to model more of a balance between the two orientations to teach the use of both life skills as appropriate.
- Parents of 4-H members are urged to continue to provide their unconditional parental support to their children--whether their projects place 1<sup>st</sup> or 4<sup>th</sup>. If they are supported either way, they grow in self-competence and self-worth.

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## Appendix

Some kids feel that their parents **are** unhappy when they don't do well BUT other kids **do not** feel that their parents are unhappy when they don't do well.

Some kids want to be in 4-H for fun and to **win** BUT other kids want to be in 4-H for fun and to **learn**.

Some kids like to work **alone** to reach goals and win BUT other kids like to work as a **team** to reach goals and win.

Some kids **would not bring** their 4-H projects to the fair even if they were not judged BUT other kids **would bring** their 4-H projects to the fair if they were not judged.

Some kids feel that their **mother** is unhappy when they don't do well BUT other kids **don't** feel their mother is unhappy when they don't do well.

Some kids do 4-H projects to **learn** something new BUT other kids do 4-H projects to **win** prizes.

Some kids learn and feel better when they work **in competition** against others BUT other kids learn and feel better when they work **cooperatively** with friends.

Some kids **do not** see themselves as winners if they do not win with their 4-H projects BUT other kids **see themselves as winners** even if they do not win with their 4-H projects.

Some kids feel that their **father** is unhappy when they don't do well BUT other kids **don't** feel their father is unhappy when they don't do well.

Some kids **do not** feel anxious or worried when their 4-H project places 4<sup>th</sup> at the fair BUT other kids **do feel anxious or worried** when their 4-H project places 4<sup>th</sup> at the fair.

Some kids learn and work better when they work **alone** against personal standards BUT other kids learn and feel better when they work in **competition** against others.

Some kids like to be in activities where **everyone wins** BUT other kids like to be in activities where only a **few** can **win**.

(The statement on each side of the "BUT" was accompanied by two options: "Really True for Me" and "Sort of True for Me." Each respondent had first to decide whether she or he was more like kids described on the right or left side of the "BUT," and then pick whether it was "really . . ." or "sort of . . ." true for them. [This response format is identical to Harter's SPPC.] All items were scored 1 to 4, with statements following the "BUT" receiving the higher scores.)

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