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[Return to Current Issue](#)

Characteristics and Perceptions of 4-H Participants: Gender and Age Differences Across Adolescence

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Abstract: The study reported here examined 367 adolescent 4-H participants in terms of demographic, psychological, behavioral, and relational characteristics, as well as their perceptions and experiences in 4-H. Overall, participants scored high on all outcome variables except having a diverse population in their club. Older participants were more optimistic, participated in more deviant behaviors, and were more satisfied with their 4-H experiences in comparison to younger participants. In comparison to boys, girls appeared to be healthier in regards to psychological characteristics, positive behaviors, and relationships with peers and other adults and were more satisfied with their 4-H experiences.

Introduction

Children and adolescents from all social and economic circumstances benefit from supportive relationships with adults and peers. These relationships can occur in numerous contexts, including families, schools, neighborhoods, and youth programs (Eccles & Appleton Gootman, 2002; Villarruel, Perkins, Bordon, & Keith, 2003; Hamilton & Hamilton, 2004). Numerous positive effects of participation in youth programs are described in the literature, including lower rates of delinquency and risk behavior, as well as higher rates of academic achievement and civic engagement (Ferrer-Wreder, Stattin, Cass Lorente, Tubman, & Adamson, 2004; Balsano, 2005). Lerner (2007) suggests that youth programs support the development of the "five Cs," or competence (the ability to act effectively in school and other social situations), confidence (sense of self worth and efficacy), connection (positive bonds with people and social institutions), character (respect for society and cultural rules), and caring (sense of sympathy and empathy for others).

One such national youth program is 4-H. 4-H aims to provide opportunities for the development of the five Cs through positive interactions with others (peers, as well as adult leaders), structured activities that develop life skills, and leadership skills that are helpful for communities. Participation in 4-H can be expected to link

to the psychological, behavioral, and relational characteristics of youth. Thus, 4-H participation is an important avenue for positive youth development. However, there is a documented decline in 4-H participation beginning at age 12 (Harder, Lamm, Lamm, Rose, & Rask, 2005).

As Heinsohn and Lewis (1995) point out, the decline in 4-H participation by adolescents is neither unexpected nor developmentally inappropriate. However, there are benefits of continued participation for both adolescents and younger children in the club (e.g., Gill, Ewing, & Bruce, 2010; Ponzio, Junge, Smith, Manglallan, & Peterson, 2000). Adolescents have the opportunity to develop mentoring skills, and the 4-H experience is enhanced for younger children. Furthermore, Adedokun and Balschweid (2009) found that compared to nonparticipants, 4-Hers reported higher levels of social connection to their communities and were more likely to report that they could get needed social support from someone in their community and to participate in community activities. Thus, although it is normative for adolescents to explore multiple ways to spend their time, adolescent 4-H participation appears to benefit youth in ways that are likely to have positive effects for younger participants, the adolescents themselves, and the broader community.

There is a steady decline in 4-H participation across adolescence. This is not surprising given the substantial number of differences between younger and older adolescents, including changes in participation in paid employment, self-reliance for transportation, and school-related clubs and sports. Older and younger adolescents may view their participation in 4-H in meaningfully different ways. Older youth have made a clear commitment to 4-H given their continued participation despite the multiple ways in which they might spend their time. Identifying differences in the perceptions of younger and older 4-H participants might provide insight into issues to consider for retention.

Age is not the only demographic characteristic that has been shown to relate to 4-H participation; gender has also been identified as important. Homan, Dick, and Hedrick (2007) identified gender differences in the perception of 4-H. Girls perceived 4-H more positively than boys. Furthermore, girls reported a higher level of encouragement to participate in 4-H compared to boys. Findings such as this suggest boys and girls may be reaping different benefits from 4-H participation. Unknown, at this point, is whether there is an interaction between age and gender, such that boys and girls of different ages have meaningfully different perceptions of 4-H.

The purpose of the study reported here is to gain a greater understanding of the extent to which the characteristics and the perceptions of their club of adolescent 4-H participants in a rural midwestern state vary by age group and gender. To serve our 4-H participants well, we must know what they are like. This examination can help facilitate a discussion of what works well for adolescents of different ages and genders, and to identify program areas for improvement.

Research questions included the following.

1. Are there age or gender differences, or an interaction between age and gender, in the demographic, psychological, behavioral, and relational characteristics of 4-H participants?
2. Are there age or gender differences, or an interaction between age and gender, in the perception of their 4-H club among 4-H participants?

Participants

The study included 367 participants, 128 boys and 239 girls, from different 4-H clubs in North Dakota. The age ranged between 11 and 19 (mean age 14.6, $sd = 1.99$).

Ninety-three percent of the sample was white, 89% lived with two biological parents, and 87.4% lived on a farm or in a rural area. The parents of the study participants were highly educated (54.5% of fathers completed college, 64.6% of mothers completed college), and 47% of mothers and 37% of fathers had been involved in 4-H as youth.

Measures

A survey instrument developed by the University of Minnesota was adapted with permission, and Extension educators in counties across the state distributed the survey packets to youth. Youth returned the completed surveys to their 4-H leaders. Items developed for the survey were subjected to factor analysis to identify subscales (results available upon request). It should be noted that all subscales have high alphas. The following measures were included.

Psychological Characteristics

Self-Esteem: 12 items range 1 (never) to 4 (always), e.g., "I feel good about myself." Higher scores indicate higher self-esteem. (alpha = .92).

Identity Exploration: 9 items (from Berzonsky, 1989), range 1 (strongly disagree) to 4 (strongly agree), e.g., "I try to learn about different jobs/careers to find the best for me." Higher scores indicate greater identity exploration. (alpha = .85).

Optimism: 5 items, range 1 (strongly disagree) to 4 (strongly agree), e.g., "I think I will live a strong and healthy life." Higher scores indicate greater optimism. (alpha = .90).

Self-Efficacy: 8 items, range 1 (strongly disagree) to 4 (strongly agree), e.g., "I can do most things I try." Higher scores indicate greater self-efficacy. (alpha = .83).

Behavioral Characteristics

Positive Behaviors: 9 items, range 1 (*0 hours*) to 5 (*11 or > hours*), e.g., "Drama, art band, choir, orchestra, music lessons, or practicing." Higher scores indicate more time spent participating in these positive behaviors. (alpha = .63).

Deviant Behaviors: 16 items, range 1 (*never*) to 5 (*5 or more times*), e.g., "Skipping a day of school." Lower scores indicate fewer deviant behaviors. (alpha = .85).

Relational Characteristics

Peers: 6 items, possible range 1 (*almost never true*) to 5 (*almost always true*), e.g., "My friends understand me." Higher scores indicate healthier relationships with peers. (alpha = .90).

Mother: 6 items, range 1 (*almost never true*) to 5 (*almost always true*), e.g., "My mother accepts me." Higher scores indicate a healthier relationship with mother. (alpha = .92).

Father: 6 items, range 1 (*almost never true*) to 5 (*almost always true*), e.g., "When I'm angry about something, my father tries to be understanding." Higher scores indicate a healthier relationship with father. (alpha = .93).

Other Adults: 6 items, range 1 (*almost never true*) to 5 (*almost always true*), e.g., "I can tell adults (other than my parents) about my problems and troubles." Higher scores indicate healthier relationships with other adults. (alpha = .89).

4-H Variables

4-H Involvement (Self and Family): 6 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "My family wants me to be involved in 4-H." Higher scores indicate greater involvement. (alpha = .82).

Positive Experiences in 4-H: 11 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "I feel like I belong in my club." Higher scores indicate more positive experiences within 4-H. (alpha = .89).

Attitudes toward 4-H: 12 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "4-H is open to youth of all kinds of ability." Higher scores indicate more positive attitudes toward 4-H. (alpha = .83).

Lacking Diversity: 3 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "4-H should actively seek out ways to reach more youth from different cultures, religions, and races." Higher scores indicate greater desire for diversity. (alpha = .75).

Program Structure: 6 items, range 1 (*never*) to 4 (*always*), e.g., "Activities happen when I can participate." Higher scores indicate more positive attitudes toward program structure. (alpha = .78).

Positive Peer Interaction: 7 items, range 1 (*never*) to 4 (*always*), e.g., "I can talk freely without being bullied or made fun of." Higher scores indicate more positive interactions. (alpha = .83).

Cognitive Growth: 4 items, possible range 1 (*never*) to 4 (*always*), e.g., "I reflect on things I do in 4-H." Higher scores indicate increased cognitive growth. (alpha = .72).

Skill Building: 19 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "I learn new things that I can use in my daily life." Higher scores indicate increased skill building. (alpha = .92).

Relationship with Leaders: 4 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "Adult 4-H leaders show me respect." Higher scores indicate more positive relationships with leaders. (alpha = .82).

Community Perception: 6 items, range 1 (*strongly disagree*) to 4 (*strongly agree*), e.g., "Most people I know in my community value 4-H." Higher scores indicate more positive perceptions of 4-H in the community. (alpha = .77).

Results

Univariate Analysis of Variance (ANOVAs) (2 (Age) x 2 (Gender)) were conducted to examine variations among 4-H participants' characteristics. Across all 20 domains, five significant main effects were discovered for age ranging from $F(1, 361) = 10.74$ to 4.56 , $p < .001$ to $.033$. Older 4-H participants reported higher levels of optimism, risk behavior, and 4-H involvement. They rated the 4-H program structure more positively and reported more skill building through 4-H as compared to younger participants (Table 1).

Eleven main effects for gender were found ranging from $F(1, 362) = 38.46$ to 5.01 , $p < .001$ to $.026$. In general girls scored higher on psychological characteristics (self esteem, identity exploration, optimism for the future), behavioral characteristics (positive behavior), relational characteristics (peers and other adults), and perceptions of 4-H (involvement, positive experiences, attitudes toward 4-H, diversity lacking, and skill

building) compared to boys (Table 1).

Four significant interaction effects (age x gender) occurred and qualified several main effects just noted (Table 2). First, identity exploration differed by age and gender, $F(1, 361) = 4.07, p = .045$. Follow-up tests conducted using Bonferroni revealed that older girls scored higher compared to older and younger boys regarding identity exploration.

Second, peer relationships differed by gender and age, $F(1, 359) = 4.29, p = .039$. Follow-up tests revealed that younger and older girls reported more positive peer interactions compared to younger as well as older boys.

Third, attitudes towards 4-H also differed by age and gender, $F(1,363) = 4.27, p = .040$. Older girls had a more positive attitude towards 4-H compared to older boys.

Finally, positive peer interaction also showed a significant interaction effect, $F(1,359) = 3.88, p = .05$. However, follow up tests did not support this interaction effect (Table 2).

Overall, it appears that older participants reported higher scores than younger participants on some characteristics, and girls scored higher than boys. In particular, it appears that older girls report higher scores in the personal, relational, and 4-H programming-related characteristics compared to older boys.

Table 1.

Means, Standard Deviations, and p-Values for 4-H Participant Characteristics for the Total Sample, by Age and Gender

	Total Sample Mean (SD)	Ages 11-14 (n=194) Mean (SD)	Ages 15-19 (n=174) Mean (SD)	p-value	Girls (n=239) Mean (SD)	Boys (n=128) Mean (SD)	p-value
Psychological Characteristics							
Self-esteem	3.32 (.47)	3.33 (.49)	3.32 (.46)	n.s	3.37 (.46)	3.24 (.48)	<.05*
Identity exploration	3.04 (.47)	3.00 (.47)	3.08 (.46)	n.s	3.09 (.48)	2.94 (.42)	<.01**
Optimism for the future	3.43 (.46)	3.37 (.46)	3.50 (.45)	<.05*	3.48 (.47)	3.33 (.43)	<.01**
Self-efficacy	3.28 (.39)	3.25 (.41)	3.31 (.37)	n.s	3.30 (.40)	3.24 (.38)	n.s
Behavioral Characteristics							
Positive	2.20 (.49)	2.19 (.47)	2.22 (.50)	n.s.	2.31 (.45)	1.99 (.49)	<.001***
Deviant	1.27 (.41)	1.20 (.37)	1.34 (.45)	<.001***	1.25 (.41)	1.29 (.42)	n.s

Relational Characteristics							
Peers	4.02 (.76)	3.98 (.80)	4.07 (.72)	n.s.	4.22 (.72)	3.65 (.72)	<.001***
Mother	4.04 (.86)	4.10 (.86)	3.97 (.85)	n.s.	4.06 (.90)	4.01 (.77)	n.s.
Father	3.78 (.97)	3.83 (.99)	3.72 (.94)	n.s.	3.76 (1.02)	3.82 (.87)	n.s.
Other adults	3.52 (.78)	3.52 (.85)	3.53 (.69)	n.s.	3.59 (.77)	3.40 (.78)	<.05*
4-H Perception							
4-H involvement (self & family)	3.14 (.52)	3.08 (.51)	3.22 (.51)	<.05*	3.19 (.52)	3.06 (.50)	<.05*
Positive experience	3.16 (.45)	3.11 (.45)	3.21 (.44)	n.s.	3.22 (.45)	3.045 (.42)	<.001***
Attitude towards 4-H	3.16 (.42)	3.145 (.44)	3.17 (.40)	n.s.	3.20 (.43)	3.07 (.40)	<.01**
Diversity lacking	3.08 (.52)	3.09 (.47)	3.07 (.57)	n.s.	3.14 (.50)	2.97 (.54)	<.01**
Program structure	2.75 (.53)	2.68 (.55)	2.83 (.51)	<.05*	2.76 (.54)	2.72 (.52)	n.s.
Positive peer interaction	3.18 (.55)	3.16 (.59)	3.20 (.50)	n.s.	3.20 (.56)	3.14 (.52)	n.s.
Cognitive growth	2.79 (.62)	2.79 (.62)	2.79 (.62)	n.s.	2.83 (.63)	2.72 (.60)	n.s.
Skill building	3.08 (.44)	3.025 (.46)	3.15 (.42)	<.05*	3.13 (.44)	3.00 (.43)	<.01**
Relationships with leaders	3.17 (.55)	3.13 (.57)	3.20 (.53)	n.s.	3.205 (.57)	3.09 (.52)	n.s.
Community perception of 4-H	2.70 (.51)	2.72 (.54)	2.68 (.48)	n.s.	2.735 (.54)	2.64 (.44)	n.s.

Table 2.

Means and Standard Deviations for 4-H Participants' Characteristics by Gender and Age (Interaction Effects)

	11-14 year old girls n=126	15-19 year old girls n=113	11-14 year old boys n=67	15-19 year old boys n=59 Mean
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	Mean (SD)	Mean (SD)	Mean (SD)	(SD)
Identity exploration	3.02 (.50) ^{ab}	3.17 (.45) ^b	2.96 (.40) ^{ac}	2.91(.44) ^{ac}
Peers	4.12 (.80) ^a	4.32 (.59) ^a	3.71 (.74) ^b	3.59 (.69) ^b
Attitudes toward 4-H	3.16 (.46) ^{ab}	3.24 (.38) ^{ac}	3.12 (.40) ^{bc}	3.02 (.39) ^b
Positive peer	3.14 (.60) [†]	3.25 (.52) [†]	3.19 (.57) [†]	3.07 (.45) [†]
Groups with the same superscripts are not statistically different at $p < .05$, † (not significant after post hoc testing)				

Conclusions

Participants' perceptions of 4-H are consistent with the notion that 4-H is providing youth with meaningful opportunities to increase the life-skills outlined by Lerner's (2007) 5 Cs. However, the results suggest that there is continued room for improvement, especially for boys and younger youth. Older participants seemed to be more optimistic about their future, exhibited more deviant behaviors, reported greater involvement in 4-H, were more satisfied with program structure, and reported higher levels of skill building compared to younger participants. Girls were, overall, more satisfied with their 4-H experiences, were psychologically healthier, and reported better relationships with peers and other adults compared to boys. Given that girls are, in general, reporting more positive 4-H experiences, it is not surprising that clubs have a more difficult time retaining boys. Notably there were few interactions between gender and age. Therefore, when focusing on retention, gender and age should be considered separately.

It is worth noting that participants in the study appeared very healthy across the psychological dimensions assessed. Study participants also appeared to experience a positive and supportive environment in their 4-H clubs. Neither of these findings is surprising, given that it is likely that psychologically healthy youth choose to participate in positive activities, and positive activities support continued well-being. However, the results suggest that the 4-H clubs in this state may not be reaching diverse and/or at-risk youth, who might benefit from the supportive environment and growth opportunities provided by 4-H. Additionally, members of 4-H clubs might also benefit from the opportunity to engage with more diverse youth in the club context. Research shows that contact with people of different backgrounds promotes prosocial and culturally sensitive values, as well as increased positive interactions in different social contexts (Eccles & Appleton Gootman, 2002).

Suggestions for Programming

Program leaders should increase their efforts to actively engage young adolescents who are still participating in 4-H. This may decrease age-related attrition. One possibility is to provide more leadership opportunities for young adolescents. Another is to ensure that young adolescents are building skills in arenas that are personally meaningful to them. Furthermore, careful attention should be given to the reasons that boys are reporting less positive 4-H experiences. The study reported here showed that of the 10 4-H variables examined, girls scored higher than boys on five of them. Teasing apart the nature of boys' and girls' experiences in 4-H can help address the gender-related attrition. One possibility to counteract both age- and gender-related attrition is to examine the extent to which 4-H clubs are characterized by the elements of youth programs that Larson (2000) suggests help youth to develop initiative, namely being directed primarily

by youth within an environment of real-world constraints and working towards an overarching goal.

Consistent efforts to reach more diverse youth could be made. This could include not only reaching out to different ethnic groups, but also including more youth from diverse family structures (e.g., divorced, single parents), youth with disabilities, and youth from more urban areas (Ganong, 1993; Goble & Eyre, 2008). Furthermore, in regions with low diversity, partnerships with other regions could be developed to foster an understanding and appreciation for different ways of living. Leaders could provide structural mechanisms that foster the participation of diverse and at-risk youth (e.g., transportation help for single parent families). However, to ensure that participation by diverse youth is supported, training for leaders on successfully integrating diverse and at-risk youth, as well as support for dealing with issues that might arise, will be needed.

Limitations and Future Directions

The data came from a primarily rural state with relatively low levels of diversity (e.g., the racial/ethnic background in the state is 91.6% white (U.S. Census, 2000), and the state has a low divorce rate as compared to the majority of other states (CDC, 2006). Therefore, Extension educators might be limited in their ability to recruit more diverse youth.

Not all the 4-H leaders in the state distributed the survey. Those who did may be individuals who provide more leadership across the board, which could account for the high levels of satisfaction. Other 4-H youth may not have such positive experiences.

More research is needed on the barriers to participation for diverse and at-risk youth; and strategies for recruitment and retention should be explored.

Even though older participants stated more positive outcomes, it has been reported that a decline in 4-H membership occurs as participants get older (Harder, Lamm, Lamm, Rose, & Rask, 2005). It might be that the high level of satisfaction with 4-H reported by the older youth who participated in the study reported here led them to choose 4-H participation over other clubs and organizations. The older youth may have also had opportunities to take on leadership positions. Program aspects that helped with the retention of older youth, as well as features that encouraged greater satisfaction in older youth as compared to younger youth, should be further investigated.

While there are core similarities among 4-H programs around the nation, states vary on a number of dimensions, including the degree to which they can be characterized as rural as well as the level their level of diversity. Conducting a statewide survey, such as the one described here, can provide meaningful insight into the challenges that might be most relevant for a particular state. It would also allow comparisons across states to ascertain the extent to which the issues identified by the youth are similar.

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