

Farm Parents' Decisions about their Children's Farm Work

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An Evaluation of the North American Guidelines for Children's Agricultural Tasks (NAGCAT)

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Childhood Agricultural Injuries

- Farming consistently ranks first or second in occupational injuries and fatalities; fatality rate roughly five times the national average.
- 32,800 agricultural-related injuries among children and adolescents under age 20 who lived on, worked on, or visited a farm operation in 1998
- 15,000 of these injuries were work-related, and 70% of the work injuries were incurred by youth who live on the farm
- Fatal injuries have decreased from approx. 200 per year in early 1980s to approx. 100 per year in the 1990s
- Fatality rates for young workers in agriculture are approx. 3X national private sector rates (Hard, et. al., 1999).

Factors Affecting Decisions about Children's Farm Work

- Consists of Several Elements:
 - Judgments about children's abilities
 - Judgments about job requirements
 - Judgments about outcomes
(positive—children learn a “work ethic”; negative—children get injured)
 - Evaluations of outcomes
(e.g., acceptable levels of injury, importance of learning a “work ethic”)
- Judgments have a subjective and/or cultural component

Literature Review

- Kidd, et al (1997)
 - Husbands and wives differ in the appraisal of their children's readiness
 - Child interest affects decisions about farm work
 - The need for farm productivity has more influence on decisions than appraisals of readiness
- Neufeld, et al (2002)
 - Farm parents judge child readiness using a variety of criteria, including interest
 - Interest and experience may lead to earlier involvement in farm work
 - Judgments about appropriate age are child-specific

Hypotheses:

- Assessments of children's abilities will correlate with the age children start
- Attitudes towards safety will increase the age children start
- Importance of children helping will decrease the age children start
- Positive attitudes towards experts will increase the age children start
- Farm experience will decrease the age children start
- Interest and experience will decrease the age children start
- Husbands and wives will differ in judging readiness

Methods

- National telephone survey of farm adults with any children under 18 at home
- Random sample obtained from a multi-source list of registered farm businesses
- Total sample of 3,273; 2,045 were ineligible, 545 eligible, 683 unknown
- Response rate=59.7%; Refusal rate=11.2%
- Final sample of 411; 168 (40.1%) were male; 243 (59.1%) were female

Age Started Farm Tasks

	<u>Started Helping</u>				<u>Started Machinery</u>		
	<u>N</u>	<u>% of Total</u>	<u>Mean Age Started</u>		<u>N</u>	<u>% of Total</u>	<u>Mean Age Started</u>
All	299	86.9	8.16		196	57.0	10.95
Boys	177	94.1	7.86		126	67.0	10.72
Girls	122	78.2	8.59		70	44.9	11.37
Sig.		.000***	.033*			.002**	.053

Mean Age of Those Not Helping:

Boys=10.82 (n=11) Girls=12.41 (n=34)

Sig.=.151

Mean Age of Those Not Using Machinery:

Boys=10.84 (n=62) Girls=12.28 (n=86)

Sig.=.002

Age Appropriateness

	<u>Lawn/Garden tractor</u>	<u>20-70 hp w/ trailing equip.</u>	<u>20-70 hp w/ front loader</u>	<u>70+ hp tractor</u>	<u>70+ hp w/ hydraulics</u>
Male	11.00	13.69	14.96	14.57	14.91
N	166	168	165	165	165
Female	11.18	13.93	15.05	14.85	15.34
N	241	240	232	232	230
Sig.	.378	.212	.600	.093	
.007**					
NAGCAT age	12-13	12-13	16+	14-15	14-15
% Male	47.0	7.1	53.3	19.4	13.3
< NAGCAT					
% Female	49.4	9.6	50.4	16.4	12.2
< NAGCAT					

Overall mean is 13.83 for men and 14.07 for women (sig.=.114)

Readiness Variables by Sex

Variable	All**	Men	Women	Sig.*
Age	1.56 (5 th)	1.68	1.48	.005**
Size	1.49 (4 th)	1.68	1.37	.000***
Strength	1.60 (6 th)	1.81	1.46	.000***
Maturity	1.06 (1 st)	1.09	1.03	.007**
Experience	1.29 (2 nd)	1.35	1.25	.247
Interest	1.37 (3 rd)	1.42	1.34	.277
Sex	3.02 (7 th)	3.05	3.00	.723

* Mann-Whitney U non-parametric test for differences in distributions.

** Friedman's non-parametric test for differences in ranks = .000***

Independent Variables

- Age
- Sex
- Importance of Children Helping
- Mean Age Appropriate
- Trust in Safety Expert Advice
- Use of Safety Expert Advice on Children
- Years Raised on a Farm
- Off-farm Employment
- Safety measures:
 - Wear PPE
 - Kids Ride on Machinery
- Readiness Factors

Age Started Helping Regressions

Men Only:

- Importance of Helping**
- Trust safety experts*
- Appropriate age*
- Full-time Off-farm (.1)
- R square = .247
- Adj. R square = .137
- Sig. = .014
- N = 103

Women Only:

- Importance of Helping (.1)
- Kids ride on machinery (neg) (.1)
- R square = .144
- Adj. R Square = .047
- Sig. = .133
- N = 129

Age Started Machinery Regressions

Men Only:

- Age (neg)^{**}
- Importance of Helping^{**}
- Wear PPE^{*}
- Appropriate Age^{***}
- Full-time Off-farm(.1)
- Maturity and Not Sex (neg)^{*}
- R square = .726
- Adj. R square = .527
- Sig. = .000
- N = 70

Women Only:

- Importance of Helping(.1)
- Appropriate Age^{***}
- Age, size, and strength (neg)^{*}
- Interest and sex (neg)(.1)
- R square = .789
- Adj. R Square = .622
- Sig. = .000
- N = 73

Age Appropriate Regressions

Men Only:

- Age (.1)
- Importance of Helping (neg)*
- R square = .122
- Adj. R square = .043
- Sig. = .116
- N = 146

Women Only:

- Use safety advice*
- Years on a farm (neg) (.1)
- Kids ride on machinery (neg)**
- Age, Size, and Strength (neg)**
- R square = .199
- Adj. R square = .136
- Sig. = .001
- N = 165

Discussion

- Appropriate age is most important factor for age started machinery; much weaker for age started helping
- Age started farm work is influenced by other factors besides age appropriateness (all other hypotheses are supported at .1 level)
- Differences between parents and NAGCAT varies by type of machinery
- Decisions about age started helping are more random than age started machinery
- Younger men are starting kids on machinery later

Discussion (cont'd)

- Men and Women judge readiness differently
 - Women stress criteria more
 - Factor solutions are different
- Maturity, Experience, and Interest are more important than Age, Size, and Strength
- Readiness factors affect age started machinery, but not age started helping
- Sex has little affect on age appropriateness
- Age appropriateness is influenced by different factors for men and women

Conclusion

- Decisions about children's farm work depend on factors besides children's abilities
- Decisions about children's farm work have subjective elements
- Husbands and wives differ in judging readiness and in decisions about children's farm work

Recommendations

- Consider other factors besides judging children's abilities
- Identify where biggest differences between NAGCAT and parents are and why
- Need to rethink message about judging children's abilities
- Need to better understand couple decision-making process