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## Kentucky Equestrians: Defining Socioeconomic Contexts for Extension Programming

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### Cover Page Footnote

The authors thank participants in this survey and the organizations who assisted in survey delivery.

# Kentucky Equestrians: Defining Socioeconomic Contexts for Extension Programming

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**Abstract.** Understanding relationships between demographic and economic factors and equestrian participation could improve horse program design. We implemented an online survey that characterized associations of participation in equine activities, socioeconomic factors, and economic factors with age. Seventy-five percent of respondents ride, and 34% are recreational, non-competitive participants. Respondents were mostly female, and many participate in the sport throughout life. Many respondents indicated they overspent on equestrian activities. Horse programs should incorporate information and activities that address issues unique to females, should develop skills required by amateur or recreational riders, and should incorporate information on financial wellness.

## INTRODUCTION

Armed with a better understanding of the relationships between equestrian *age*, *participation type*, and *socioeconomic factors*, agents could potentially improve the design and delivery of equine-related messages. Improved messaging could, in turn, allow agents to more effectively reach at-risk populations who might benefit from equestrian programming, teach economically realistic equine-care principles, and ultimately improve human and horse health. Cooperative Extension agents involved in horse programming often lack information about the relationships between participation in equestrian activities and socioeconomic statuses of their participants. Prior data have characterized horse owners and ownership and trends in horse management (Stowe, 2018). However, these data may not characterize equestrians who do not own horses.

The 4-H Horse Program, which is tailored to the characteristics and needs of youth equestrians and their mentors, serves as an illustrative model. For example, because the cost of horse ownership averages \$2,500–\$4,500 annually per animal (Galloway & Gallagher, 2002; University of Maine Cooperative Extension, 2012) and only 1.3% of U.S. households own horses (American Horse Council, 2018), 4-H programmers have developed mechanisms that allow youth to lease or otherwise have short-term access to project horses to advance their equestrian knowledge and skills. Many 4-H programmers also make use of experienced adult equestrians as volunteers. This volunteerism benefits not only 4-H

youths (DeCubellis & Barrick, 2021) but adults, as researchers have associated volunteerism with better health outcomes (United Health Care, 2019). The 4-H Horse Program also integrates well with 4-H Healthy Living programs that aim to address various socioeconomic and health disparities to improve activity levels, foster healthy food choices, and decrease negative health risks (Downey et al., 2014). In sum, 4-H offers culturally relevant, age-, and economically appropriate horse-related programming that youth development researchers have recognized as effective across a wide range of communities and demographics (Lerner & Lerner, n.d.).

We hypothesized that an even more complete and nuanced characterization of Kentucky equestrian participation would permit University Extension programmers to refine program design and tailor delivery methods. To this end, our semiquantitative research study was launched in 2019 to answer three questions: (a) Does participation type vary by age and years of participation? (b) Are there associations between socioeconomic factors and age? and (c) How do economic factors of participation vary by age? Because we recruited survey respondents from the wider equestrian community, our findings characterize all those who participate in equestrian activities, not only horse owners.

## METHODS

We designed a survey questionnaire based largely on the National Health and Nutrition Examination Survey for

socioeconomic and economic categories (Centers for Disease Control and Prevention [CDC] & National Center for Health Statistics [NCHS], 2017). Equestrian-specific questions were developed that represented gaps in understanding of potential economic disparities that we have observed but are not widely documented relative to riding versus nonriding participation in equine activities. The Female Equestrian Health and Wellness (FEHW) Community of Practice (Female Equestrian Health Community of Practice, 2020), a group of university researchers, professional equestrians, and clinical practitioners in the equine industry, reviewed the draft questions. Based on their input, edits were made to make terminology consistent and to ensure that the questions were applicable across the United States and international sites. The questionnaire could be completed by respondents anonymously via a Qualtrics online platform; the survey took about 10 minutes to complete. Respondents self-selected based on limited distribution channels, and no efforts were made to ensure balance between vocational and avocational participation. Only respondents ages 18 years and older were included. No identifying information was collected. “Prefer not to answer” was a response option for survey items deemed potentially sensitive, and selection of this option did not preclude the use of other responses from that individual. We excluded respondents who indicated “I do not participate in the horse industry.” We instructed respondents that their completing the survey would improve our understanding of the socioeconomic status and other characteristics of people involved in equine-related activities. Participation type was defined for respondents as “professionals” who receive payment for riding, training, grooming, and so forth; “amateurs” who are competitive but do not receive financial compensation; “recreational” participants who engage in noncompetitive, recreational equine activities; “handlers” or general caretakers of horses; and “volunteers” assisting in delivery of horse-specific activities (camps, therapy, lessons, etc.). A total of 1252 questionnaires were completed from 1689 responses initiated (74%). Individuals from the United States submitted 59% of responses, with 34% of those from the state of Kentucky ( $n = 255$ ). This report focuses on Kentucky participants, so all 255 responses were included.

We used chi-square and ANOVA tests to determine the relationships between participation, socioeconomic, and economic factors of participation by age. All survey questions had multiple-choice, categorical answers (see Table 1). For analytical purposes, we regrouped household and personal income data into three categories: low to middle (less than \$50,000), middle (\$50,000 to \$100,000), and middle to high (greater than \$100,000). The University of Kentucky Institutional Review Board (#48275) approved this project.

## RESULTS

### DEMOGRAPHIC CHARACTERISTICS

As in prior industry surveys (American Horse Council, 2018; Stowe, 2018), the majority of respondents were females (95%; see Table 2). The majority of respondents also reported as “White, Non-Hispanic or Latino.” Two-thirds of respondents categorized their equine-related activities as “Amateur” or “Recreational,” and about one-quarter chose “Professional.” (See Figure 1.) More than 35% of “Amateur” and “Recreational” participants were ages “31–50 years.” More “Professionals” were ages “18–30 years” (45%) compared to other age groups ( $\chi^2 = 22.448$ ;  $df = 12$ ;  $p = .0328$ ).

### PARTICIPATION FACTORS

Seventy-nine percent of all respondents reported “over 20 years” of experience with horses, and we observed a strong association between age and length of equine experience ( $\chi^2 = 105.524$ ;  $df = 12$ ;  $p = .0001$ ). Three quarters participated by “riding/training” horses. Of these riders, 100% “over age 71” reported “over 20 years” of experience with horses. The majority of riders focused on “English” riding disciplines, with more than 90% of amateurs participating with English seats.

Sixty-two percent of all respondents had in the past or currently participated in a club, breed society meetings, or educational events. We observed a weak relationship between club participation and age ( $\chi^2 = 7.94$ ;  $df = 3$ ;  $p = .0473$ ), with 72% of “ages 31–50” and 61% of “ages 51–70” reporting club participation.

### SOCIOECONOMIC STATUS FACTORS

The majority of respondents (58%) indicated that their perceived childhood socioeconomic background was “upper class.” We observed no relationship between perceived childhood socioeconomic status and age. Only 5% of respondents characterized their current (adult) socioeconomic status as “upper class,” with 45% in the “upper to middle” class category. We noted a strong relationship between current socioeconomic status ( $\chi^2 = 34.568$ ;  $df = 12$ ;  $p = .0005$ ) and age. The largest prevalence in the “low to middle” class category was in ages “18–30 years.” In the age categories “18–30 years” and “31–50 years,” the location of childhood home was predominantly “rural.” (See Table 3.) Only 42% of respondents indicated that their families were involved with horses, and there were no relationships to age.

### ECONOMIC FACTORS OF EQUESTRIAN PARTICIPATION

Eighty percent of “ages 18–30” reported “low to middle” personal salary range, comprising 28% of the total population. (See Figure 2.) We observed a strong relationship between salary and age, with 54% reporting earnings in the “low to middle” salary range ( $\chi^2 = 60.268$ ;  $df = 9$ ;  $p = .0001$ ).

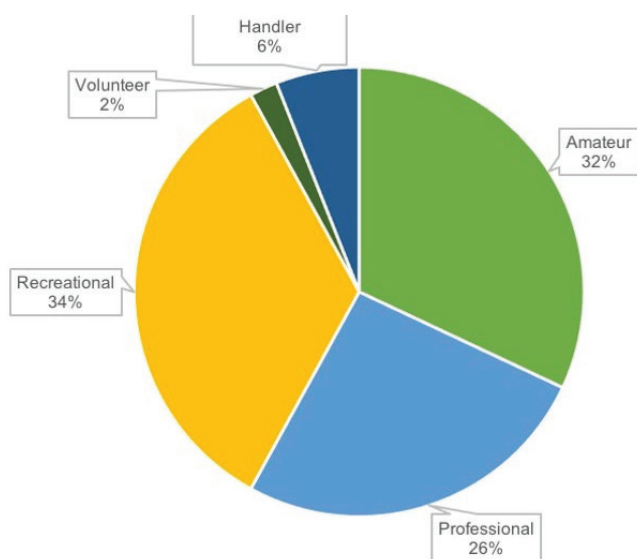
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**Table 1.** Selected Questions and Potential Answer Choices

Question	Potential answers
<i>Participation Factors</i>	
How long have you been interacting with horses?	1–3 years, 4–6 years, 7–10 years, 11–19 years, over 20 years
How do you participate with horses?	Riding/training (examples: Showing, Handling, Driving, Mounted); Supporting (examples: Volunteer, Farmwork, Care, Supporting services like feed or veterinarian care)
What is your primary use or seat discipline during riding?	English (examples: Dressage, Hunt seat, Eventing); Western (examples: Pleasure, Working cow horse, Reining, Western dressage)
Do you or have you participated in a horse club, breed society meetings, or horse education?	Yes, No
<i>Socioeconomic Status Factors</i>	
How would you characterize your socioeconomic background as a child?	Upper class, Middle to upper, Low to middle, Prefer not to answer
How would you characterize your current socioeconomic status?	Upper class, Middle to upper, Low to middle, Prefer not to answer
How would you characterize the location where you grew up?	Rural/farm, City/urban (small or large), Suburbs
How would you characterize the location where you currently live?	Rural/farm, City/urban (small or large), Suburbs
Was your family involved with horses Yes, No when you were a child?	
<i>Economic Factors of Participation</i>	
Please indicate the answer that includes your entire household income (combined salaries/income of everyone in household who works or brings in an income) in the previous year before taxes.	Less than \$20,000; \$20,000 to \$34,999; \$35,000 to \$49,999; \$50,000 to \$74,999; \$75,000 to \$99,999; \$100,000 to \$149,999; \$150,000 to \$199,999; \$200,000 or more; prefer not to answer.
What is your salary range (what you personally make as income)?	Less than \$20,000; \$20,000 to \$34,999; \$35,000 to \$49,999; \$50,000 to \$74,999; \$75,000 to \$99,999; \$100,000 to \$149,999; \$150,000 to \$199,999; \$200,000 or more; prefer not to answer.
Indicate your agreement with this statement: I overspend (i.e., expenses exceed my income) on my horse participation.	Strongly agree, Agree, Disagree, Strongly disagree
What percentage of your disposable income do you spend on the following items? (Must total 100%.) For this question, please consider your disposable income anything left after your essential living expenses are paid (housing, utility bills, car/home insurance, etc.).	Horse, Dining out, Movie/theater, Clothing, Other

**Table 2.** Age by Sex of Respondents (n = 255)

Demographic Factor	Female, % (n = 242)	Male, % (n = 13)
18–30 years	36	15
31–50 years	35	15
51–70 years	26	70
Over 71 years	3	0



**Figure 1.** Participation type.

We found a weak relationship between location of childhood home and personal salary ( $\chi^2 = 16.763$ ;  $df = 9$ ;  $p = .0526$ ). In Kentucky, 44% of those who reported spending their childhood in a “rural” setting remained in the “low to middle” (\$50,000 and below) personal salary range of adulthood salary. Forty percent of respondents with “suburban” childhood housing reported being in the “middle” (\$50,000 to \$100,000) category.

We noted a strong relationship ( $\chi^2 = 31.48$ ;  $df = 9$ ;  $p = .0002$ ) between household income and age, with higher incomes reported in later age ranges. (See Figure 3.) Location of childhood home was not a factor in household income, although economic category in childhood was related to adult household income, particularly in the “low” (household and childhood; 50%) and “high” (household and childhood; 38%) categories ( $\chi^2 = 21.623$ ;  $df = 9$ ;  $p = .0102$ ).

Thirty-five percent of respondents stated that they overspent (i.e., expenses exceeded income) on horse activities (e.g., care of horse, lessons, equipment, or competition fees). Of that proportion, we observed an association with age ( $\chi^2 =$

**Table 3.** Location of Childhood Home Distribution by Age

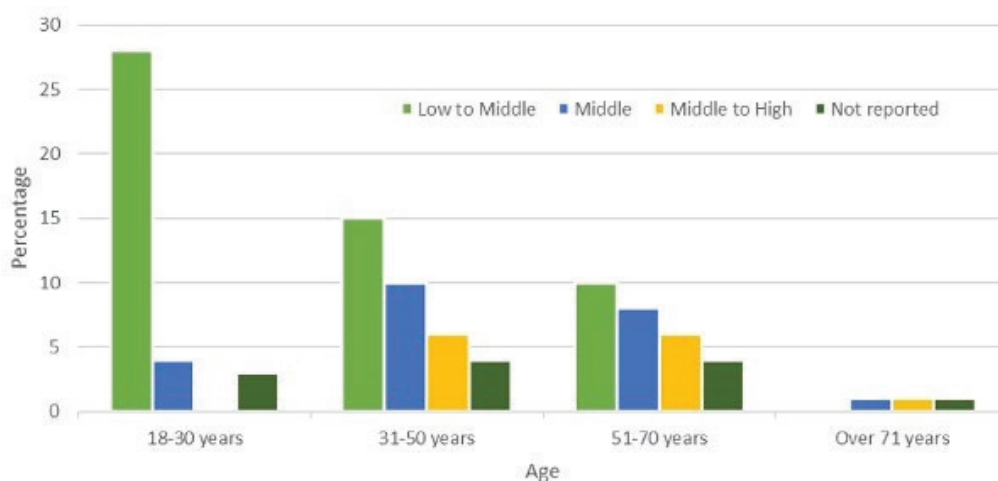
Age	Rural, %	Urban, %	Suburban, %
18–30 years (n = 89)	42	24	34
31–50 years (n = 87)	38	36	26
51–70 years (n = 71)	32	32	32
Over 71 years (n = 8)	25	50	25

16.953;  $df = 6$ ;  $p = .0095$ ), with 51% of respondents ages “18–30 years” agreeing with the statement. Agreement with overspending was related to personal salary ( $\chi^2 = 50.270$ ;  $df = 6$ ;  $p < .0001$ ), with 51% of those in agreement in the “low to middle” salary category. Proportion of disposable income spent was highest for all age categories. (See Table 4.)

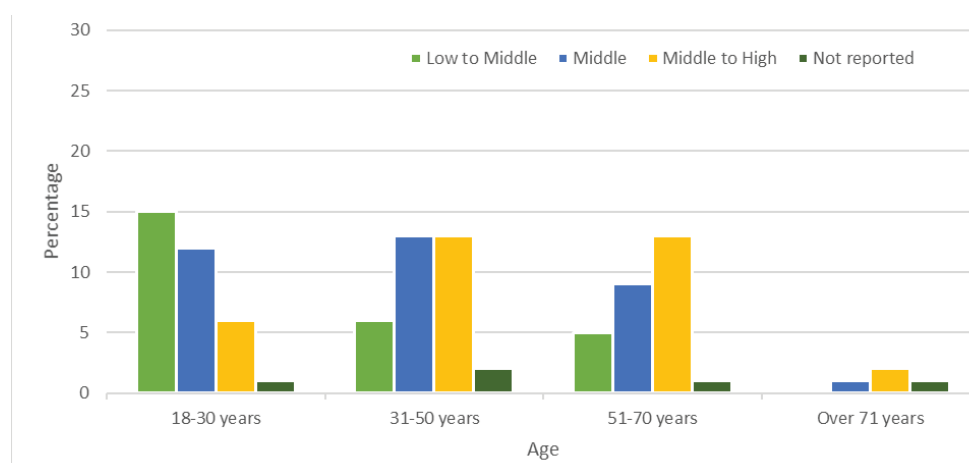
## DISCUSSION

We successfully characterized a sample of the Kentucky equestrian community through the use of an online questionnaire. We observed trends between participation type, socioeconomic factors, economic factors, and age. Most importantly, our study demonstrated that by directly engaging equestrians, Extension programmers should be able to accurately delineate their potential audience, thus enabling them to design horse programs that better fit participants’ interests and needs. For example, the majority of our respondents were female, suggesting that programs should incorporate information and activities that specifically address issues that are unique to girls and women, such as barriers to engaging in sports, including female-specific equipment (e.g., sports bras; Burbage & Cameron, 2017), saddles fitting female anatomy (Quinn & Bird, 1996), or life course considerations for riding during pregnancy and urinary tract health (Alanee et al., 2009). We also learned that the majority of respondents participated in horse-related activities as amateur or recreational riders, suggesting that programs should be tailored to deliver the knowledge and skills required by those participating in that manner and at that level. Responses to the questionnaire revealed that Kentucky equestrians participate in horse-related activities throughout their life course, indicating that programming for experienced equestrians may be as welcome as the more common programs for younger, less experienced participants. The finding that only 42% of participants grew up in horse-participating families suggests an opportunity (and need) to expand messaging beyond traditional outlets. Perhaps our most unexpected findings were those related to the economics of equestrianism. A large number of respondents reported that they spend more of their disposable income on horse-related than other

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**Figure 2.** Salary category by age.



**Figure 3.** Household income category by age.

**Table 4.** Disposable Income Expenditure (Percentage ± SEM)

Age	Horse	Dining Outa	Movie or Theater	Clothing	Otherb
18–30 years	44 ± 2.6	22 ± 1.3	13 ± 1.2	10 ± 1.0	44 ± 2.6
31–50 years	47 ± 2.6	16 ± 1.3	11 ± 1.1	12 ± 1.0	44 ± 2.6
51–70 years	45 ± 2.9	15 ± 1.5	11 ± 1.3	12 ± 1.1	44 ± 2.6
Over 71 years	37 ± 8.6	16 ± 4.4	11 ± 3.8	15 ± 3.4	44 ± 2.6

<sup>a</sup>Within the Dining Out data, the only significant difference ( $p < .0013$ ) in spending among age strata was between the “18–30 years” and “31–50 years” groups and the “18–30 years” and “51–70 years” groups. <sup>b</sup>Of those who specified, 31% indicated other animals, including dogs, cats, parrots, and livestock, as the main expenditures.



activities, and a significant percentage indicated that they spend more than their annual income on equestrian activities yearly. This finding points strongly to the need for horse programs to incorporate fiscal responsibility and financial wellness elements at all age levels. Although some program agents discuss costs of horse ownership (University of Maine Cooperative Extension, 2012), typically informal education programs with horse emphasis do not include topics related to financial wellness. The fact that we uncovered this characteristic of Kentucky equestrians underscores the need for approaches such as those used here to empirically establish the characteristics and needs of likely horse program participants prior to the design and delivery of such programs.

This study had a number of limitations. The sample size was small, and no efforts were made to ensure that the pool of respondents was representative of Kentucky equestrians as a whole. Not only was the sample small; it was skewed toward females. Recruitment for any future work will need to consider equestrian demographics and may need to use recruitment strategies that foster broader participation. Efforts to further include males and professional equestrians, such as riders in the thoroughbred industry, would also increase diverse viewpoints in future surveys. Given the complete absence of literature in this domain, however, we judge our study to be an important proof-of-concept: systematic characterization of program participants can be one approach to improving the quality of Extension programs.

In conclusion, the data gathered with our online questionnaire suggests that if appropriately designed, Extension horse programs can have a positive impact on participants of all ages, and programs that place an emphasis on financial well-being may be one way to ensure that participants will have the means to continue equine activities throughout their life. Larger, more representative surveys than that described here are needed to confirm and elaborate our findings. More generally, this work provides a proof-of-concept that survey instruments such as ours can be used to characterize actual and potential Extension equine program participants and that information could be used to improve and/or tailor programs. Although our focus here was equine-centric and our specific findings may not be applicable outside that context, the general method would seem to be applicable across many of Extension's program areas.

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