Ethanol exposure during adolescence produces cognitive that can last into adulthood. In the current study, we investigated if chronic ethanol exposure during adolescence alters cognition over the lifespan. Female and male rats were treated with ethanol during adolescence and then tested every 4 to 5 months on a series of cognitive measures. Chronic ethanol selectively impaired cognitive in both female and male rats, although the pattern of results was different as a function of sex. In addition, female, but not male, rats were impaired in a short-term relearning task. Finally, male rats administered ethanol during adolescence were significantly more likely to survive the 22-month experiment compared to female rats administered ethanol during adolescence. The current results demonstrate that adolescence is a unique period of development where chronic ethanol exposure produces long-lasting, selective cognitive impairments across the lifespan.