



At Risk Adolescents Firearm Access as a Public Health Crisis: How Quickly Can Children at Risk Reach a Household Loaded Weapon?



Eli Cohen, Maryam Gooyabadi, Matthew Miller, Deb Azrael, Carmel Sahli

Introduction

- Firearms are the leading cause of death for adolescents in the US. This is in large part due to firearm suicides, where attempts with firearms have almost a 90% fatality rate.
- Adolescents who die by firearm suicide are far more likely to live in a house with a firearm, particularly an unlocked firearm (*Figure 1*), then adolescents who died by non-firearm suicide methods.
- Storage of household firearms often determines adolescents possibility of reaching to a firearm, as well as their speed of accessing a firearm. Around 1/3 of adolescents in a household with firearms can access it less than 5 minutes, and many parents are unaware of their child’s access or don’t understand the suicide or accident risk that come with quick access.
- Though most parent in households with firearm discuss rules, the most sure way to prevent access in the home is safe storage. This is helpful not just to prevent suicide, but also to prevent accidents, which is also a major risk to adolescents

Methods

- The sample consisted of adolescents age 13 to 17 who lived in a household with firearms and whose speed of access to the firearm could be determined (n=280), were drawn the nationally representative 2019 National Firearms Survey (NFS).
- Suicide risk was measured by using the of the PHQ-8, GAD-7, and CRAFFT scales. Each measures a known suicide risk factor, including drug use, anxiety, and depression. If an adolescent was above a clinical significant cutpoint for any one of these scale, they were classified as being at risk for suicide.
- Speed of access was measured by the question “How long would it take you to get one of the guns in your home (and load it, if it wasn't already loaded)?” With the responses less than 5 minutes, less than an hour, less than 2 hours, and 2 or more hours.
- Age was also split into groups of those 13-14 years old and 15-17 years old.

Research Question

Can children who are at risk for suicide access a gun at the same speed as those who are not?



Figure 1: Types of in home firearm storage

Speed of Access by Risk Status

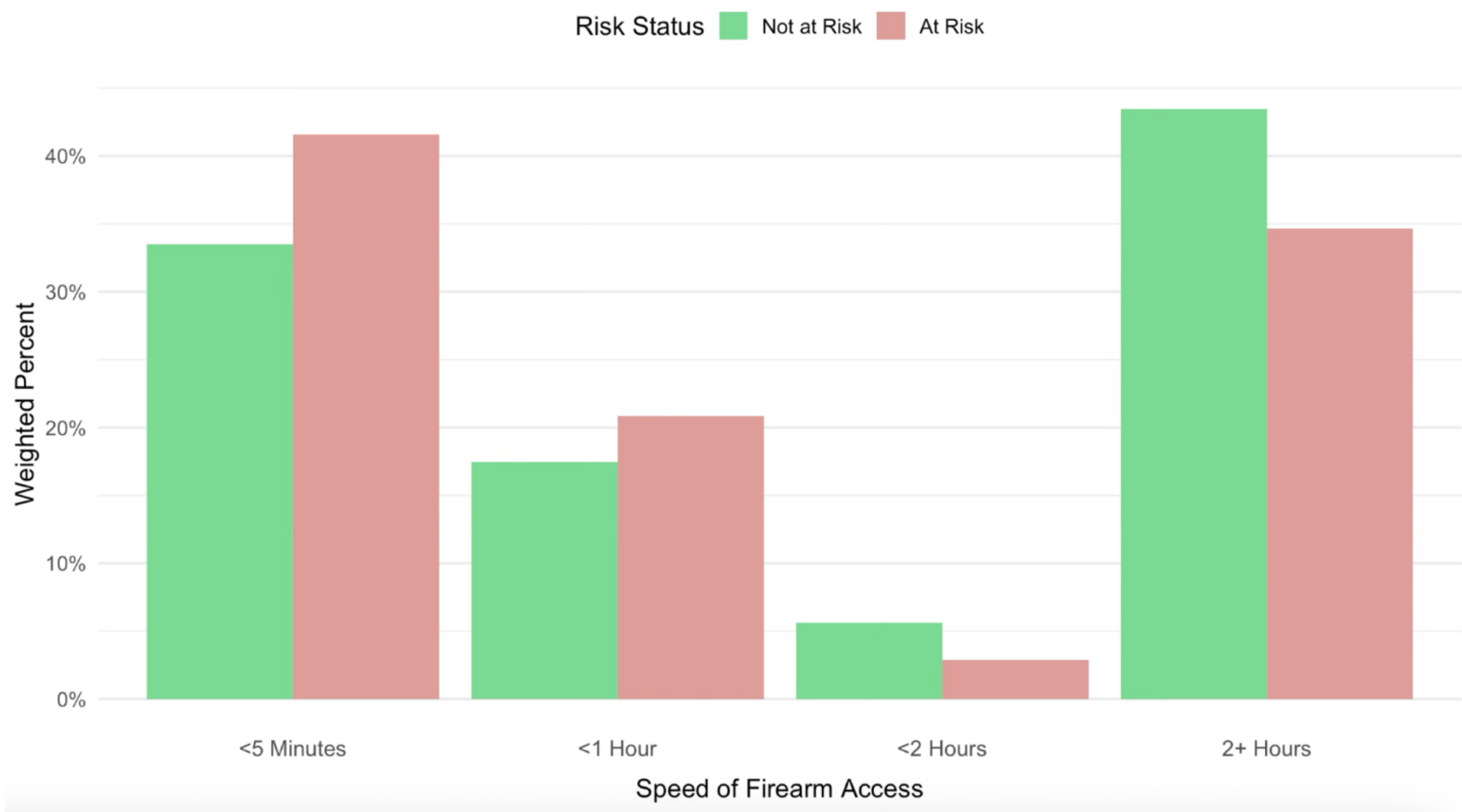


Figure 2. Speed of access to firearms for adolescents above a cutpoint versus those below all cutpoints

Adolescents at Risk Status by Age

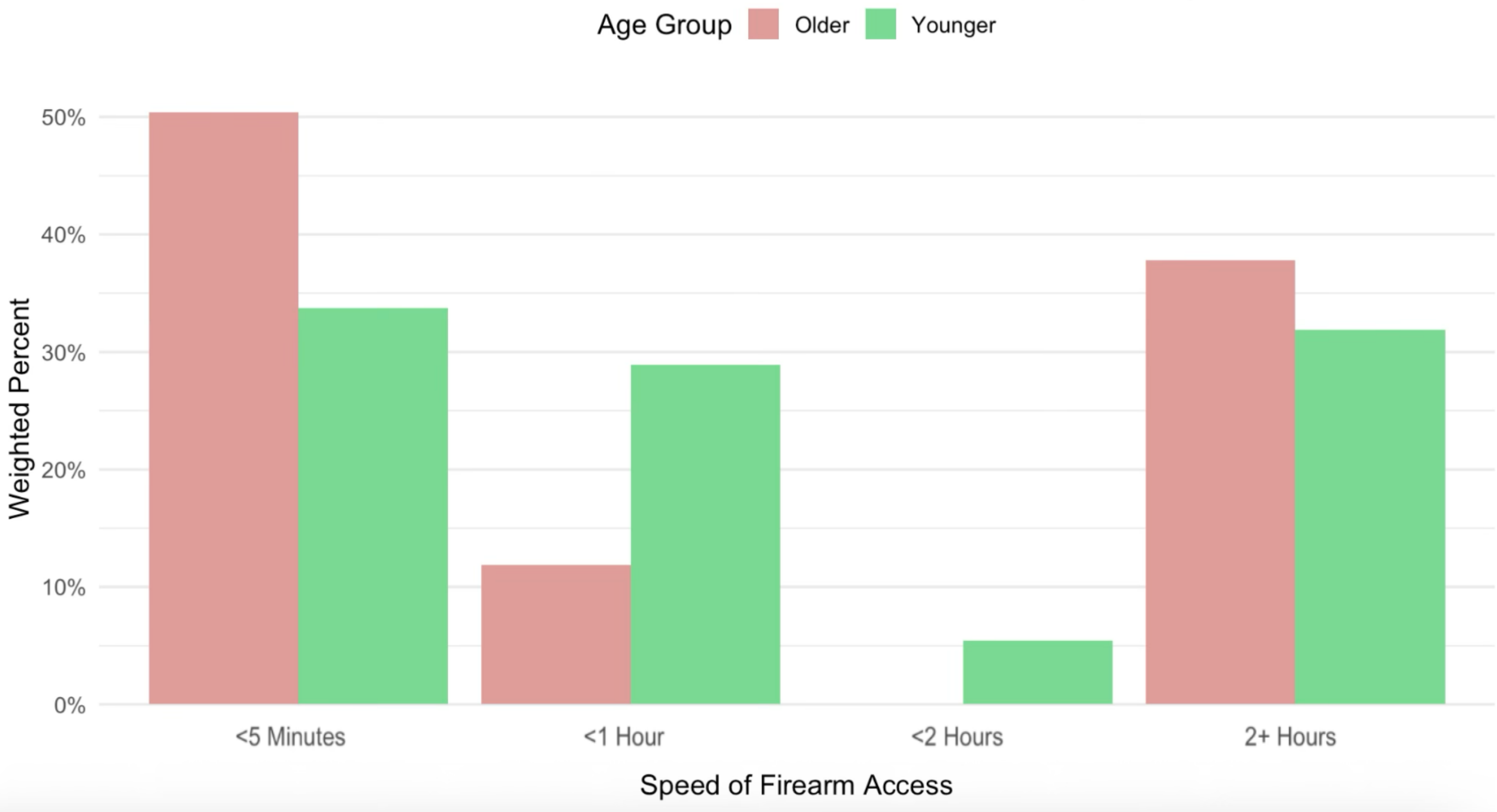


Figure 3: All adolescents above any risk factor cutpoint speed of access by age

Discussion

- The lack of significance of speed of access for those at risk compared to those not is notable because it shows that parents are not changing access when they should. This result is dangerous, as adolescents at risk having equal access to firearms is a major risk.
- Parents should also not assume that older adolescents should be given more access, as they are statistically more at risk for suicide than younger children.
- The result of no significance is corroborated with other literature, which mostly found no association between suicide risk and access to a firearm, with access even sometimes found to be easier for those at risk in some paper.
- Notably, there are ways to help parents learn of this risk, primarily through physicians who can educate parents and families on the risks of easy access to guns.
- Many factors can help prevent firearm suicide, acces prevention laws, conversations around rules, education around firearm risks, and safe or out of reach storage can all help reduce risk for those at risk.
- Delay in access to a firearm can save lives, and more action needs to be taken in order to prevent those at risk from doing something they may regret.

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- Using a multiple linear regression we examined the speed of access to being above any risk factor cutpoint, while also examining gender, and parent education (as a proxy for income), and household size, and **no significance was found for any of the variables**. However an N of 28 for those above any risk cutpoint was limiting in the ability to detect significance.

Results

- Of the entire 280 adolescents, 34% of adolescents could access a loaded firearm in less than five minutes, with an additional 17% being able to access in less than an hour (*Figure 2*). **Of those who were above any risk factor cut point, 41% could access a loaded firearm in less than five minutes**, and 20% in less than an hour. For those below all risk factor scale cutpoints, 33% could access in less than 5 minutes, and 17.5% in less than an hour.
- The average score for the GAD-7, PHQ-8, and were 1.49 of 21 and 1.79 of 24, below the cutpoint for additional clinical screening at 10 or more. The average CRAFFT score was 0.24 of 6, where the cutpoint was 2 or more.
- Of the 280 adolescents, 12 were above the cut point for depression, 10 for anxiety, and 13 for drug use. When combined together, there were 28 adolescents above any risk factor cutpoint.
- Among the 109 16-17 year old adolescents 18 (16.5%) were above any risk factor, compared to 17 of 171 (9.9%) total 13-15 year old younger adolescents.
- Those in the older age group could access in less than five minutes 40% of the time, whereas those 13 to 15 years old could only access 31% of the time in less than five minutes. Speed of access within five minutes was also higher for 16-17 year old adolescents above any risk factor cutpoint(50%) than the younger adolescents also above any cutpoint (33.7%, *Figure 3*).