

What is happening to boys? A collaborative review

An ongoing open-source literature review posted and curated by [Jonathan Haidt](#), [Richard Reeves](#), and [Zach Rausch](#).

This Google doc is a working document that contains the citations and abstracts of the published articles we have found that shed light on the question:

What is happening to the mental health and well being of boys and young men, and how are these changes related, if at all, to the mass migration of social life onto digital platforms since the early 2000's? We focus on the USA, but include international studies where relevant.

Because of the ubiquity and power of confirmation biases and motivated reasoning, we particularly welcome input from critics who can find evidence that the migration of social life onto digital platform has NOT been harmful to boys mental health. Please add your comments to the text, or by highlighting text and then clicking the “add comment” button that appears in the right-hand margin. Add your name if you want us to credit you as a source. Links to empirical research or high quality journalism would be most appreciated. Feel free to add general comments as well.

Notes:

- The review contains comments added by other researchers: ...
- Also see our companion reviews:
 - [Is there an increase in adolescent mood disorders, self-harm, and suicide since 2010 in the USA and UK? A review](#)
 - [Social Media and Mental Health: A Collaborative Review](#)
 - [Porn Use and Adolescent Health: A Collaborative Review](#)
 - [Dating App Use and Mental Health: A Collaborative Review](#)
 - [Video Game Use and Adolescent Health: A Collaborative Review](#)
 - [Digital Gambling and Adolescent Health: A Collaborative Review](#)
 - [Online Communities and Adolescent Health: A Collaborative Review](#)
- See also [additional Google docs](#) laying out evidence for trends in mental health and social media use in Australia, Canada, New Zealand, and other countries.
- You can cite this document as:
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INTRODUCTION

[Not yet written; just notes]

NOTES FROM CONVERSATION: JULY 22, 2022

[convey the scope of the problem; insert Richard's talk, and one graph]

<https://www.youtube.com/watch?v=DBG1Wgg32Ok>

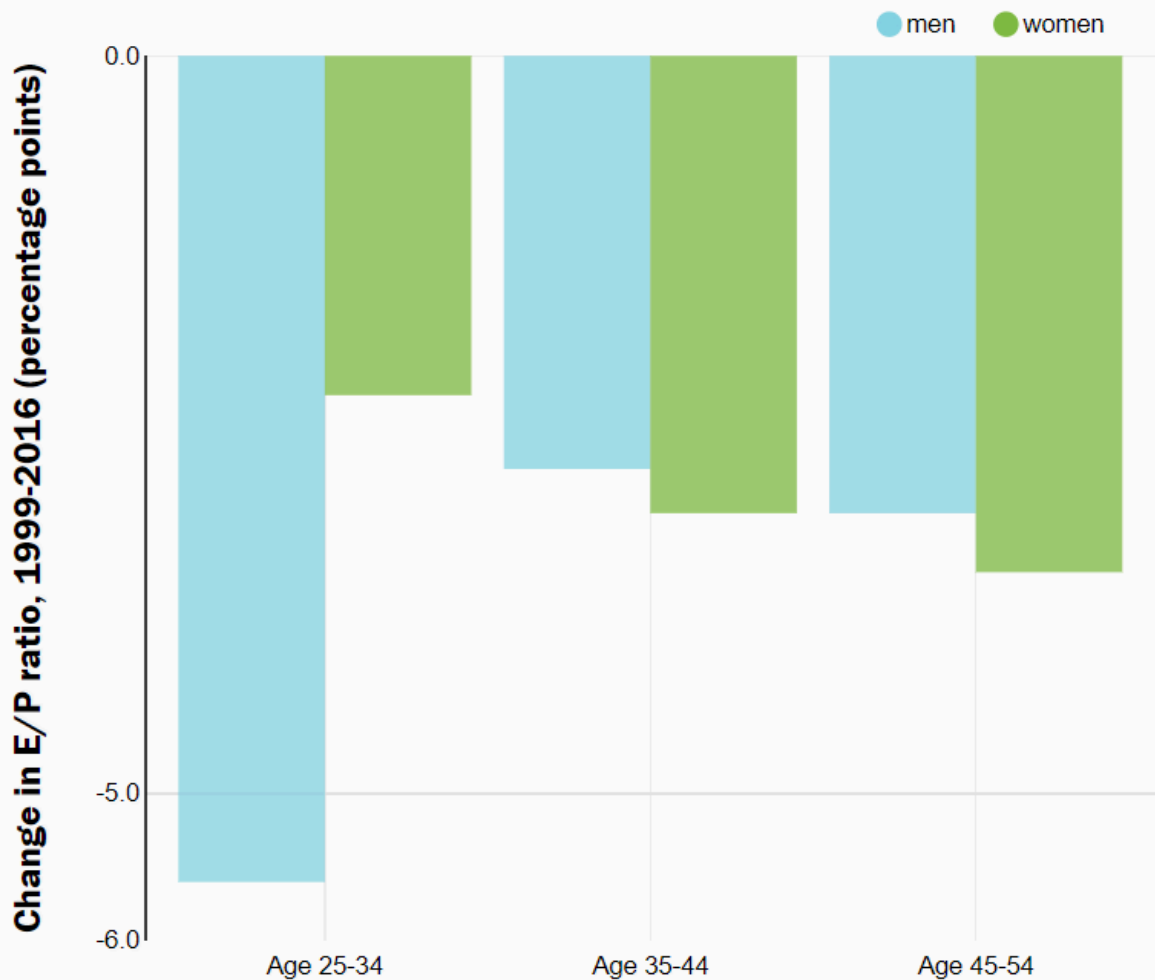
- there has been so much focus on girls, but what's happening with boys?
- Gen Z, generational issues: we focus on GenZ, but we include studies on younger millennials -- those born 1990 and later, who are turning 32 this year.
- boys and men dropping out of labor force [find graphs...] **How about this:**
{<https://www.brookings.edu/blog/social-mobility-memos/2018/02/23/why-are-young-educated-men-working-less/>}
- ““The decline for men age 25 to 34 (5.6 percentage points) was more than twice as large as the decline for women the same age (2.3 percentage points); among those age 35 to 44 and those age 45 to 54, the declines for men and women were more similar.”
- add richard's point, that the researchers suffer from negativity bias; nobody is looking for the positive value of porn, drinking,
- only collecting studies post-2016 (but may include a few earlier studies / reports if essential)
- How we are defining mental health (which outcomes are we most interested in). Internalizing vs. externalizing
- How far are increases about reporting/diagnosis not “real” (eg. ADHD)
- What are the core questions we are addressing? (we starting by just trying to understand what was happening to boys... and a bit less on social media)
- Online platforms for boys. **(online life in the era of the smartphone)**

Causal hypotheses:

1. “displacement hypothesis.” Displacement of sleep, outdoor time, rough and tumble play, tribal activities, real friendships, real intergroup conflict
2. Shared narratives (loss of them? Replaced by more negative ones?)
3. Synchrony / Communal activity
 - a. Lose communion
 - i. Loss of play / teams / competition / physical activity / physical social interaction

Model: [political dysfunction](#)

Young men, working less



Abraham and Kearney, "Explaining the decline in the U.S. employment-to-population ratio: A review of the evidence"

BROOKINGS

--What outcomes are we interested in? Failure to launch, depression, **education**, recruitment into radical causes, incels..... suicide, substance abuse, aggression [externalizing behaviors]

- RR I'm also very interested in **education** and the role mental health plays there. ADD/ADHD are important here of course (and autism at a much lower level), but in general there's an issue with "externalizing behaviors" at school. We could even grab suspension and exclusion data though there's a big race issue there
- We should be very careful about the "negativity bias" in many of these fields esp. Video gaming, porn etc. The folks studying this stuff are not hoping to find no association....[See good note on this in the UK report on pornography]
- Eg. one in four boys (23%) is now categorized as having a "developmental disability," Benjamin Zablotzky and others, "Prevalence and Trends of Developmental Disabilities among Children in the United States: 2009–2017," *Pediatrics* (october 2019)

SECTION 1: WHAT IS HAPPENING TO BOYS?

1.1 INTERNALIZING DISORDERS (E.G., DEPRESSION, ANXIETY, AND SELF-HARM)

Our corresponding review, [Is there an increase in adolescent mood disorders](#), includes all major articles on changes in internalization disorders (depression, anxiety, suicidal ideation, self-harm, and suicide) since 2010. Below are a few key graphs and studies.

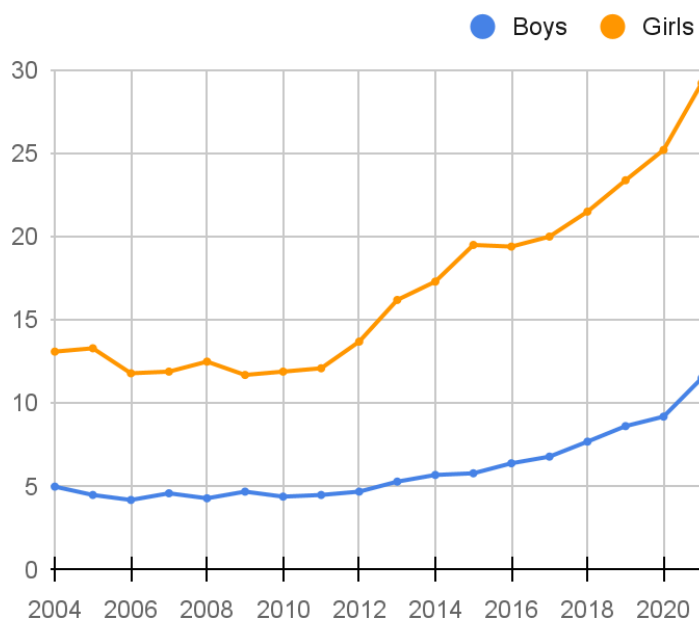
- 1.1.1** [Twenge, Cooper, Joiner, Duffy, & Binau \(2019\)](#). Age, period, and cohort trends in mood disorder indicators and suicide-related outcomes in a nationally representative dataset, 2005-2017. *Journal of Abnormal Psychology*.

ABSTRACT: Drawing from the National Survey on Drug Use and Health (NSDUH; N = 611,880), a nationally representative survey of U.S. adolescents and adults, we assess age, period, and cohort trends in mood disorders and suicide-related outcomes since the mid-2000s. **Rates of major depressive episode in the last year increased 52% 2005–2017 (from 8.7% to 13.2%) among adolescents aged 12 to 17 and 63% 2009–2017 (from 8.1% to 13.2%) among young adults 18–25. Serious psychological distress in the last month and suicide-related outcomes (suicidal ideation, plans, attempts, and deaths by suicide) in the last year also increased among young adults 18–25 from 2008–2017 (with a 71% increase in serious psychological distress), with less consistent and weaker increases among adults ages 26 and over.** Hierarchical linear modeling analyses separating the effects of age, period, and birth cohort suggest **the trends among adults are primarily due to**

cohort, with a steady rise in mood disorder and suicide-related outcomes between cohorts born from the early 1980s (Millennials) to the late 1990s (iGen). Cultural trends contributing to an increase in mood disorders and suicidal thoughts and behaviors since the mid-2000s, including the rise of electronic communication and digital media and declines in sleep duration, may have had a larger impact on younger people, creating a cohort effect.

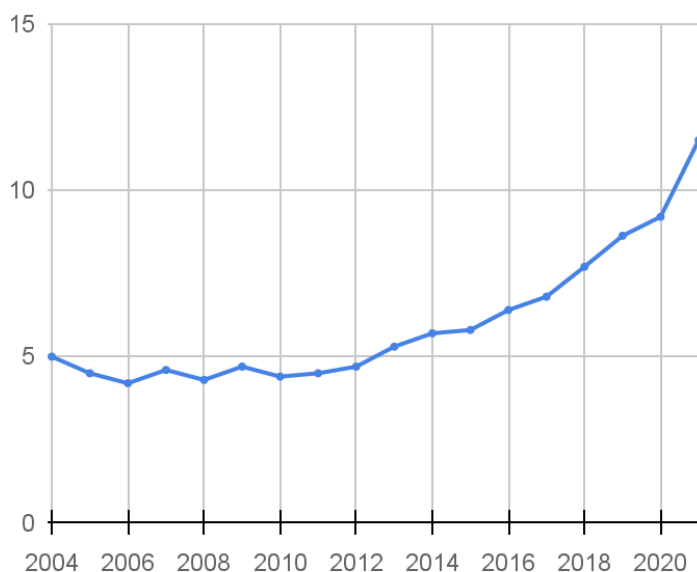
Updated Figures in 2021 from the NSDUH data used in this study (made by Zach Rausch, [see spreadsheet](#)):

% of US Teens with Major Depression



Just Boys:

% of US Males with Major Depression



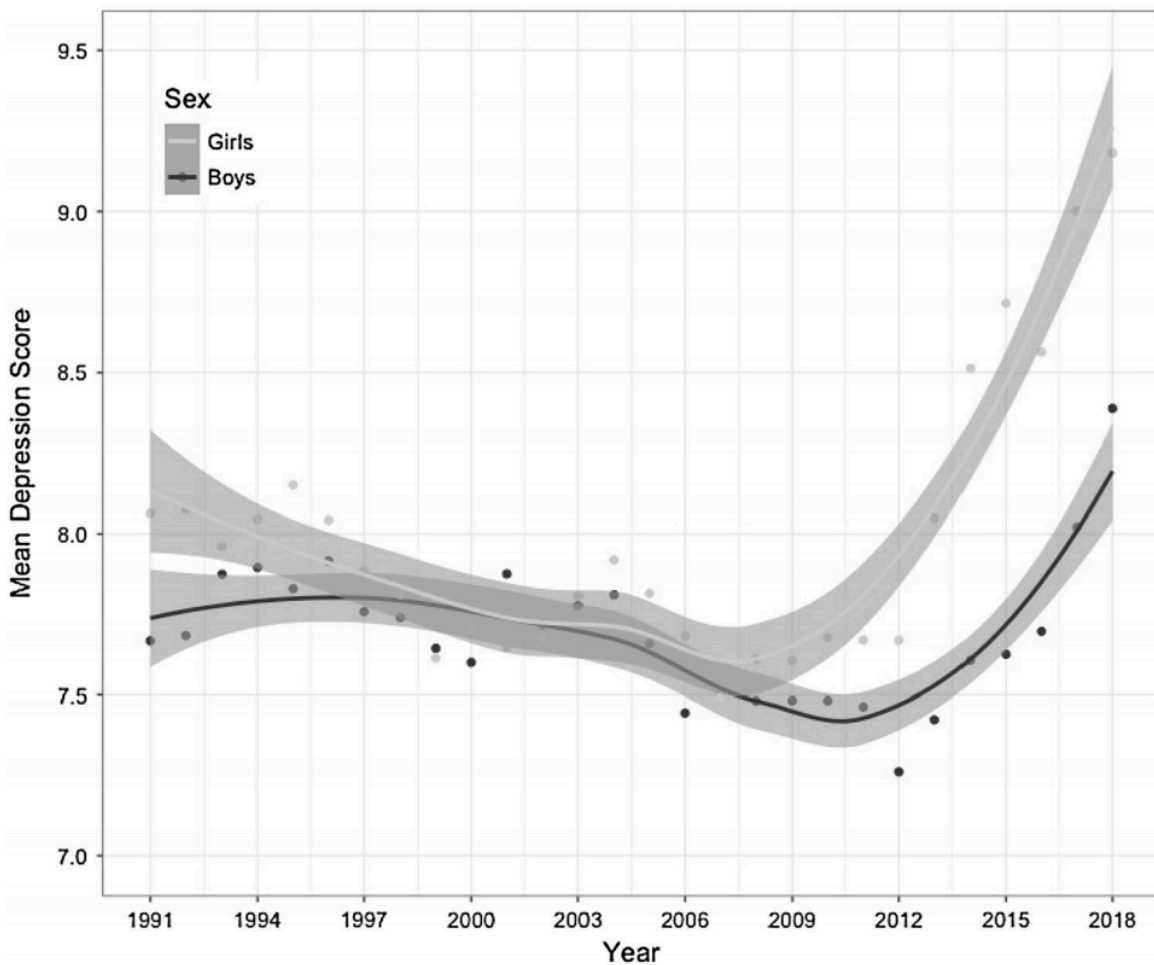
NOTE: See the NSDUH major depression data broken down by [U.S. states](#).

1.1.2 [Keyes, Gary, O'Malley, Hamilton, & Schulenberg \(2019\)](#). Recent increases in depressive symptoms among US adolescents: Trends from 1991 to 2018. *Social Psychiatry and Psychiatric Epidemiology*.

ABSTRACT: Mental health problems and mental health related mortality have increased among adolescents, particularly girls. These trends have implications for etiology and prevention and suggest new and emerging risk factors in need of attention. The present study estimated age, period, and cohort effects in depressive symptoms among US nationally representative samples of school attending adolescents from 1991 to 2018. Data are drawn from 1991 to 2018 Monitoring the Future yearly cross-sectional surveys of 8th, 10th, and 12th grade students ($N = 1,260,159$). Depressive symptoms measured with four questions that had consistent wording and data collection procedures across all 28 years. Age–period–cohort effects estimated using the hierarchical age–period–cohort models. **Among girls, depressive symptoms decreased from 1991 to 2011, then reversed course, peaking in 2018; these increases reflected primarily period effects, which compared to the mean of all periods showed a gradual increase starting in 2012 and peaked in 2018 (estimate = 1.15, $p < 0.01$). Cohort effects were minimal, indicating that increases are observed across all**

age groups. **Among boys, trends were similar although the extent of the increase is less marked compared to girls**; there was a declining cohort effect among recently born cohorts, suggesting that **increases in depressive symptoms among boys are slower for younger boys compared to older boys in recent years.** Trends were generally similar by race/ethnicity and parental education, with a positive cohort effect for Hispanic girls born 1999–2004. Depressive symptoms are increasing among teens, especially among girls, consistent with increases in depression and suicide. Population variation in psychiatric disorder symptoms highlight the importance of current environmental determinants of psychiatric disorder risk, and provide evidence of emerging risk factors that may be shaping a new and concerning trend in adolescent mental health.

FIGURE:



NOTES: This paper uses the same dataset (Monitoring the Future) used in 1.1.3, replicating the rise in depressive symptoms among teens since 2012 with a slightly different scale (using 4 items instead of 6) and including data up to 2018. Increases in depressive symptoms begin after 2012 and are largest for girls, though increases for boys became more pronounced after 2016. **Increases for girls are $d = .50$ 2012-2018 and $d = .33$ for boys 2012-2018.** This paper also adds an age-period-cohort analysis, which finds that depressive symptoms showed a similar increase across age groups (13 to 18 year olds), suggesting a **period effect** among teens. [This means that the pattern suggests that something happened to all teens, as they entered a new period of time, rather than it being a cohort -- such as Gen Z -- entering the dataset gradually. But since all high school students in the study during the sharp rise after 2013 ARE Gen Z, this “period effect” could explain when and why Gen Z became so depressed and anxious. We would want to see if the same thing happened to young adults in their 20s at the same time -- the millennial generation.]

1.1.3 [Bor, Dean, Najman, & Hayatbakhsh \(2014\)](#). Are child and adolescent mental health problems increasing in the 21st century? A systematic review. *Australian & New Zealand Journal of Psychiatry*.

ABSTRACT: OBJECTIVE: Up to one in five children experience mental health problems. Social and cultural factors may influence emergence of mental health problems. The 21st century has led to changes in many of these factors, but it is unclear whether rates of internalizing and externalizing problems have also changed in recent cohorts of young people.

METHODS: A comprehensive literature search was undertaken to locate cohort or population studies that examined changes in mental health of children over time, where participants were aged 18 years and under, and the time frame for change was at least 10 years, with data for at least one time point in the 21st century being statistically compared to at least one time point in the 20th century. Studies were reviewed for quality and outcome.

RESULTS: Nineteen studies met criteria for review. These included studies of toddlers, children, and adolescents. Seventeen studies examined internalizing problems, and 11 studies examined externalizing problems. For both children and toddlers, recent cohorts did not exhibit worsening of mental health symptoms. **In adolescents, the burden of externalizing problems appear to be stable. However, the majority of studies report an increase in internalizing problems in adolescent girls. The findings for internalizing problems in boys were mixed.**

CONCLUSIONS: These findings suggest that recent cohorts of adolescent girls are experiencing increases in internalizing symptoms compared to previous cohorts. Approaches for prevention and early intervention should be explored.

1.1.4 [Otten, Tibubos, Schomerus, Brähler, Binder, Kruse, Ladwig, Wild, Grabe, & Beutel \(2021\)](#). Similarities and differences of mental health in women and men: A systematic review of findings in three large German cohorts. *Frontiers in Public Health*.

ABSTRACT: In Germany, large, population-based cohort studies have been implemented in order to identify risk and protective factors for maintaining health across the life span. The purpose of this systematic review is to analyse findings from three large ongoing cohorts and to identify sex-specific prevalence rates, risk and protective factors for mental health. Published studies from the Cooperative Health Research in the Region Augsburg (KORA), the Study of Health in Pomerania (SHIP) and the Gutenberg Health Study (GHS)), representing the southern, north-eastern and middle parts of Germany, were identified through searches of the databases PubMed and Web of Science. A total of 52 articles was identified from the start of each cohort until June 2019. Articles reporting prevalence rates of mental health [N = 22], explanatory factors for mental health [N = 25], or both [N = 5] were identified. **Consistent across cohorts, higher prevalence rates of internalizing disorders were found for women and more externalizing disorders for men.** Risk and protective factors for mental health included social factors, lifestyle, physical health, body mass index (BMI), diabetes, genetic and biological factors. In all areas, differences and similarities were found between women and men. **The most evident were the sex-specific risk profiles for depression with mostly external risk factors for men and internal risk factors for women.** Gender was not assessed directly, therefore we examined whether socioeconomic and family-related factors reflecting gender roles or institutionalized gender could be used as a proxy for gender. Overall, this systematic review shows differences and similarities in prevalence rates and determinants of mental health indicators between women and men. They underline the importance of focussing on sex specific approaches in mental health research and in the development of prevention measures. Current research on mental health still lacks focus on gender aspects. Therefore, an increased focus on sex and gender in mental health research is of great importance.

1.1.5 [Parkinson \(2011\)](#). *For Kid's Sake: Repairing the Social Environment for Australian Children and Young People* (SSRN Scholarly Paper No. 1967243).

ABSTRACT: This Report demonstrates from a large body of research evidence, that there has been a very serious deterioration in the wellbeing of children and young people in Australia in the last ten-fifteen years. The speed of that deterioration is startling. The most serious concerns relate to the wellbeing of adolescents, particularly teenage girls. The evidence for the deteriorating mental health of adolescents is consistent with findings from a large body of research from North America and Europe. The decline in the mental health of adolescents has long-term implications for future generations of children.

There are multiple reasons for these adverse trends, but a major cause is likely to be the substantial increase in family conflict and family breakdown over the last 30 years. In Australia, the likelihood that a child will not be living with both biological parents by the age of 15 has almost doubled within a generation. This is for two reasons. First, many more children are now being born into single mother families, and secondly, there has been a substantial increase in cohabiting couples having children. The odds of such cohabiting relationships breaking up are many times higher than for married couples. Children are affected both by family conflict and parental separation. They are indeed connected, because conflict between parents does not end on separation. Family breakdown also exposes children to an increased risk of child abuse, for example perpetrated by new male partners of the mother.

The report makes recommendations for how to repair the social environment in order to strengthen family life. These recommendations include a major new initiative in relationship education, primarily by volunteer instructors supported by the major relationship counselling organisations; the establishment of community trusts to fund family support programs in local communities; and the creation of a Families Commission at the federal level.

[NOTES from Patrick Parson: Chapter 1 is on the child protection data – kids in out of home care more than doubled across the country between 1998 and 2010 (see p.17). I have mapped it somewhat since 2010 and it continues on an upward trajectory without abatement. Yes, there has been some population growth in men and women of child-bearing age over those years, but this does not remotely explain the increases. Nor do changes in law or policy. Trying to keep kids with their parent(s) is a survival mechanism for over-stretched child protection services.

Chapter 2 is on teenage mental health and risky behaviours. The self-harm data from 1996-2006 is on pp. 30-32, and at the end of the chapter, I made international

comparisons to show these trends, citing research literature from all over Europe as well as the US.

Chapters 3 and 4 make the case for some of this effect being due to family breakdown, and I suggest some causal pathways.

From more recent work:

25% of teenagers born between 1981 and 1985 were born to single mothers or experienced their parents separating by the time they were 15. By 2013, this figure (for 15-17 year olds), had reached 40%.

And this is our best data, from 2015, on the correlation between family structure and mental health disorders: Second Australian Child and Adolescent Survey of Mental Health and Wellbeing (2015) – also attached.]

Table 2-3: 12-month prevalence of mental disorders among 4-17 year-olds by family type and sex

Family type	Males (%)	Females (%)	Persons (%)
Families with two parents or carers	13.9	9.6	11.8
Original family	12.4	8.4	10.4
Step family	21.1	15.6	18.3
Blended family	24.0	16.4	20.2
Other family (a)	29.5	18.4	23.7
Families with one parent or carer	25.3	19.2	22.4

'Original family' has at least one child living with their natural, adoptive or foster parents, and no step children.

'Other family' is where all children are not the natural, adopted, foster or step child of one or both carers.

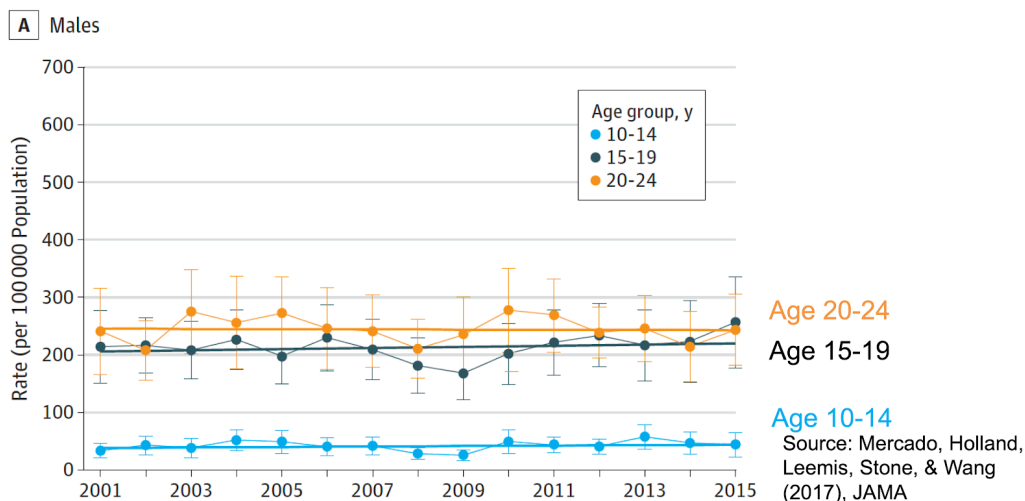
(a) Data to be treated with caution due to low respondent numbers in this category.

1.1.6 [Mercado, Holland, Leemis, Stone, & Wang \(2017\)](#). Trends in Emergency department visits for nonfatal self-inflicted injuries among youth aged 10 to 24 years in the United States, 2001-2015. *Journal of the American Medical Association*.

MAIN FINDING: "Youth self-inflicted injury ED visit rates were relatively stable before 2008. However, rates among females significantly increased thereafter—particularly among females aged 10 to 14 years, who experienced an 18.8% annual increase from 2009 to 2015."

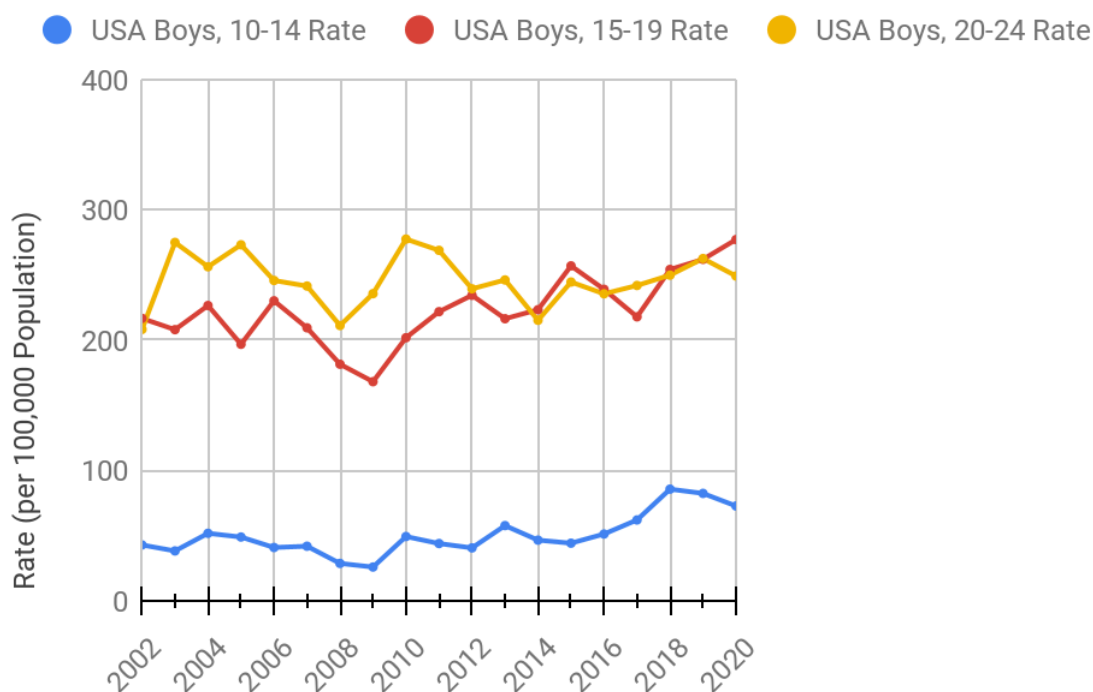
FIGURES (copied from the article, with labels added by Haidt):

Hospital Admissions for non-fatal self-harm: Boys



Updated figures with data up through 2020 can be seen below. These data come from the most recently updated NEISS-AIP reports and were collected from the CDC's interactive publicly accessible database, "[Web-based injury statistics query and reporting system. \(WISQARS\)](#)." The [figures](#) were made by Zach Rausch.

Hospital Admissions for non-fatal self-harm: Boys



% Change In Self-Harm Rates

Boys (10-14)	2010	2020	% Change
	49	73	47.54%
Boys (15-19)	2010	2020	% Change
	202	277	37.31%
Boys (20-24)	2010	2020	% Change
	277	249	-10.21%

[Other studies? What have we missed?]

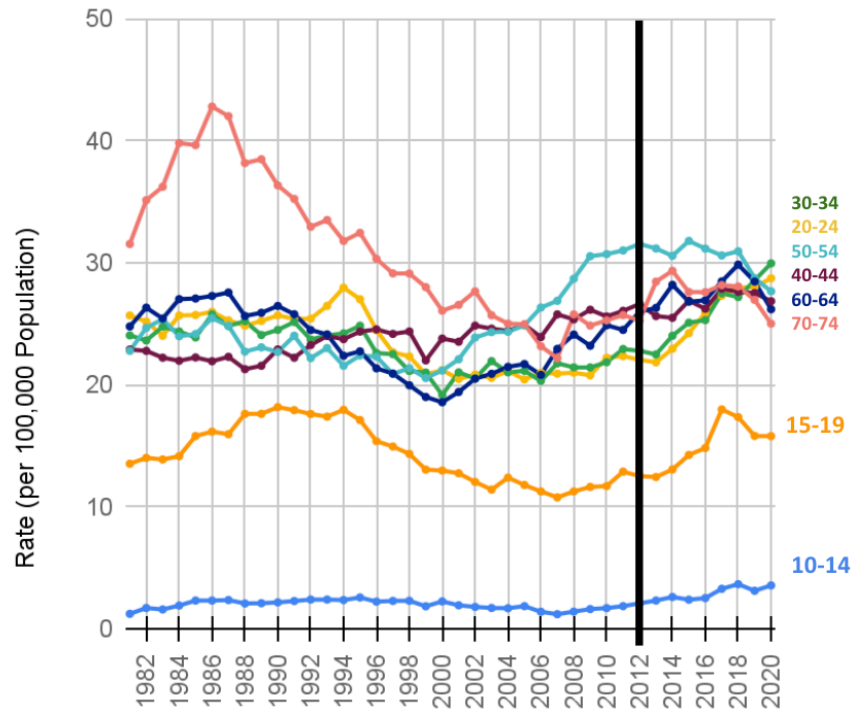
1.2 SUICIDE

Our corresponding review, [Is there an increase in adolescent mood disorders](#), includes all major articles on changes in suicide since 2010. Below are a few key graphs and studies.

1.2.1 [Centers for Disease Control, Fatal Injury Data.](#)

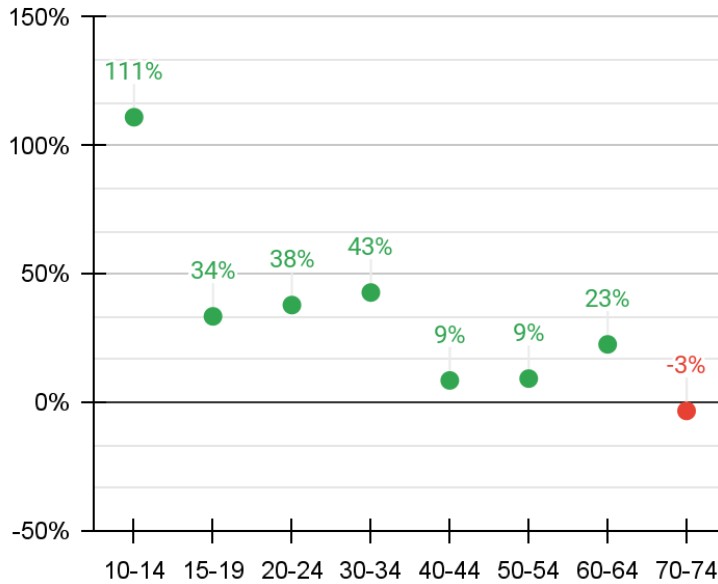
Unlike most of the [developed world](#), where suicide rates have been falling, rates in the USA have been rising in recent years, for nearly all age groups, and for both sexes:

U.S. Male Suicide Rates by Age



Source: [CDC data](#), grouped into 5 year age bins, [graphed](#) by Zach Rausch. Rates are per 100,000 in the population of that age/gender group.

Male Suicide % Change (00'-09) vs. 2020 by Age



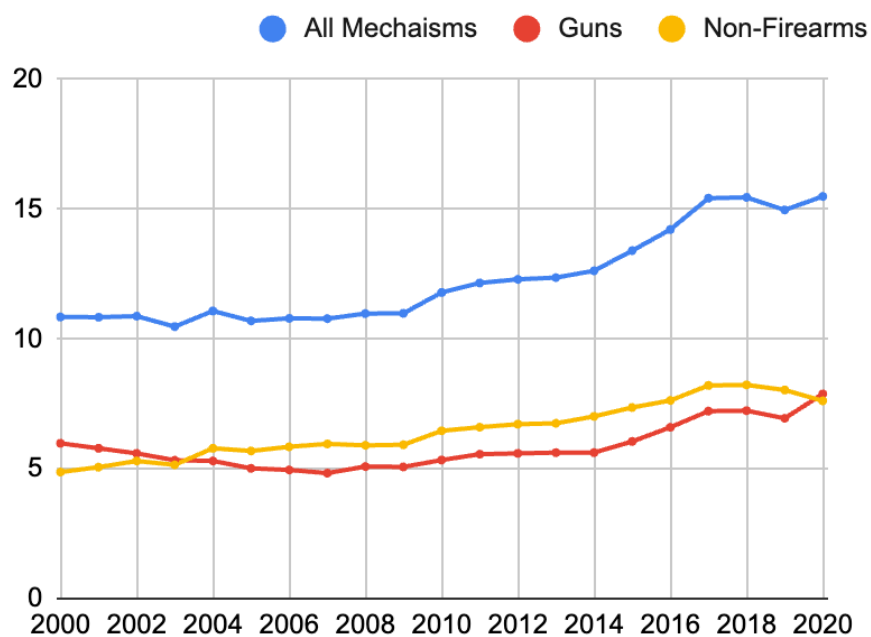
Male Suicide Rate Change (00'-09) vs. 2020			
Males (10-14)	Avg 00'-09	2020	% Change
	1.687	3.56	111.03%
Males (15-19)	Avg 00'-09	2020	% Change
	11.827	15.79	33.51%
Males (20-24)	Avg 00'-09	2020	% Change
	20.833	28.73	37.91%
Males (30-34)	Avg 00'-09	2020	% Change
	20.975	29.95	42.79%
Males (40-44)	Avg 00'-09	2020	% Change
	24.73	26.85	8.57%
Males (50-54)	Avg 00'-09	2020	% Change
	25.311	27.66	9.28%
Males (60-64)	Avg 00'-09	2020	% Change
	21.36	26.19	22.60%
Males (70-74)	Avg 00'-09	2020	% Change

	25.19	24.36	-3.30%
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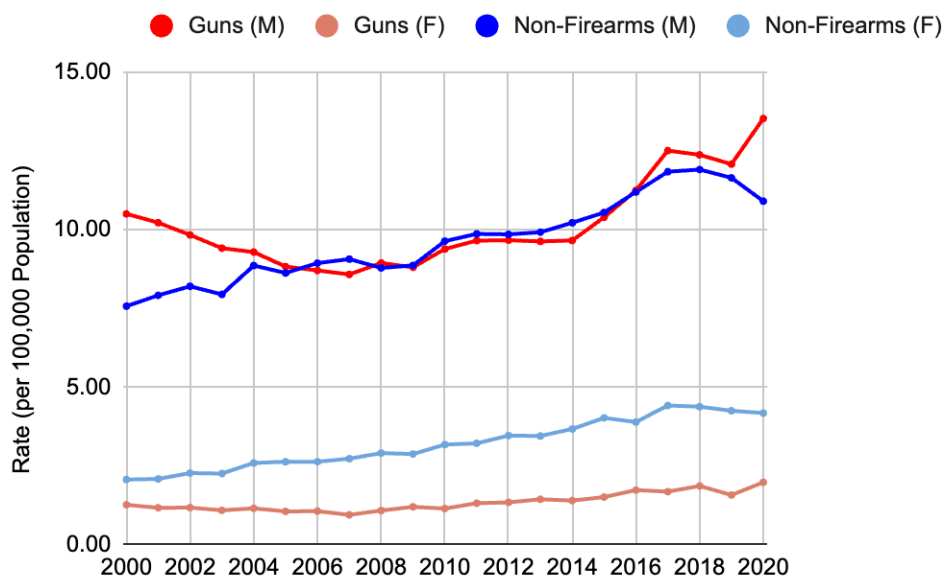
1.2.2 [Gun Ownership and Suicide](#). Spreadsheet and charts created by Zach Rausch using [CDC's WISQARS Fatal Injury Reports](#).

KEY GRAPHS:

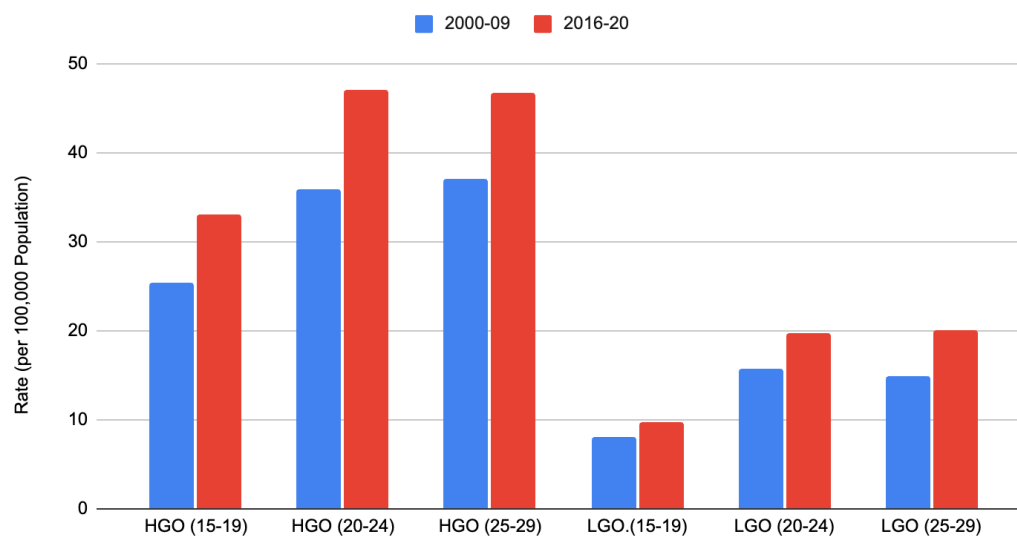
USA Suicide Rates by Guns (Ages 15-29)



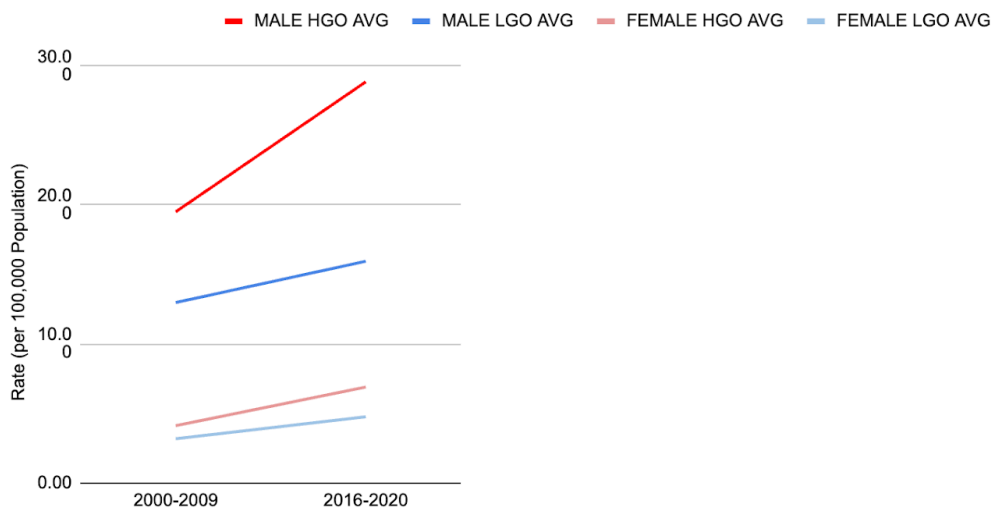
USA Suicides by Mechanism and Sex, Ages 15-29



Male Suicide Rate By Low/High Gun Ownership U.S. States (Rate per 100,000)



Male v. Female Suicide Rate By Low/High Gun Ownership U.S. States: Across Ages



Male Suicide Rate By Low/High Gun Ownership U.S. States (Rate per 100,000)

