

everything is fine

~~informative non-significant findings from a large
representative sample~~

Samantha Stronge, NZAVS Research Fellow, UoA

informative significant
findings with very small
effect sizes



MAY 30, 2013

Obama's New Boss / Syria face-off / McCain vs. Brzezinski / PLUS: Summer's best movies & more

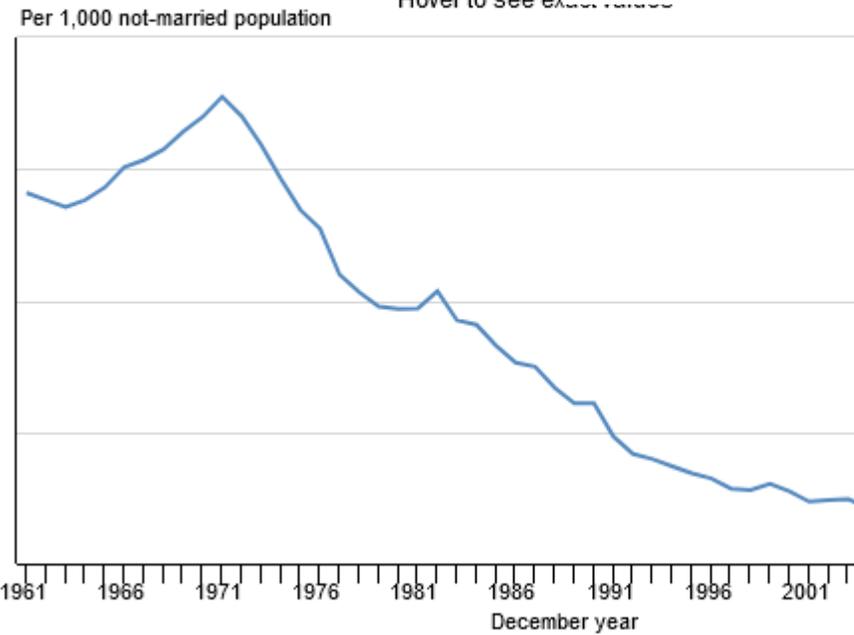
TIME

THE ME ME ME GENERATION

General marriage rate
1961-2013
Hover to see exact values

New Zealand's birthrate hits a new low

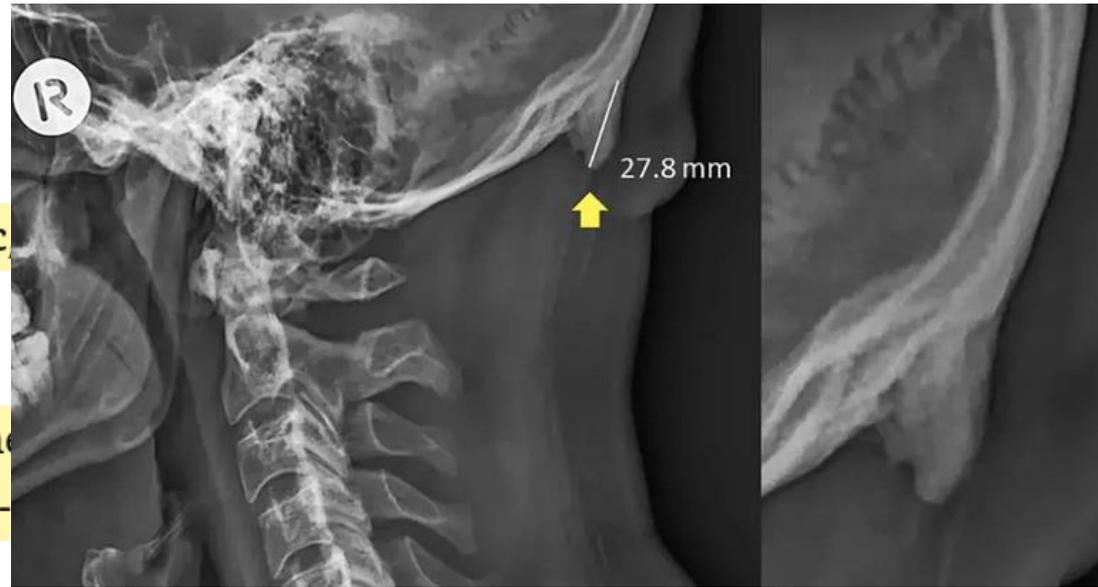
...zy, entitled narcissists
with their parents



Talking about:

- Narcissism is on the rise
- Social media is worsening mental health
- Increasing proportion of self-centered only children
 - What have we found?
 - What has previous research actually found?
- How can we convincingly present “evidence of absence”?

who defied him. One could argue that Islamic terrorists are incredibly narcissistic willing to kill innocent people to advance their worldview. Between the forces of shallow Western materialism and extreme religious righteousness, much of the Muslim world has already been infected by narcissism.



ber 2008. These episodes show the direct spread of destructive, narcissistic behavior

in the .0001, $\eta^2 = .13$. When Paul was perceived as the youngest or as the only child, he received significantly poorer prognoses from clinicians than he did when perceived as the first child (see Table 3). When perceived as the only child, Paul also received significantly poorer prognoses than when he was perceived to be a middle child. In addition, clinicians also indicated that Paul had a greater likelihood of experiencing personal problems beyond his career-related concerns when he was perceived as an only child rather than a first child,

range.¹⁸ At the same time, fewer and fewer young people read books,¹⁹ which suggests a decline in the skills involved in reading long passages of text. Many young people read the short pieces of text found and in e-mails much more regularly d books. Those born since 1970 have

In terms of relative risk, adolescents using devices 3 or more hours a day were 34% y to have at least one suicide-related outcome e using devices 2 or fewer hours a day, and

Radio Harms Children

By "Blood-And-Thunder" Worse Than Nazi Propaganda, OCD Woman Says.

New York, May 10—(UP)—Dorothy Gordon, who has entertained children all over the world, from the slums to fashionable schools, said yesterday that "blood-and-thunder" radio programs would make American children more of a problem.

"We are not using the radio as an instrument in education and we are neglecting the opportunity to train leadership for the future. Our blood-and-thunder radio programs for children are not only a waste of valuable time, they are the source of many emotional and intellectual problems which show up

NEWSPAPERS SOLE READING FOR TOO MANY

TORONTO (CP)—Dr. C. B. Routley, superintendent of professional development of the Ontario Department of Education, said yesterday too many people read little beyond daily newspaper headlines.

There was much to read but people read to only 50 percent of their capacity.



A WOMAN'S VIEW

Horrible Handwriting Blamed On Typewriter

By MRS. WALTER FERGUSON

"MAY I suggest that you give penmanship proper treatment? Look at the deplorable writing schools and colleges accept these days from students!

"There is no excuse for businessmen having to refuse jobs because applicants can't write."

that, many of us didn't learn to write beautifully, but how those maxims stuck!

The people who lived before the age of typewriters had to know how to write, or they couldn't communicate with the intellectual world.

Dulcens, Thackeray, Pa.
Meteorologist.

EVILS OF ROLLER SKATING.

The New York Legislature's Protection for Its Young Girls.

NEW YORK, March 18.—Eldridge T. Gerry, president for the Prevention of Cruelty to Children, speaking of roller skating today said: "I do not object to roller skating as a recreation. It is a healthful and pleasing exercise, but it must be enjoyed moderately. I refused Jennie Houghton of Boston, the fancy skater, a permit for several reasons. I believe that in giving public exhibitions there is a desire to outrival others, which is likely to cause permanent injuries, especially to young people."

A bill has been drafted by Senator Murphy, and will be presented to the Legislature very soon. It is intended to so regulate the rinks that they will cease to be places where children may be led astray.

A. Hallanan, attorney.

TOO MUCH THEATRE

Frank Kidder, the 15-year-old boy who was locked up Thursday for whipping his mother and for carrying a revolver on her and for threatening her, will appear in court for a hearing Friday before Judge [Name]. The boy admitted the charges and was sentenced to the Industrial School.

The boy seems to be well behaved for one of his age, and his home

RADIO BLAMED FOR DIVORCE

MUSKOGEE, Okla., (UP)—Because her husband persisted in playing the radio all night, Marie Fish, Indian girl, filed suit for divorce, according to official records.

plenary power by the Indian Bureau as was provided in the Simms

Narcissism is on the rise

Narcissism epidemic: Average levels of narcissism are increasing over time

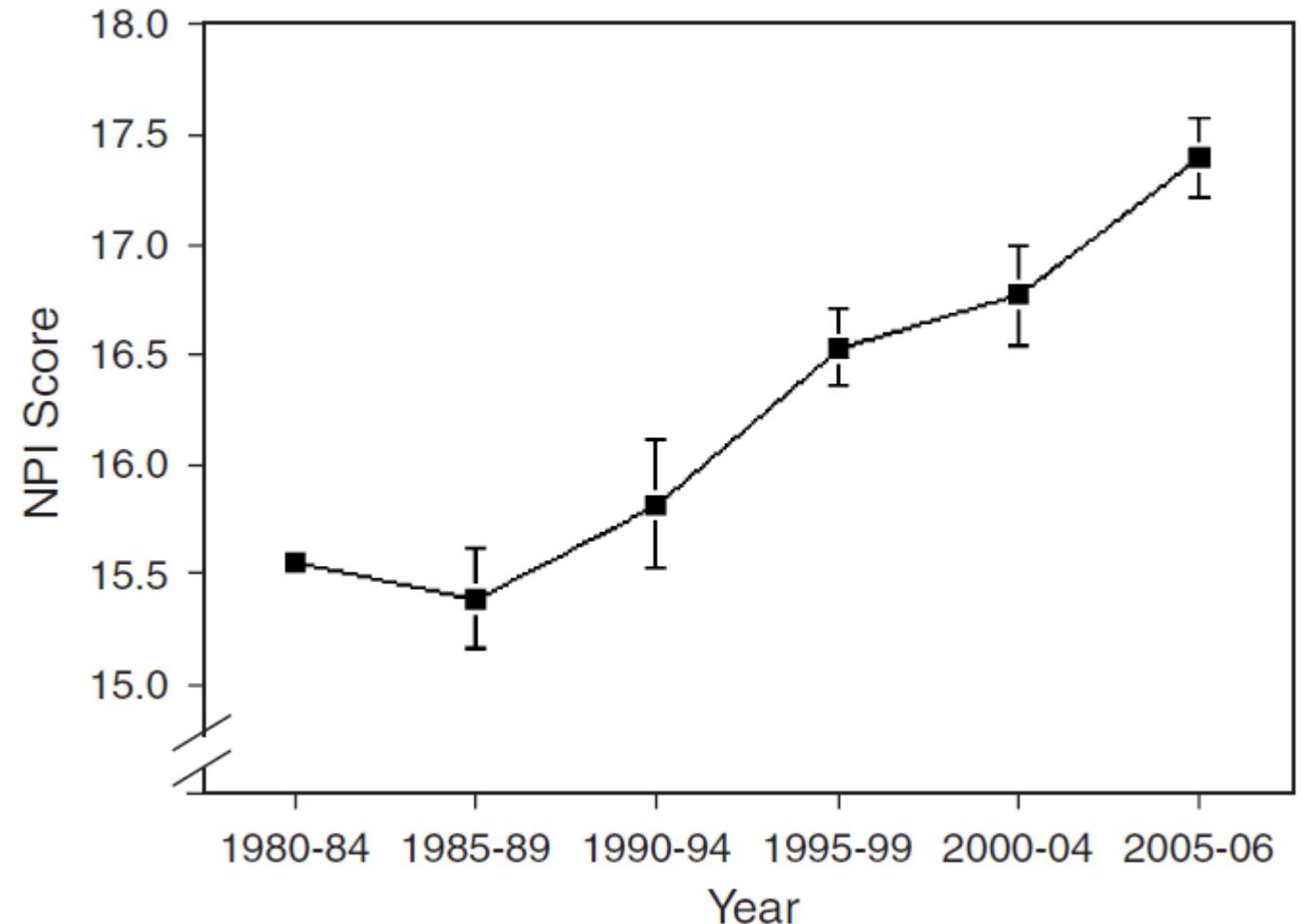
- For everyone
- Or specifically in younger generations
- Grew up in an increasingly self-focused, individualistic culture



Evidence

- Meta-analysis of Narcissistic Personality Inventory
- NPI scores increased by a third of a standard deviation between 1979 and 2006
- N = 16,745

Twenge, J. M., Konrath, S., Foster, J. D., Keith Campbell, W., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality*, 76(4), 875-902.



Our research

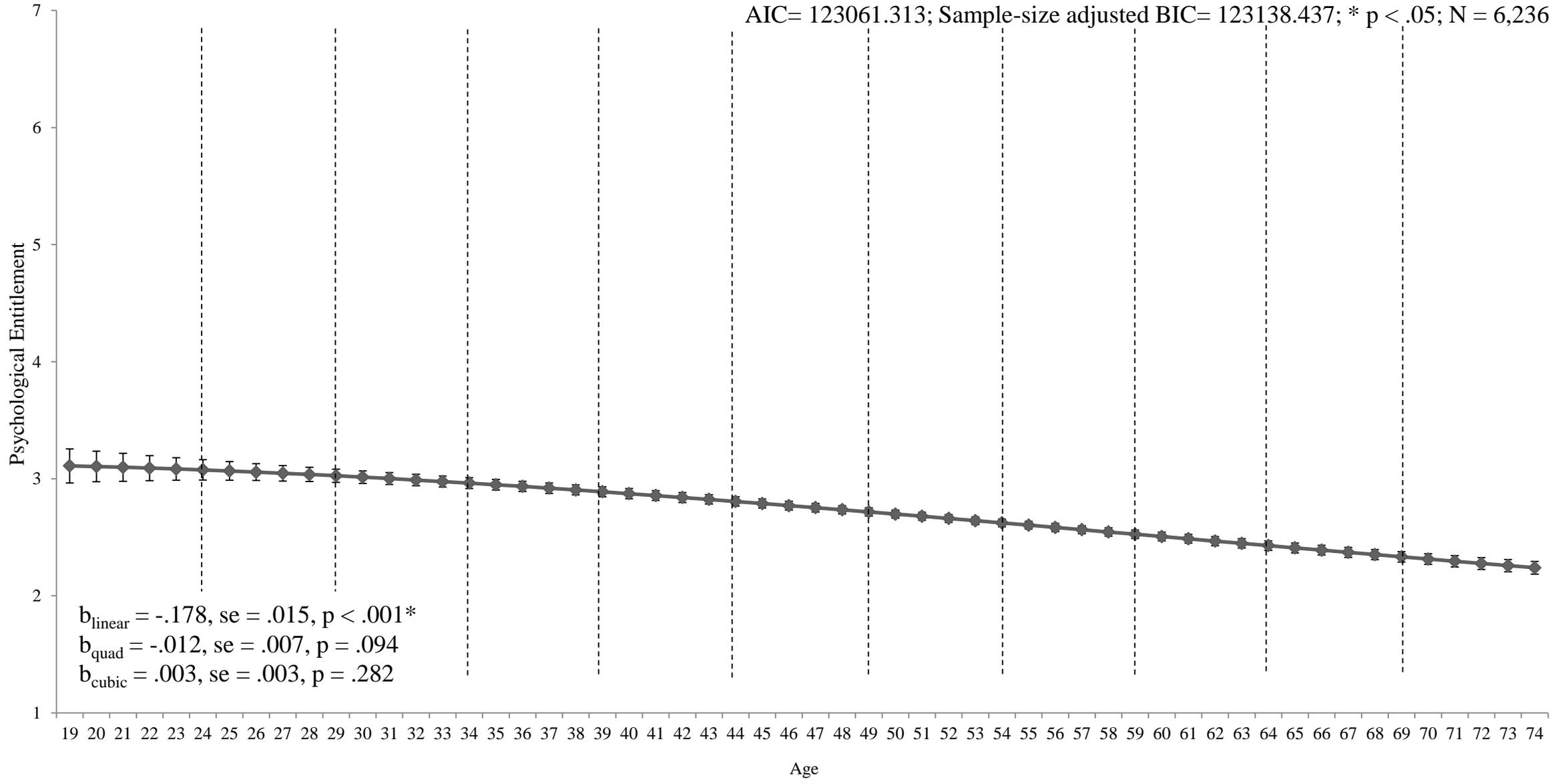
Multi-Group Cohort-Sequential Latent Growth Model

Run separately for men and women using entitlement (a central facet of narcissism)

- Find the association between age and entitlement
- Measure change in entitlement over time
- Overlay the two to see if the way entitlement is changing over time fits with the entitlement levels of previous generations

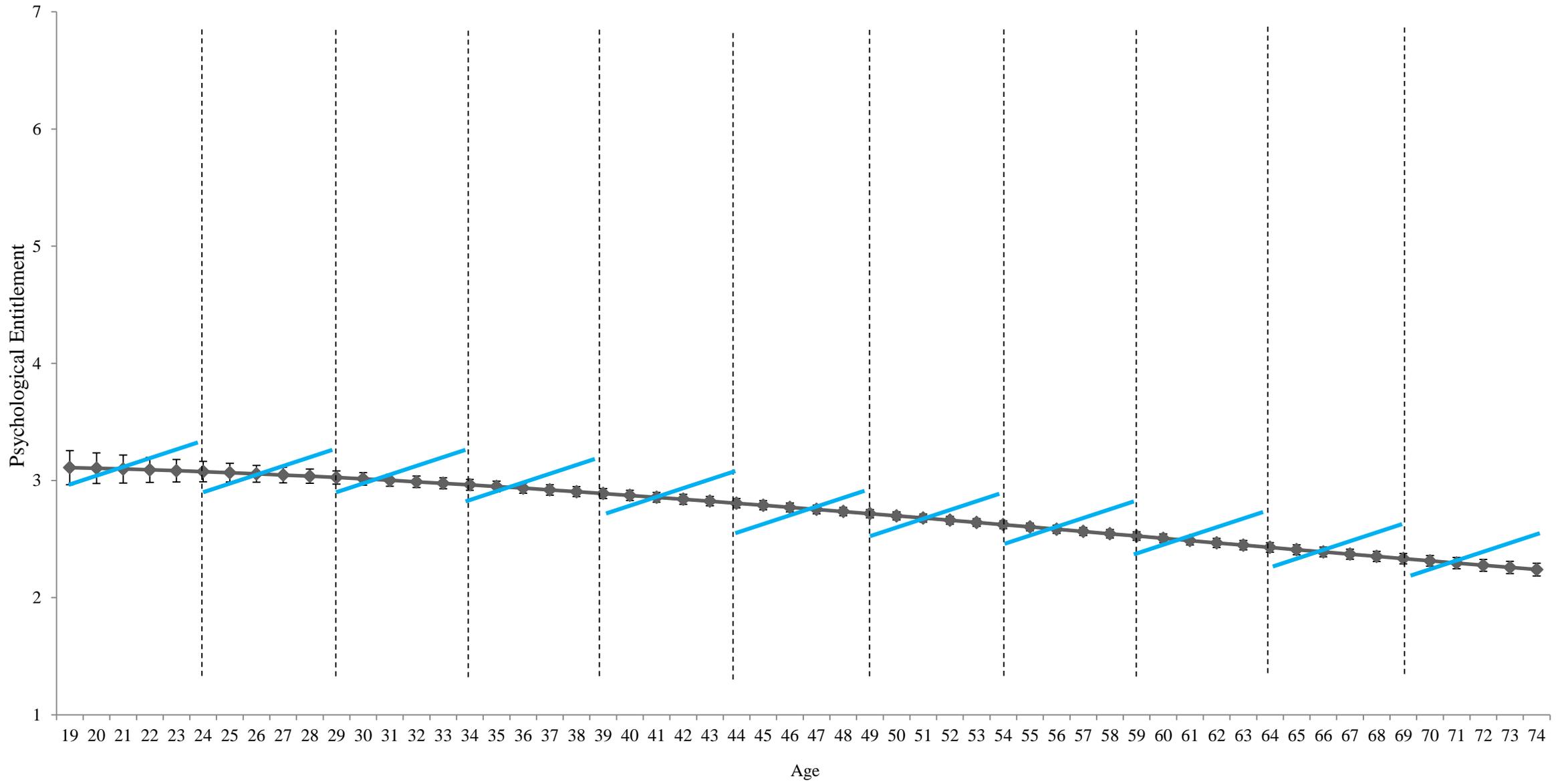


AIC= 123061.313; Sample-size adjusted BIC= 123138.437; * p < .05; N = 6,236

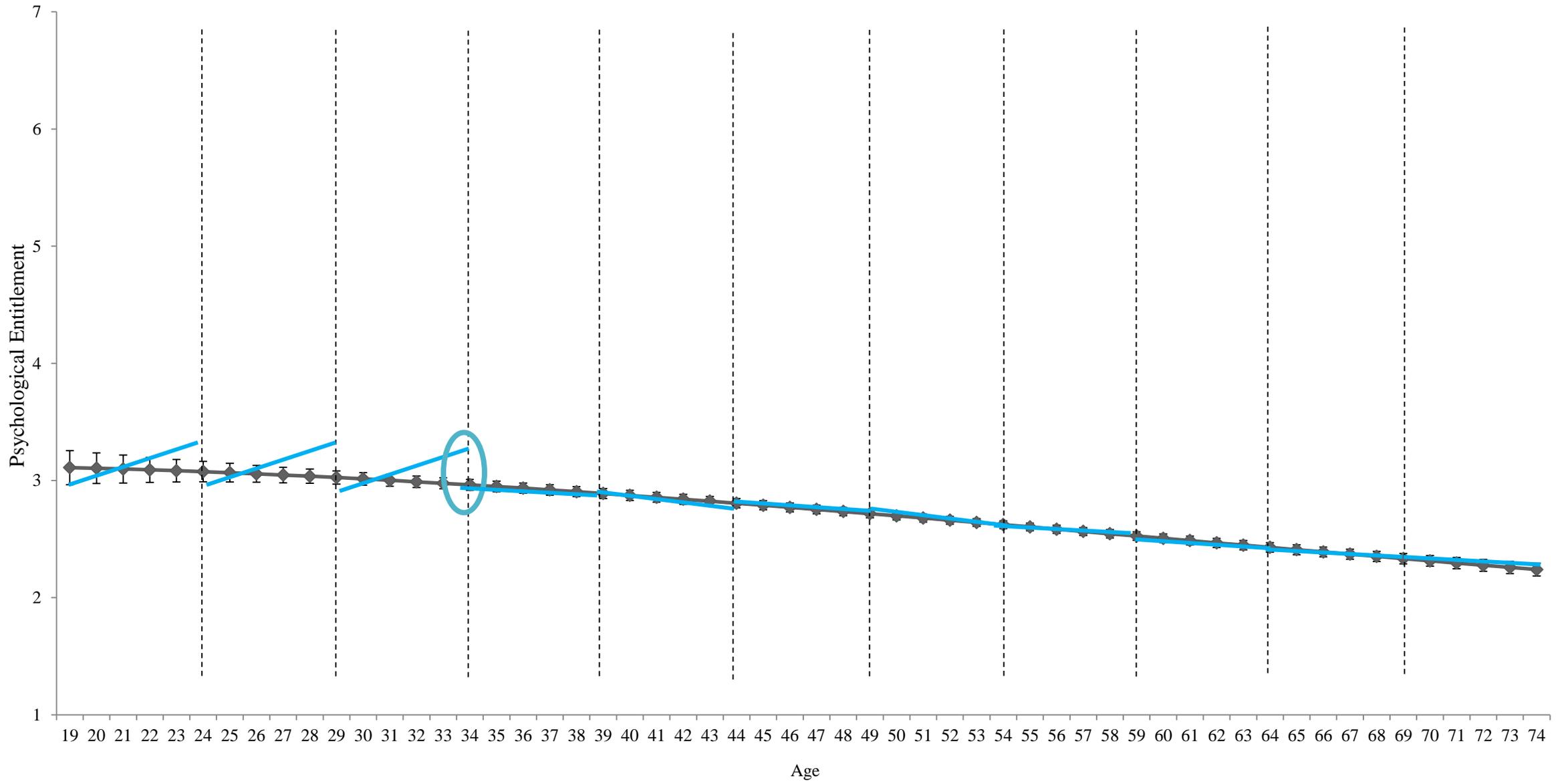


$b_{\text{linear}} = -.178, se = .015, p < .001^*$
 $b_{\text{quad}} = -.012, se = .007, p = .094$
 $b_{\text{cubic}} = .003, se = .003, p = .282$

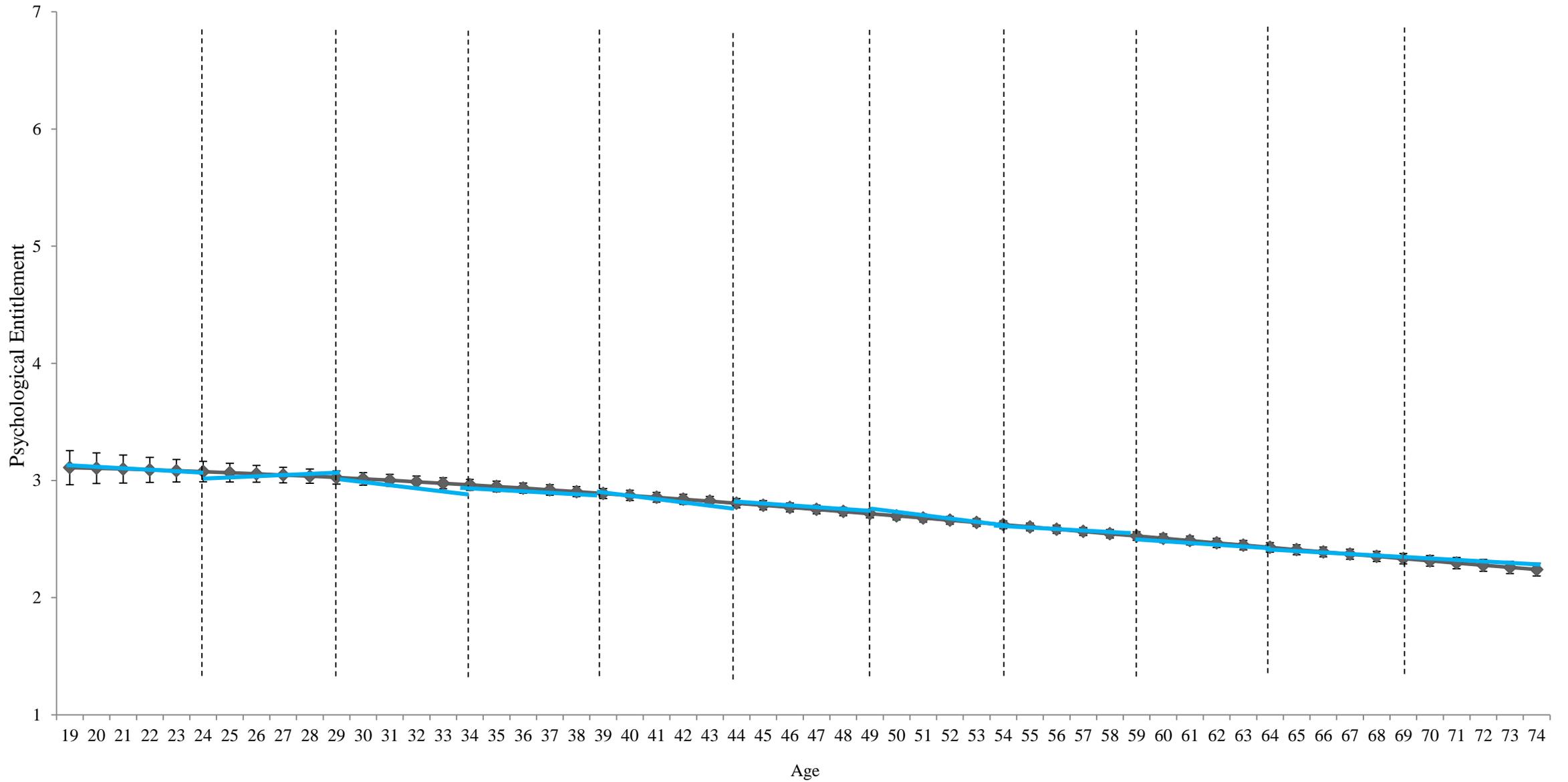
Women



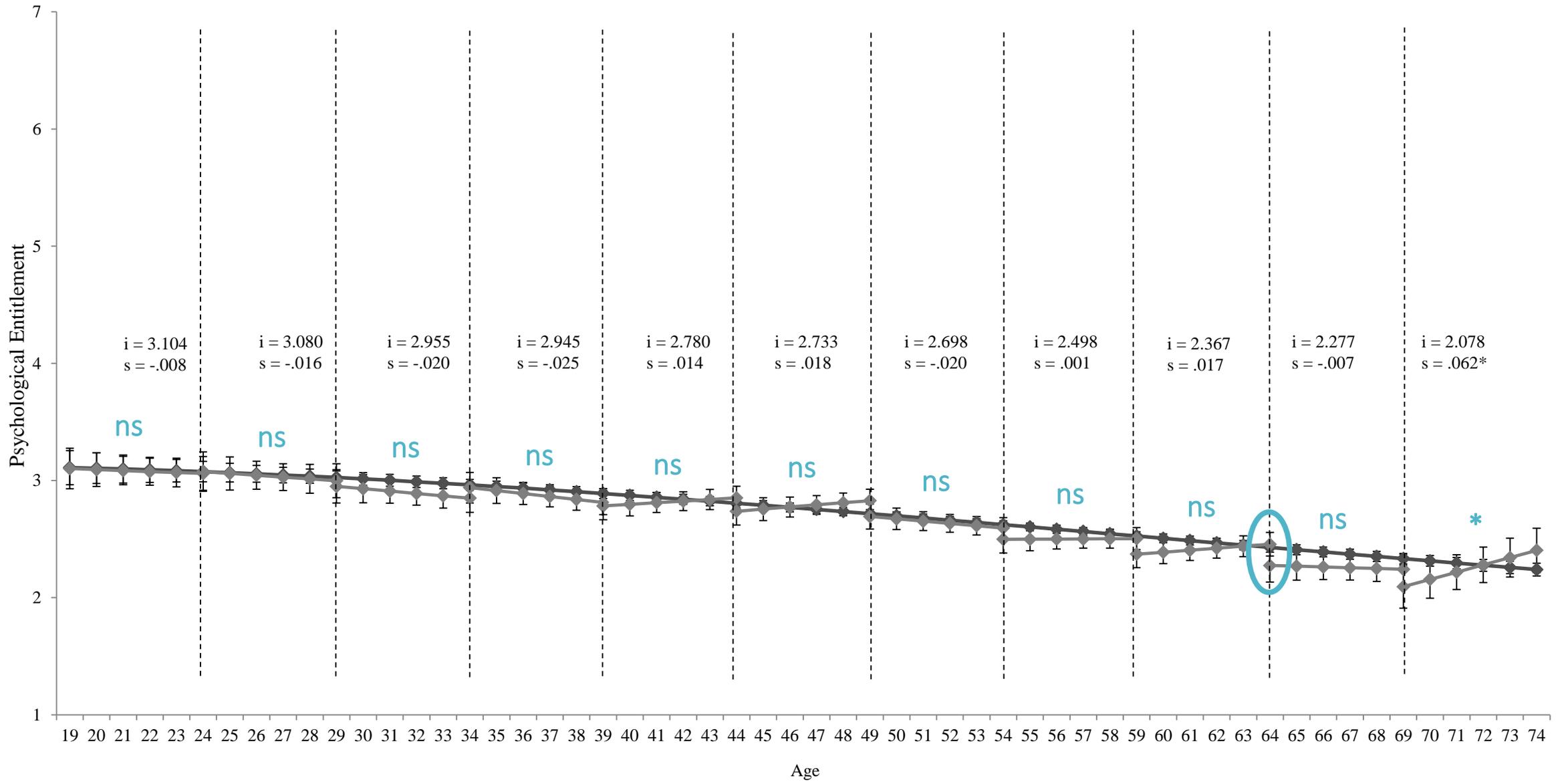
Women



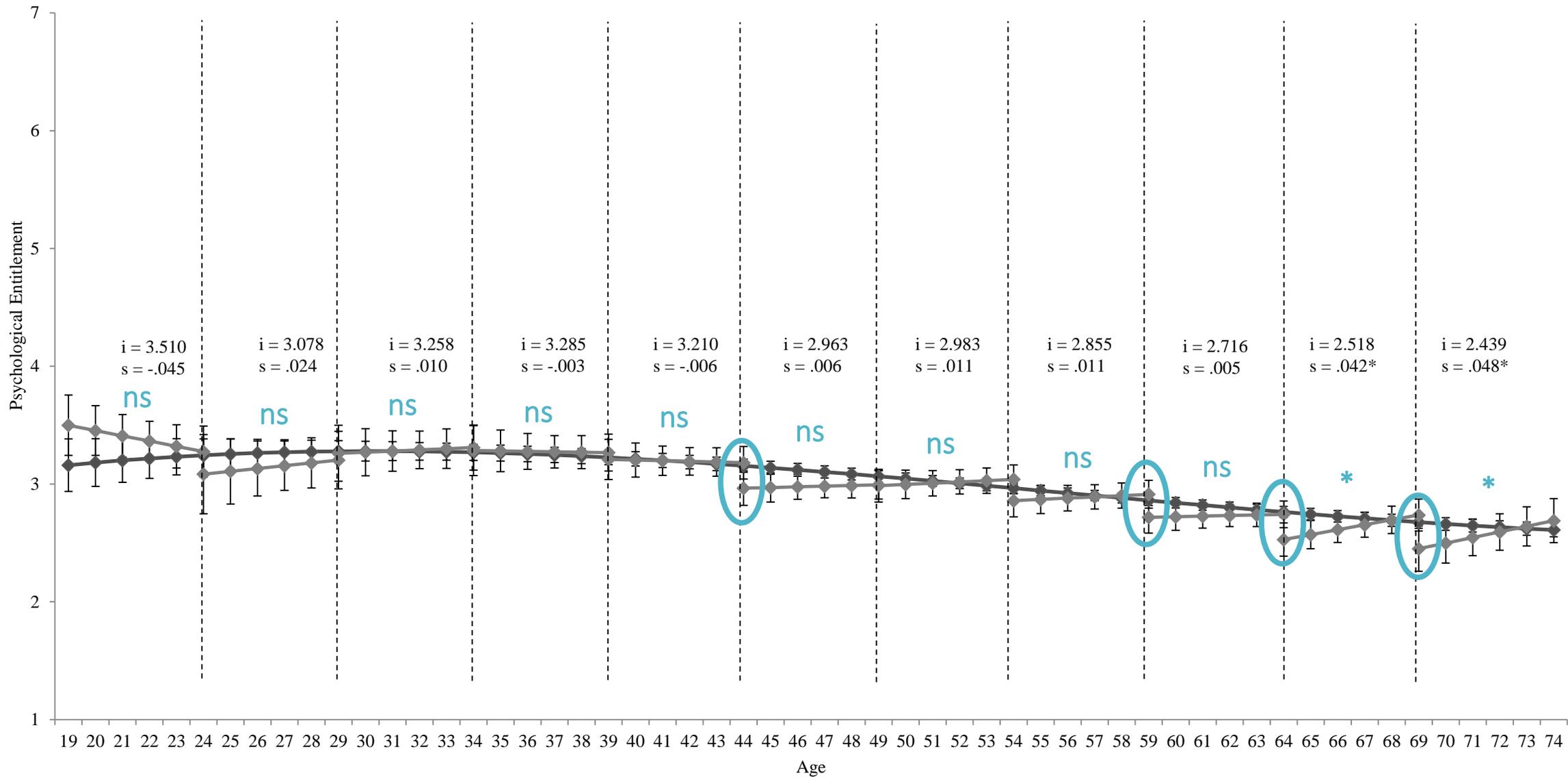
Women



Women



Women



Men

They're not!

It's happening:

Stewart & Bernhardt, 2010; Twenge et al., 2008a; Twenge et al., 2008b; Twenge & Foster, 2008, Twenge & Foster, 2010

It's not happening:

Donnellan et al., 2009; Grijalva et al., 2015; Roberts et al., 2010; Trzesniewski & Donnellan, 2010; Trzesniewski et al., 2008b; Wetzel et al., 2017

Why are
our results
so different
to previous
research?

Interpreting significant effect sizes

Forced choice Narcissistic Personality Inventory:

- My body is nothing special.
- I like to look at my body.

- I try not to be a show off.
- I will usually show off if I get the chance.

In 1979, the average student endorsed 39% of the items in the narcissistic direction, in 2008, it was 43%

- Or, approximately 2 more items out of 40
- “Younger generations are increasingly entitled, self-obsessed, and unprepared for the realities of adult life” (New York Times, 2013)

Social media is worsening mental health



“There’s little doubt that social media is not great for mental health” (Forbes, 2019)

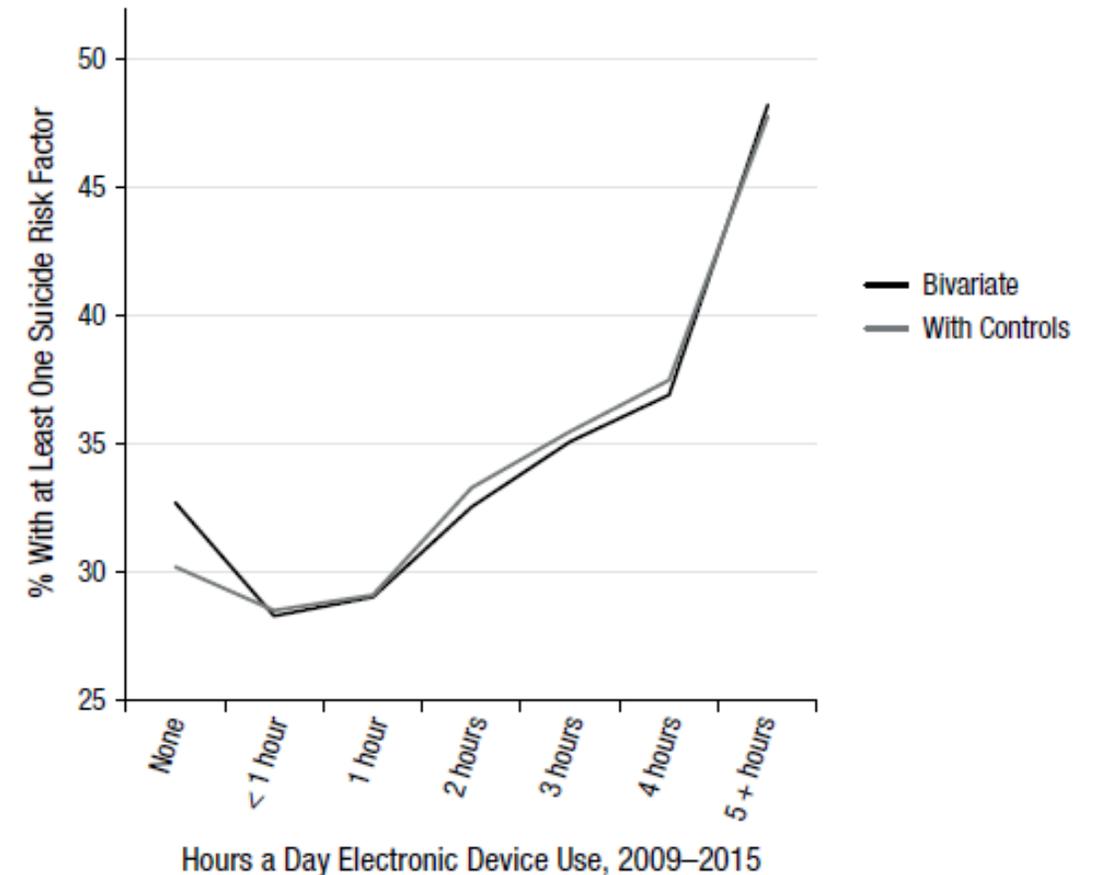
- Time spent on social media increases social comparison, “FOMO”, loneliness, impacts on mental health
- Social media cleanses are standard
- Limit screen time for children and adolescents

Evidence

~500,000 American adolescents

- Increases in depressive symptoms and suicide-related outcomes associated with time spent on smartphones and social media
- Recent increases in youth anxiety and depression correlated with the rise of digital technologies and social media

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, 6(1), 3-17.



Our research

Psychological distress: non-specific mental distress that may be indicative of serious mental illness at high levels

Measure as many things as possible to get a “pure” estimate of social media

- Demographics
- Activities by the hour
- Social media use in hours

During the last 30 days, how often did...		(Please use the scale below to circle a number for each question)				
None Of The Time 0	A Little Of The Time 1	Some Of The Time 2	Most Of The Time 3	All Of The Time 4		
1. ... you feel hopeless?	0	1	2	3	4	
2. ... you feel so depressed that nothing could cheer you up?	0	1	2	3	4	
3. ... you feel restless or fidgety?	0	1	2	3	4	
4. ... you feel that everything was an effort?	0	1	2	3	4	
5. ... you feel worthless?	0	1	2	3	4	
6. ... you feel nervous?	0	1	2	3	4	

TABLE 2. RESULTS OF A REGRESSION WITH PSYCHOLOGICAL DISTRESS (KESSLER-6) AS THE OUTCOME VARIABLE, AND VARIOUS DEMOGRAPHIC VARIABLES AS PREDICTORS

<i>Predictors</i>	<i>B</i>	<i>se</i>	<i>p</i>	<i>95% CI</i>	
				<i>Low</i>	<i>High</i>
Demographics					
Gender (0=female)	-0.010	0.010	0.321	-0.030	0.010
Age (years)	-0.014***	<0.001	<0.001	-0.015	-0.013
Household income (log _e)	-0.035***	0.006	<0.001	-0.047	-0.022
NZ Deprivation Index 2013	0.007***	0.002	<0.001	0.004	0.010
Maori ethnicity (0=no)	-0.051**	0.016	0.001	-0.081	-0.020
Pacific ethnicity (0=no)	-0.040	0.034	0.231	-0.106	0.026
Asian ethnicity (0=no)	0.051*	0.025	0.041	0.002	0.100
Religious (0=no)	-0.006	0.009	0.499	-0.024	0.012
Parent (0=no)	-0.052***	0.013	<0.001	-0.077	-0.026
Partnered (0=no)	-0.100***	0.012	<0.001	-0.124	-0.075
Employed (0=no)	-0.066***	0.015	<0.001	-0.096	-0.036
Urban residence (0=no)	0.021*	0.010	0.033	0.002	0.039
Born in New Zealand (0=no)	-0.024*	0.011	0.034	-0.046	-0.002
Education level	-0.001	0.002	0.539	-0.005	0.003
Socioeconomic status	-0.001***	<0.001	<0.001	-0.002	-0.001
Smoker (0=no)	0.150***	0.020	<0.001	0.111	0.189
Health condition/disability (0=no)	0.246***	0.012	<0.001	0.223	0.269
BMI	0.003***	0.001	<0.001	0.001	0.005
Response type (0=online)	0.005	0.010	0.584	-0.014	0.024
Habitual activities					
Sleep hours per day	-0.077***	0.004	<0.001	-0.086	-0.068
Work h.p.w ^a	-0.001	<0.001	0.062	-0.001	0.000
Housework h.p.w ^a	0.001*	0.001	0.029	0.000	0.003
Looking after children h.p.w ^a	-0.001**	<0.001	<0.001	-0.001	0.000
Computer gaming h.p.w ^a	0.004***	0.001	0.001	0.002	0.007
Exercise h.p.w ^a	-0.003***	0.001	<0.001	-0.004	-0.002
Watching TV/movies h.p.w ^a	0.002***	0.001	<0.001	0.001	0.003
Travelling/commuting h.p.w ^a	<0.001	0.001	0.761	-0.002	0.001
Volunteer/charity work h.p.w ^a	-0.001	0.001	0.308	-0.003	0.001
Using the Internet h.p.w ^a	0.001	<0.001	0.050	0.000	0.002
Watching/reading news h.p.w ^a	-0.001	0.001	0.518	-0.004	0.002
Social media h.p.w ^a	0.005***	0.001	<0.001	0.003	0.007

All predictors expressed in hours per week (h.p.w) were censored at zero.

^aVariable censored at 0.

****p* < 0.001.

***p* < 0.01.

**p* < 0.05.

Interpreting significant effect sizes

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5. ... you feel worthless?			0	1	2	3	4
6. ... you feel nervous?			0	1	2	3	4

They're not!

Significant and important:

Liu & Baumeister, 2016; Twenge et al., 2018;
Twenge et al., 2018

Significant but tiny:

Heffer et al., 2019; Huang, 2017; Orben &
Przybylski, 2019

It depends:

Baker & Algorta, 2016; Best et al., 2014;
Seabrook, et al., 2017

Why are
our results
so different
to previous
research?

Interpreting significant effect sizes

Among adolescents, digital technology explains **0.4%** of their wellbeing

Which of these factors had roughly the same impact on adolescent wellbeing as digital technology use?

- a) Height
- b) Wearing glasses
- c) Eating potatoes
- d) Hours of sleep



WHO recommends one-hour maximum screen time per day for under-5s
Social media addiction should be seen as a disease, MPs say



UK report suggests sites such as Facebook and Instagram could be harming mental health

year old should not be exposed to electronic screens at all, the World Health Organization (WHO) said on Wednesday.



SOCIAL MEDIA



ACTIVE

PASSIVE

 
Get your facts straight before you come to me thinking you know it all.
16 minutes ago · Like · Comment

  This is about you, Kayla, so I don't know why you liked it..
11 minutes ago · Like

Stronger effects are found when comparing different *ways* of using social media

- Passive vs. active use, self-esteem (vague-booking)....
- However, overall, no net negative effect of social media

Only children



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Home > News > 2019 > Women in New Zealand having fewer children than ever

WOMEN HAVING FEWER CHILDREN

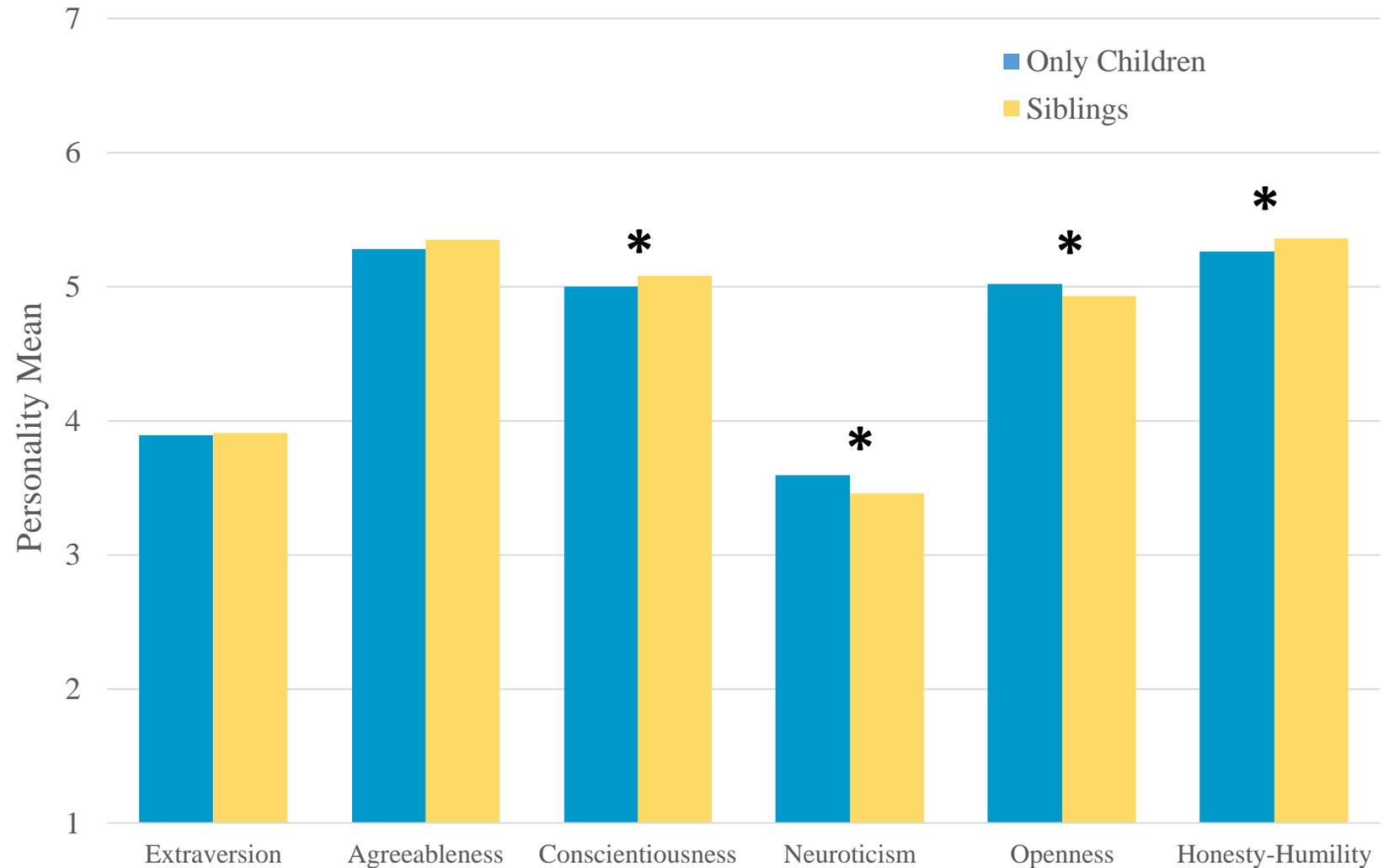
- 3% of Americans would choose one child as their ideal family size – up from 2% in the 1930's (Gallup, 2018)



Our research

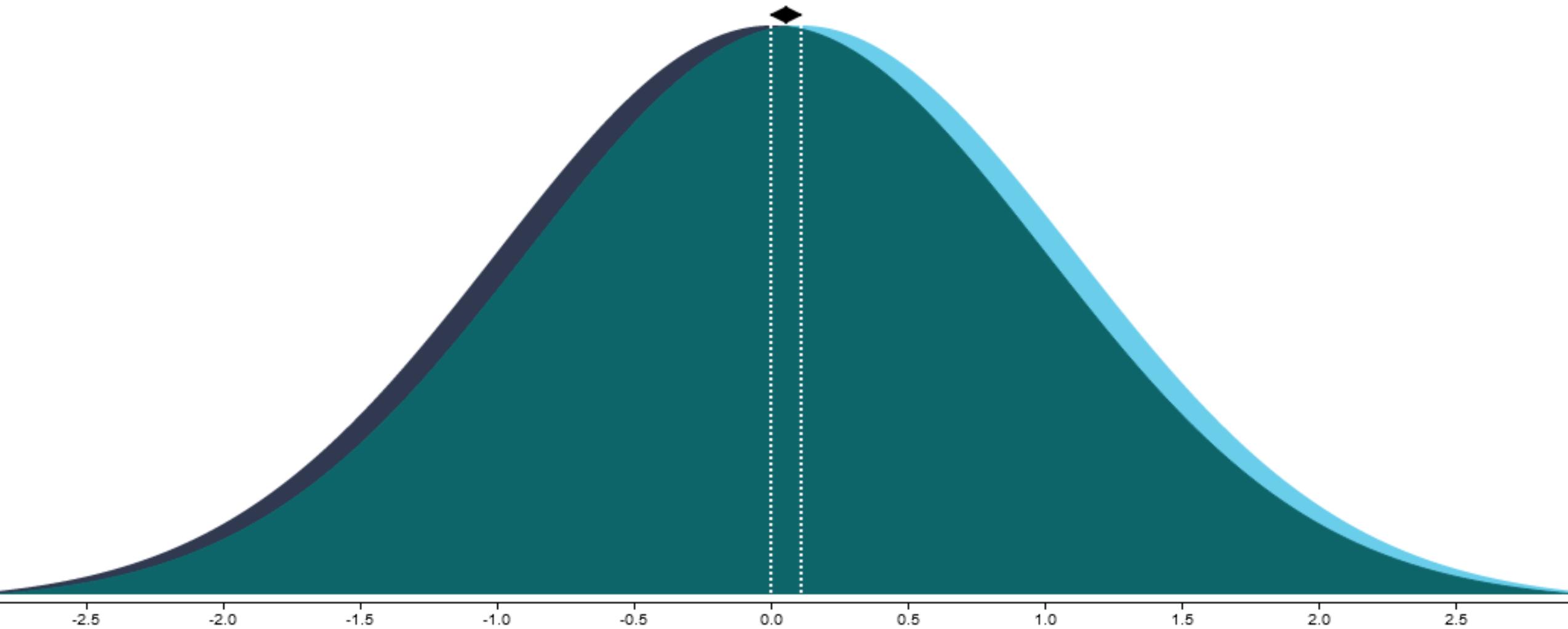
Measured differences in HEXACO personality traits between adults with and without siblings

- N = 20,592
- No interactions with gender or age



Cohen's d: 0.11

<https://rpsychologist.com/d3/cohend/>



Visualisation of the largest personality difference effect size between only children and people with siblings

How do we know when a non-significant or weak result is useful?

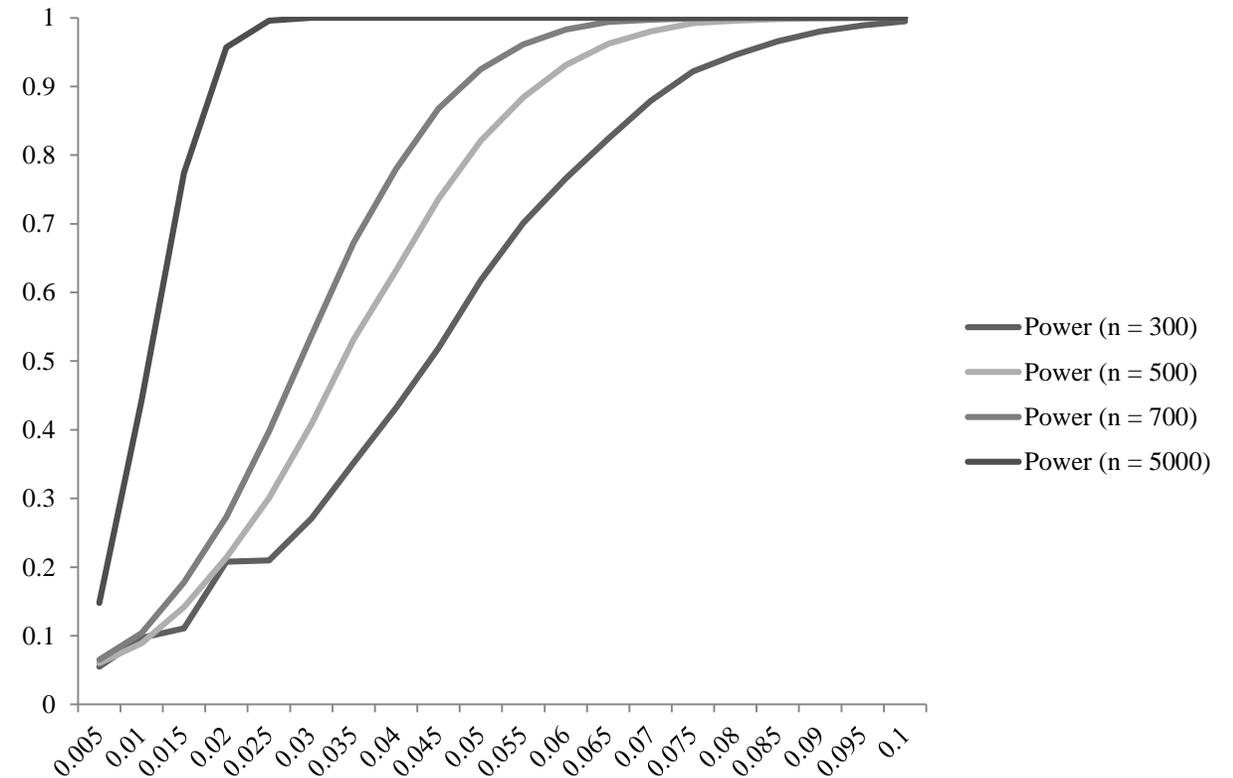
- Non-significant results mean “not enough evidence to reject the null hypothesis.”
- They don't mean “accept the null hypothesis.”

“Absence of evidence is not evidence of absence”

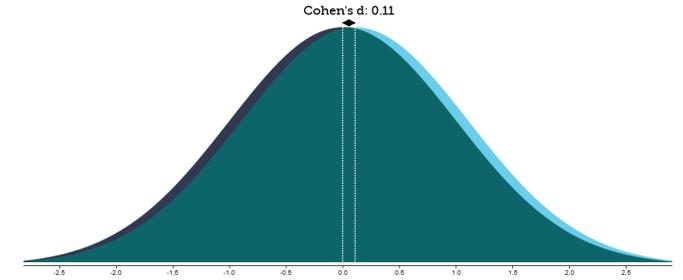
Samples and Power Analyses

Have huge samples (not a particularly useful tip!)

- Next best thing... power analyses
- What is the smallest effect we could have detected if it was there?
 - $\sim .07$
- Is that a narcissism epidemic?



Effect Sizes



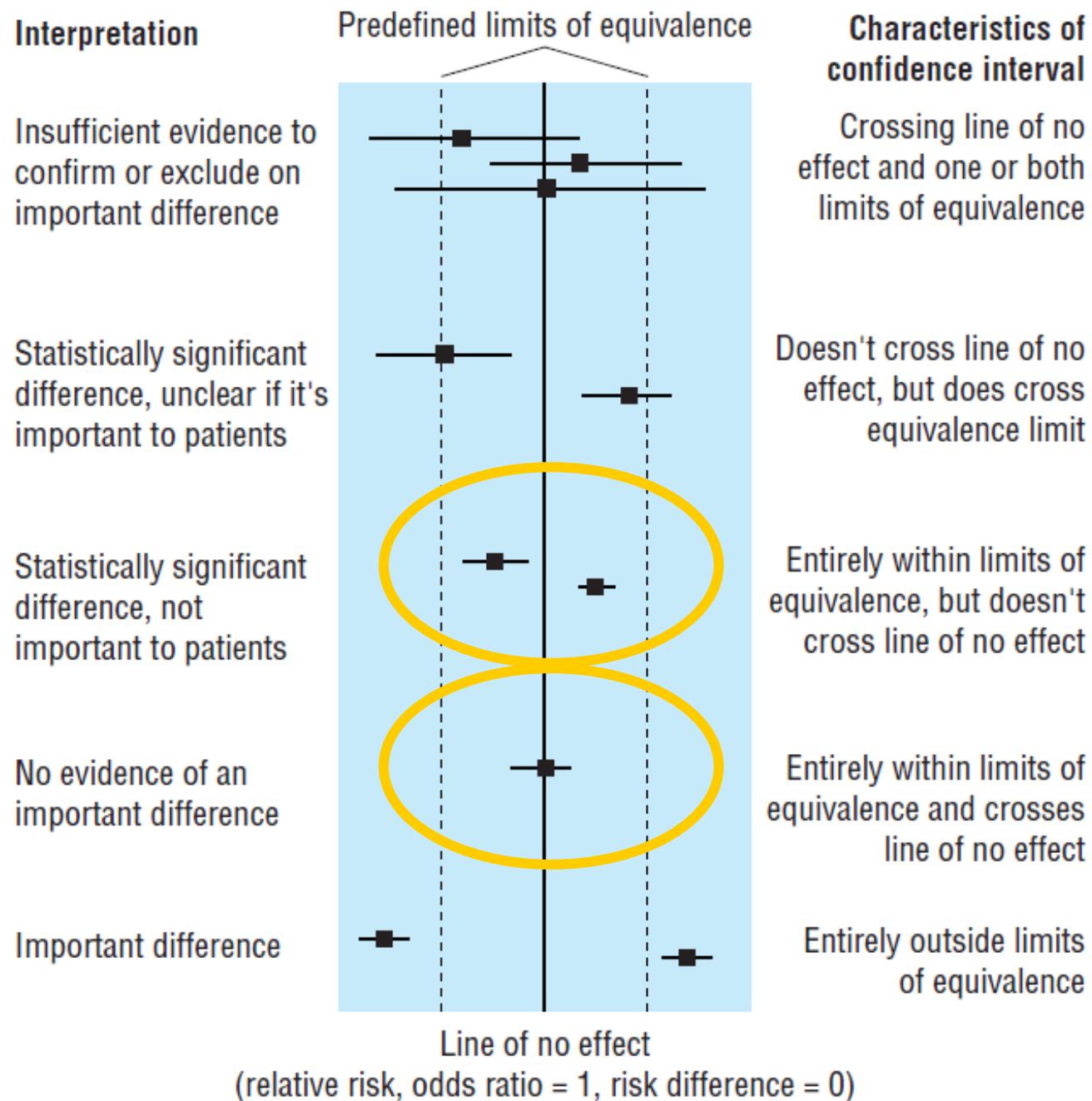
- Our usual effect size estimates, with cut-offs....
- Practical comparisons
- Perhaps more helpful to use effect sizes specifically designed for the public

53.19% a very large sample for comparisons. Put differently, if you meet two adults, one who grew up with siblings and one who was an only child, there is a 52.5% chance that the only child will have the lower honesty-humility score out of the two. Compare, for example, that if you meet a man and a woman, there is a 92% chance that the man will be the taller out of the two (McGraw & Wong, 1992). Even if people were astute enough to naturally

Cohen's U:

43.21

Number Needed to Treat¹



Non-Significant and Small Effect Sizes Appreciation Club (NSSESAC)



Non-significant findings are informative

- When there is real concern about these topics, it is useful to find nothing

Better questions to be asking:

- Why is adolescent mental health so bad if it's not smartphones?
- What are the real issues facing only children?

Dedication: to the 23,206 people who have generously taken the time to complete one or more of our annual NZAVS questionnaires. Over the first seven years of the study you, our participants, have completed a combined total of 78,033 questionnaires, which we estimate has taken a total of 67,629 hours. Thank you for making this research possible (and we hope you are not too fatigued to see out the remaining 12 years of the study)!

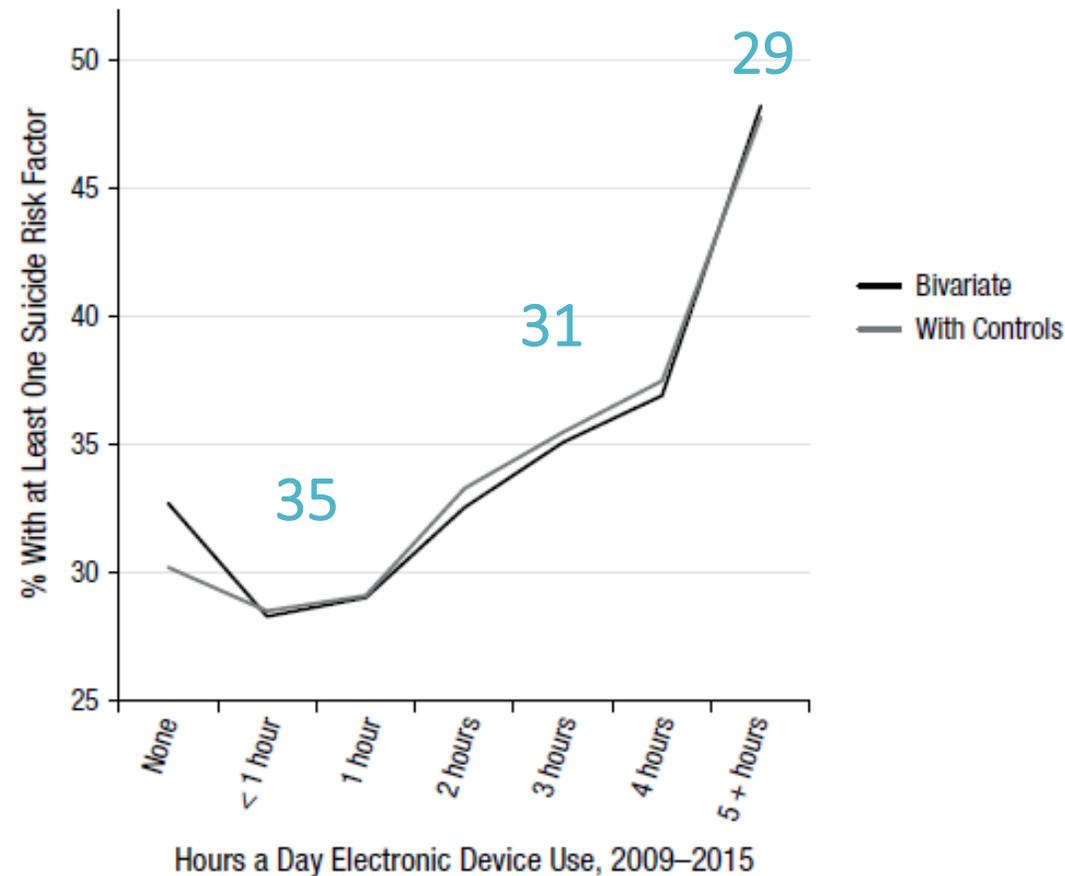
-- The NZAVS Research Group



“...given this straight-line degeneration for so many millennia, by now our culture should not be merely rubble but **dust**” (Bork, 1996)

Appendices

Interpreting significant effect sizes



Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, 6(1), 3-17.