# everything is fine

informative non-significant findings from a large representative sample informa

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informative significant findings with very small effect sizes









### 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.

27.8 mm

range.<sup>18</sup> At the same time, fewer and fewer young people read books,<sup>19</sup> which suggests a decline in the skills involved in reading long passages of text. Many young people read the short pieces of text found

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,

Radio Harms Children

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

W York, May 10-(UP)-Dor-Gordon, who has entertained iren all over the world, from is to fashionable schools, said y that "blood-and-thunder" o programs would make Amerchildren more of a problem

#### 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 Legisla-

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 THE OTTAWA CITIZEN

#### 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 connectiv

A. Hallanan, attorney.

TOO MUCH THEATRE Frank Kidder, the 15-yearwho was locked up Thursd whipping his mother and for a revolver on her and his siste hearing Friday before Judge The boy admitted the charges sentenced to the Industrial So The boy seems to be well for one of his age, and his ho

#### 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.

Meteorologist.

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

### NZAVS

New Zealand Attitudes and Value Study

- Longitudinal annual postal survey in the 11<sup>th</sup> wave of data collection
- Sample frame drawn from NZ Electoral Roll (18+ years)
- Representative national sample

#### *N* = 17,072 (as of Time 9)

THE UNIVERSITY OF AUCKLAND TeWhare Wananga o Tamaki Makaurau NEW ZEALAND	<u>Acknowledge</u> 0077), a RSNZ from the Univ

<u>Acknowledgements</u>: The NZAVS has received support from a Templeton World Charity Foundation Grant (ID: 0077), a RSNZ Marsden Grant (ID: VUW1321), a grant from the Templeton Religion Trust (TRT#196), and funding from the University of Auckland Faculty Research Development Fund.

Please circle the number that best rep	presents how accurately each st	atement describes you	L		
I		Inaccurate	Accurate		
1. Am the life of the party.		1 2 3 4	5 6 7		
2. Sympathise with others' feelings.		1 2 3 4	5 6 7		
3. Get chores done right away.		1 2 3 4	5 6 7		
<ol><li>Have frequent mood swings.</li></ol>		1 2 3 4	5 6 7		
<ol><li>Have a vivid imagination.</li></ol>		1 2 3 4	5 6 7		
<ol><li>Don't talk a lot.</li></ol>		1 2 3 4	5 6 7		
7. Am not interested in other people	's omblems	1 2 3 4	5 6 7		
<ol><li>Have difficulty understanding abs</li></ol>	Now please rate your feelings	of ANGER toward thes	e same groups on the scale below.		
9. Like order.	Fact NO ANGER			Fact ANCER	<b>-</b>
<ol><li>Make a mess of things.</li></ol>	Toward This Group		Veutral	Toward This Group	
<ol> <li>Do not have a good imagination.</li> </ol>	1	2 3	4 5 6	7	
<ol><li>Feel others' emotions.</li></ol>	NZ Europeans 1	2 3 4 5 6 7	Overweight people	1 2 3 4 5 6 7	1
13. Am relaxed most of the time.	Māori 1	2 3 4 5 6 7	Immigrants in general	1 2 3 4 5 6 7	4
14. Get upset easily.	Asians in general 1	2 3 4 5 6 7	Chinese	1 2 3 4 5 6 7	_
15. Seldom feel blue.	Pacific Islanders 1	2 3 4 5 6 7	Indians	1 2 3 4 5 6 7	_
10. Keep in the background.	Arabs 1	2 3 4 5 6 7	Muslims	1 2 3 4 5 6 7	1
<ol> <li>Am not really interested in others</li> <li>Am not interested in others</li> </ol>	Instructions: Please answer ea			and balance	
<ol> <li>Often forset to put things back in</li> </ol>		01 Which ethnic	New Zealand Evenes	a 14 What is your b	ighest
20 Talk to a lot of different mende at	Definitely NO	group(s) do you	Māori	level of qualifi	ration?
<ol> <li>Feel entitled to more of even thin</li> </ol>	1 Do you think needs from	belong to?	Samoan	15. Please estimat	e your total
22. On the whole am satisfied with m	2 Are you willing to make an	(Markelan)	Tongan	tax) for the year	ar 2014
23. Know that people in my life accen	prices, drive less, conserve	spaces that appl	y to Niuean	16. Please estimat personal corni	e your own ngs (before é
24. Would like to be seen driving arou	3. Have you made sacrifices	you).	Chinese	tax) for the yes	ur 2014
25. Deserve more things in life.	driven less, conserved ene		Other such as DUTCH.	17. Please rate hor conservative y	v politically liberal versus ou see yourself as being:
26. Take a positive attitude toward m	4. Do you think most New Ze		JAPANESE, TOKELAUAN	V. Extremely liberal	2 3 4 5 6 7 Extremely conservat
27. Feel like an outsider.	living in order to protect t		Flease state.	18a. How many chil	dren have you given
28. Would get a lot of pleasure from o	5. Do you think most New Ze	02 10.00	4.2	birth to, father	ed, or adopted?
29. Am satisfied with the appearance	6. Suppose a person has a pa	<ol> <li>What is your get</li> <li>What is your data</li> </ol>	nder:	birth date of y	pur eldest child?
30. Am inclined to feel that I am a fail	be allowed by law to end t	05. Where were your da	ubom?	18c. And, if you hav	e more than one child, / /
31. Feel that I am often discriminated	Instructions: Please rate how	(please be specific, e.g	, which town/city?)	18d. How many of y	our children live
32. Feel that I am often discriminated	Strengty Opport	05. How long have	you lived (years	with you most	of the time?
33. Know that people around me share	1	06. What is your	pione pione	19a. Do you have a	Facebook profile? Tes T
During the last 30 days, how often did	The National Party 1	relationship sta	tus? (a s sincle married dedacts	have you spen	t using Facebook? Inst week
None Of A Little	The Labour Party 1	If you are in a relation	ship civil union, living together, et	tc) 19c. How important	t a part of your
The Time The Tim	The ACT Party 1	06b. How long have been with your	you (years) partner? (months)	Not important 1	2 3 4 5 6 7 Vervinoortant
0 1	The NZ First Party 1	06c. If you are curren	ntly married or	20. Do you identify	with a religion
<ol> <li> you feel hopeless?</li> </ol>	01 Please estimate how man	in a civil union,	what was the	and/or spiritu	al group? If yes
<ol><li> you feel so depressed that nothin</li></ol>	doing each of the followin	Of How satisfied as	mage or union:	(a) what religi	on or spiritual group?
<ol><li> you feel restless or fidgety?</li></ol>	(please enter '0 hours' if you did not (a) Working in paid emp	Not catisfied a	2 3 4 5 6 7 Very satisfied	a church or	place of worship
<ol><li> you feel that everything was an e</li></ol>	(b) Housework/cooking	not subspec	lease circle a number	in the last r	nonth?
<ol><li> you feel worthless?</li></ol>	(c) Looking after childre (d) Plaving computer so	06e. To what extent	do you experience conflict	(c) How many in the last	times did you pray week?
<ol><li> you feel nervous?</li></ol>	(e) Exercising/physical a	No conflict et all 1	2 3 4 5 6 7 A great deal of confli	(d) How many	times did you read
7 you have negative thoughts that	(f) Watching TV/Films			(e) how impor	tant is your religion
8 you worry that a big earthquake	<ul> <li>(g) Travelling/commutin</li> <li>(h) Volunteer/charity with</li> </ul>	Obt. Do you live with	n your partner? Tes Two	o to how you	see yourself?
9 you feel exhausted?	(i) Using the internet	PARTNER is wit	h your relationship?	Not important 1	2 3 4 5 6 7 Very Important
	(j) Watching/reading th	Not satisfied 1	2 3 4 5 6 7 Very satisfied	21. Roughly how I FRIENDS/FAM	nany hours have you spent with bot ILY and OTHERS (e.g., workmates,
	<ol> <li>buring the past month, or average, how many hours</li> </ol>	07a. Are you curren	lesse drole a number tiv employed? Yes No	o strangers) from	n each ethnic group in the last week
	actual sleep did you get p	(This includes self-en	ployed or casual work)	(a) Māori	PRIENDS/FAMILY OTHERS
	03a. How often do you have a drink	07b. If yes, how lon at your current	g have you worked (years) torganization? (months)	(b) NZ Europ	eans
	containing alcohol?	07c. What is your ci	urrent occupation?	(c) Pacific Isl	anders
	And, if you drink alcohol	07d. How satisfied a	are you with your current job?	22a. Did you vote in	n the
	03b. How many drinks containing alcohol do	Not satisfied 1	2 3 4 5 6 7 Very satisfied	New Zealand e	lection in 2014? Yes
	you have on a typical	07e. How secure do	you feel in your current job?	220. If yes, to which	vote?
	annung:	Not secure 1	2 3 4 5 6 7 Very secure	your party	orate vote?
		08a. Has someone e	ver used the internet,	23. How importan	t are your political
		a mobile priore hurt, intimidate	e or embarrass you? Yes	No beliefs to how	you see yourself?
		09bhas this occur	red in the last month? Yes	Not important 1	2 3 4 3 0 / Very important
		10. How much mon	ey have you e	<ol> <li>in the last year</li> <li>(a) been force</li> </ol>	nove you personally ed to buy cheaper
		donated to char	rity in the last year?	food so yo	u could pay for Yes
		<ol> <li>Please rate how right-wing your</li> </ol>	politically left-wing versus see yourself as being:	(b) put up wit	ch feeling cold to
		Extremely left-wing 1	2 3 4 5 6 7 Extremely right-wing	save on h	ating costs? res
Foundation Grant	יחו	12. Have you ever t	been divorced? Yes 1	No household	I been out-of-work? Yes
i ounuation Grafit (		13. Were you perso	nally affected	25. How would yo	u describe

## 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

			3
STEP 1	TAKE A	Co	$\alpha$
MOMEN	TO THINK	(5	$\left\{ \left\{ \left\{ e\right\} \right\} \right\}$
ABOUT	OUKSELF.	()	1
STEP 2:	IF YOU	K	ه ک
MADE IT	TO STEP 2,		an
YOU ARE	NOT A		CU)













## 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:

- $\,\circ\,$  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			le below t	o circle a n	umber fo	r each qu	lestion)
None Of The Time 0	A Little Of The Time 1	Some Of The Time 2	Most C The Tin 3	Df ne	All C The 4	All Of The Time 4	
1 you feel hopeless?				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 ev	erything was an effort?		0	1	2	3	4
5 you feel worthless?			0	1	2	3	4
6 you feel nervou	s?		0	1	2	3	4

				95% CI		
Predictors	В	se	р	Low	High	
Demographics						
Gender $(0 = \text{female})$	-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 <sub>e</sub> )	-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 <sup>a</sup>	-0.001	< 0.001	0.062	-0.001	0.000	
Housework h.p.w <sup>a</sup>	0.001*	0.001	0.029	0.000	0.003	
Looking after children h.p.w <sup>a</sup>	-0.001**	< 0.001	< 0.001	-0.001	0.000	
Computer gaming h.p.w <sup>a</sup>	0.004***	0.001	0.001	0.002	0.007	
Exercise h.p.w <sup>a</sup>	-0.003***	0.001	< 0.001	-0.004	-0.002	
Watching TV/movies h.p.w <sup>a</sup>	0.002***	0.001	< 0.001	0.001	0.003	
Travelling/commuting h.p.w <sup>a</sup>	< 0.001	0.001	0.761	-0.002	0.001	
Volunteer/charity work h.p.w <sup>a</sup>	-0.001	0.001	0.308	-0.003	0.001	
Using the Internet h.p.w <sup>a</sup>	0.001	< 0.001	0.050	0.000	0.002	
Watching/reading news h.p.w <sup>a</sup>	-0.001	0.001	0.518	-0.004	0.002	
Social media h.p.w <sup>a</sup>	0.005***	0.001	< 0.001	0.003	0.007	

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

All predictors expressed in hours per week (h.p.w) were censored at zero. <sup>a</sup>Variable censored at 0. \*\*\*p < 0.001. \*p < 0.01. \*p < 0.05.

## Interpreting significant effect sizes

During the last 30 days, h	now often did	(Please use the sca	mber foi	r each qu	estion)		
None Of The Time 0	A Little Of The Time 1	Some Of Most Of The Time The Time 2 3			All Of The Time 4		
1 you feel hopeless?			0	1	2	3	4
2 you feel so depress	ed that nothing coul	ld cheer you up?	0	1	2	3	4
3 you feel restless or	fidgety?		0	1	2	3	4
4 you feel that everyt	thing 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

## 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 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 2 people like this. This is about you, Kayla, so I don't know why you liked 11 minutes ago \* Like

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

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

## Only children



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





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

#### How do we know when a nonsignificant 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?
  - ~.07
- Is that a narcissism epidemic?



Sibley, C. G., & Milojev, P. (2014). Power Estimation of Slope Growth Factors in the NZAVS using Monte Carlo Simulation. *NZAVS Technical Documents, e19.* 

### Effect Sizes

- Our usual effect size estimates, with cut-offs....
- Practical comparisons





 Perhaps more helpful to use effect sizes specifically designed for the public

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
 53.19 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 than the man will be the taller out of the two (McGraw & Wong, 1992). Even if people were astute enough to naturally



43.21

Number Needed to Treat<sup>1</sup>



Alderson, P. (2004). Absence of evidence is not evidence of absence. British Medical Journal, 476-477. Adapted from Armitage, Berry, and Andrews.

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.

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