

Table. Generalized Estimating Equations for Visual Search Saccadic Reaction Times Predicted by Concurrent Usage Group, Visit, Search Type, and Set Size

Characteristic	Wald χ^2	P value
Main model including search type		
Visit	11.46	.001
Search type	119.62	<.001
Set size (5 vs 9)	6.07	.01
Group	9.83	.002
Visit \times set size	0.33	.57
Visit \times search type	2.74	.10
Visit \times group	0.38	.54
Search type \times set size	4.06	.04
Set size \times group	0.005	.94
Search type \times group	1.89	.17
Visit \times search type \times set size	2.00	.16
Visit \times set size \times group	0.01	.91
Visit \times search type \times group	0.85	.36
Search type \times set size \times group	0.09	.77
Visit \times set size \times search type \times group	4.01	.045
Follow-up model restricted to single search		
Visit	13.41	<.001
Set size (5 vs 9)	2.73	.10
Group	10.45	.001
Visit \times set size	0.61	.44
Visit \times group	<0.001	.99
Set size \times group	0.006	.94
Visit \times set size \times group	2.94	.09
Follow-up model restricted to conjunction search		
Visit	1.17	.28
Set size (5 vs 9)	6.15	.01
Group	0.12	.73
Visit \times set size	1.55	.21
Visit \times group	0.05	.82
Set size \times group	<0.001	>.99
Visit \times set size \times group	1.10	.30

ally associated with single-feature SRT ($\beta = -0.35$; $P = .05$), with no association at 12 ($\beta = 0.18$; $P = .65$) or 18 months ($\beta = -0.02$; $P = .96$).

Discussion | Toddler touch screen use is associated with faster single feature but not conjunction search, indicative of greater saliency-driven attention without impaired endogenous control. Results are specific to concurrent usage, suggesting recent touch screen experience may prime attention for exogenous control. Faster high-user SRTs in block 1 suggests a possible saliency bias coming into the task, rather than faster within-task learning. The real-world consequences, particularly when saliency and endogenous goals conflict (eg, focusing on schoolwork in a busy classroom), remain to be established. Future studies should use objective tracking of the child's complex media environment to assess the specificity across platforms, content, and type of use, as well as establish whether touch screen use has a causal influence on attention control.

Ana Maria Portugal, PhD
Rachael Bedford, PhD
Celeste H. M. Cheung, PhD

Teodora Gliga, PhD
Tim J. Smith, PhD

Author Affiliations: Centre for Brain and Cognitive Development, Department of Psychological Sciences, Birkbeck, University of London, London, England (Portugal, Cheung, Smith); Biostatistics and Health Informatics Department, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, England (Bedford); University of East Anglia, Norwich, England (Gliga).

Corresponding Author: Tim J. Smith, PhD, Centre for Brain and Cognitive Development, Department of Psychological Sciences, Birkbeck, University of London, Malet Street, London WC1E 7HX, England (tj.smith@bbk.ac.uk).

Accepted for Publication: March 10, 2020.

Published Online: August 10, 2020. doi:10.1001/jamapediatrics.2020.2344

Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2020 Portugal AM et al. *JAMA Pediatrics*.

Author Contributions: Drs Portugal and Bedford had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Drs Portugal and Bedford are co-first authors. *Concept and design:* Portugal, Bedford, Smith. *Acquisition, analysis, or interpretation of data:* All authors. *Drafting of the manuscript:* Portugal, Bedford, Smith. *Critical revision of the manuscript for important intellectual content:* All authors. *Statistical analysis:* Portugal, Bedford, Smith. *Obtained funding:* Smith. *Administrative, technical, or material support:* Portugal, Cheung, Smith. *Supervision:* Bedford, Gliga, Smith.

Conflict of Interest Disclosures: None reported.

Funding/Support: The TABLET Project was funded by a Philip Leverhulme Prize (PLP-2013-028) to Dr Smith. Dr Portugal was supported by an Economic and Social Research Council studentship. Dr Bedford was supported by a Sir Henry Wellcome Postdoctoral Fellowship and King's Prize Fellowship (204823/Z/16/Z).

Role of the Funder/Sponsor: No funders had a role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Additional Contribution: We are very grateful to all the families who took part in the TABLET study. During this project's inception and initial execution, the late Annette Karmiloff-Smith, PhD (Birkbeck, University of London), was a huge inspiration and champion. Thanks also to Luke Mason, PhD, and Irati Saez de Urabain, PhD, from Birkbeck, University of London for their work on programming and implementing the paradigms. No compensation was provided.

1. Rothbart MK, Posner MI. The developing brain in a multitasking world. *Dev Rev*. 2015;35:42-63. doi:10.1016/j.dr.2014.12.006
2. Christakis DA. The effects of infant media usage: what do we know and what should we learn? *Acta Paediatr*. 2009;98(1):8-16. doi:10.1111/j.1651-2227.2008.01027.x
3. Green CS, Bavelier D. Exercising your brain: a review of human brain plasticity and training-induced learning. *Psychol Aging*. 2008;23(4):692-701. doi:10.1037/a0014345
4. Kabali HK, Irigoyen MM, Nunez-Davis R, et al. Exposure and use of mobile media devices by young children. *Pediatrics*. 2015;136(6):1044-1050. doi:10.1542/peds.2015-2151
5. Bedford R, Saez de Urabain IR, Cheung CHM, Karmiloff-Smith A, Smith TJ. Toddlers' fine motor milestone achievement is associated with early touchscreen scrolling. *Front Psychol*. 2016;7(181):1108. doi:10.3389/fpsyg.2016.01108
6. Kaldy Z, Kraper C, Carter AS, Blaser E. Toddlers with autism spectrum disorder are more successful at visual search than typically developing toddlers. *Dev Sci*. 2011;14(5):980-988. doi:10.1111/j.1467-7687.2011.01053.x

Intention to Quit Vaping Among United States Adolescents

In 2019, 25.2% of high school students in the US reported current use (ie, past 30 days) and 11.7% reported daily use of electronic nicotine products (ie, e-cigarettes, vaping).⁵ Adolescents who vape are at risk for nicotine addiction, toxicant

Table. Intentions to Quit and Past-Year Quit Attempts Among Adolescent Vapers

Characteristic	Prevalence in sample ^a	Seriously thinking about quitting ^b	P value	Past-year quit attempt ^c	P value
Overall	498 ^d	215 (44.52)	NA	127 (24.90)	NA
Sex					
Male	284 (56.63)	130 (46.15)	.34	80 (27.84)	.08
Female	214 (43.37)	85 (42.28)		47 (21.08)	
Age, y					
12-14	80 (14.96)	36 (47.14)	.72	25 (33.81)	.02
15-17	418 (85.04)	179 (44.10)		102 (23.36)	
Race/ethnicity					
Non-Hispanic White	326 (72.21)	130 (41.32)	.06	75 (22.31)	.03
Other ^e	161 (26.00)	80 (52.86)		49 (32.07)	
Household income, \$					
<50 000	195 (35.72)	86 (45.05)	.80	61 (30.77)	.07
≥50 000	282 (59.82)	118 (43.18)		64 (22.57)	
Past 30-d combustible cigarette use					
Yes	152 (29.99)	63 (39.33)	.18	40 (24.79)	.97
No	346 (70.01)	152 (46.80)		87 (24.96)	
Vaping frequency, d in past 30 d					
<4	252 (50.77)	116 (47.42)	.46	70 (25.45)	.87
≥4	227 (45.48)	95 (43.02)		53 (24.77)	
Past-year depression symptoms ^f					
Yes	286 (56.89)	133 (46.81)	.31	79 (25.37)	.88
No	208 (42.48)	82 (41.74)		48 (24.64)	
Past-year anxiety symptoms ^g					
Yes	297 (61.15)	129 (44.18)	.84	78 (24.38)	.81
No	200 (38.69)	85 (44.81)		48 (25.44)	

Abbreviation: NA, not applicable.

^a Reported as unweighted No. (weighted %). Percentages may not sum to 100 owing to missing data.

^b Collapsed across 4 response options, which indicated different time frames for quitting including within the next 30 days, within the next 6 months, within the year, and not within the year. Reported as unweighted No. (weighted % who said yes compared with those who said no excluding do not know/missing/refused).

^c Reported as unweighted No. (weighted % who said yes compared with those who said no excluding do not know/missing/refused).

^d The total analytic sample size was 498 adolescents between age 12 to 17 years who reported having vaped more than once in their lives and at least once in the past 30 days.

^e The other category included Black, Asian, and other races including multiracial.

^f Assessed using the question "When was the last time you had significant problems with feeling very trapped, lonely, sad, blue, depressed, or hopeless about the future?" For this analysis, "past month" and "2 to 12 months ago" response options were combined, and "over a year ago" and "never" response options were combined.

^g Assessed using the question "When was the last time you had significant problems with feeling very anxious, nervous, tense, scared, panicked, or like something bad was going to happen?" For this analysis, "past month" and "2 to 12 months ago" response options were combined in the yes category, and "over a year ago" and "never" response options were combined in the no category.

exposure, and transitioning to cigarettes.^{1,2} The development, evaluation, and dissemination of evidence-based vaping cessation interventions for adolescents could be critical to curbing the vaping epidemic; however, vaping cessation interventions are not widely disseminated, and existing programs have received little empirical investigation. It is necessary to assess interest in quitting and quit attempts in this population to drive funding and guide treatment development. Further, understanding interest in quitting among groups that experience tobacco-related health disparities, including sociodemographic minorities and individuals with mental health symptoms, could guide development of treatment programs for specific subgroups. This study estimated interest in quitting and past e-cigarette quit attempts among US adolescents who vape. To our knowledge, this is the first such report.

Methods | Data were collected as part of wave 4 of the Population Assessment on Tobacco and Health (PATH) study, a nationally representative, longitudinal survey conducted in the United States. The PATH study protocol was approved by the Westat institutional review board. Parents of participating youth and youth provided written permission and assent, respectively. We focus on the most recent wave of data collection (December 2016 to January 2018), given the recent proliferation of high-nicotine delivery devices.³ The sample included adolescents aged 12 to 17 years who had vaped more than once in their lifetime and at least once in the past 30 days (ie, current vapers), weighted to be representative of all US adolescents who vape. Details on interview procedures, questionnaires, sampling, and weighting are available elsewhere.⁴

We report outcome data for 2 questions: (1) are you seriously thinking about quitting electronic nicotine products?

(response options: yes, within the next 30 days; yes, within the next 6 months; yes, within the next year; yes, but not within the next year; no; do not know) and (2) have you tried to completely stop using electronic nicotine products within the past 12 months? (response options: yes; no; do not know). Weighted Ns were used, and analyses accounted for the complex sampling structure of PATH. Results were reported overall as well as by select demographic, tobacco use, and mental health variables (eg, depression symptoms, anxiety symptoms). Data were analyzed using SAS version 9.4 (SAS Institute) and χ^2 tests examined differences by demographic group in the prevalence of responding yes vs no for each outcome ($\alpha = 0.05$). Analysis began January 2020 and ended February 2020.

Results | In total, 14 798 youth aged 12 to 17 years completed the survey, of whom 498 (3.6%) had used e-cigarettes in the past 30 days, constituting the analytic sample. Sample characteristics and main outcomes are reported in the **Table**. Approximately 44.5% reported seriously thinking about quitting. Of those, most reported thinking about quitting within the next 30 days (50.2%), followed by beyond 1 year (22.9%), within the year (16.9%), and within the next 6 months (10.1%). Overall, 24.9% had tried to quit vaping completely within the past year. Motivation to quit and incidence of quit attempts were largely consistent across demographic and smoking history subgroups.

Discussion | Public health experts have focused on preventing vaping initiation among youth. However, 44.5% of adolescents who vape are seriously interested in quitting and 24.9% tried to quit in the past year, suggesting that vaping cessation interventions are urgently needed. Interest in quitting was of appreciable prevalence across a variety of subgroups. Thus, the development and dissemination of vaping cessation interventions should be disseminated widely, across those with and without demographic and mental health risk factors. For those not interested in quitting, public education campaigns and interventions to increase motivation to quit may be most useful.

Tracy T. Smith, PhD
 Georges J. Nahhas, PhD, MPH
 Matthew J. Carpenter, PhD
 Lindsay M. Squeglia, PhD
 Vanessa A. Diaz, MD, MSCR
 Adam M. Leventhal, PhD
 Jennifer Dahne, PhD

Author Affiliations: Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina College of Medicine, Charleston (Smith, Nahhas, Carpenter, Squeglia, Dahne); Hollings Cancer Center, Medical University of South Carolina, Charleston (Smith, Nahhas, Carpenter, Dahne); Department of Public Health Sciences, Medical University of South Carolina, Charleston (Carpenter); Department of Family Medicine, College of Medicine, Medical University of South Carolina, Charleston (Diaz); Norris Comprehensive Cancer Center, Keck School of Medicine, Department of Preventive Medicine, University of Southern California, Los Angeles (Leventhal).

Corresponding Author: Tracy T. Smith, PhD, Medical University of South Carolina, 103D Bioengineering Building, 68 President St, Charleston, SC 29425 (smithtra@musc.edu).

Accepted for Publication: March 18, 2020.

Published Online: August 17, 2020. doi:10.1001/jamapediatrics.2020.2348

Author Contributions: Dr Smith had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Smith, Carpenter, Leventhal, Dahne.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: Smith, Nahhas, Squeglia, Leventhal, Dahne.

Critical revision of the manuscript for important intellectual content: All authors.

Statistical analysis: Nahhas, Leventhal.

Obtained funding: Leventhal.

Administrative, technical, or material support: Smith, Dahne.

Supervision: Leventhal.

Conflict of Interest Disclosures: Dr Carpenter reports consulting honoraria from Pfizer outside the submitted work. No other disclosures were reported.

Funding/Support: Salary support was provided by the National Institute on Drug Abuse, the National Cancer Institute, and the National Institute on Alcohol Abuse and Alcoholism (grants K23-DA045766 to Dr Dahne, K01-DA047433 to Dr Smith, K23-AA025399 to Dr Squeglia, U54-CA180905 and K24-DA048160 for Dr Leventhal). This study was supported in part by the Biostatistics Shared Resource, Hollings Cancer Center, Medical University of South Carolina (grant P30-CA138313).

Role of the Funder/Sponsor: The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

1. US Department of Health and Human Services. *E-cigarette Use Among Youth and Young Adults: a Report of the Surgeon General*. US Department of Health and Human Services; 2016.

2. National Academies of Sciences, Engineering, and Medicine. *Public Health Consequences of E-cigarettes*. The National Academies Press; 2018.

3. Koval R, Willett J, Briggs J. Potential benefits and risks of high-nicotine e-cigarettes. *JAMA*. 2018;320(14):1429-1430. doi:10.1001/jama.2018.12328

4. National Addiction & HIV Data Archive Program. Population Assessment of Tobacco and Health (PATH) study [United States] public-use files (ICPSR 36498). Published November 21, 2019. Accessed July 2020. <https://www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/36498>

5. Miech R, Johnston L, O'Malley PM, Bachman JG, Patrick ME. Trends in adolescent vaping, 2017-2019. *N Engl J Med*. 2019;381(15):1490-1491. doi:10.1056/NEJMc1910739

COMMENT & RESPONSE

Increase in Incidence of Neonatal Abstinence Syndrome Among In-Hospital Birth in the United States

To the Editor We read with great interest the novel way of analyzing the Healthcare Cost and Utilization Project (HCUP) data for neonatal abstinence syndrome (NAS) by Strahan et al.¹ They also reported that they were unable to compare past published studies because they adopted the “in-hospital births” restriction in their study. Therefore, we used the 2012 Kids’ Inpatient Database provided by HCUP, Agency for Healthcare Research and Quality (AHRQ), and their partners to compare briefly the key findings of overall incidence, racial/ethnic differences, and primary insurance form using the same selection criteria and appropriate *International Classification of Diseases, Ninth Revision (ICD-9)* code (<https://www.hcup-us.ahrq.gov/kidoverview.jsp>).

Seventeen thousand three hundred five weighted cases of NAS were reported among the 3 733 760 in-hospital births sample, with an overall incidence of 4.6 cases per 1000 in-hospital births in 2012. The male incidence rate was 4.9 per 1000 in-hospital births and the female incidence was 4.3 per