Birmingham Secondary Schools Wellbeing Census 2023

Lay Summary

Why a Wellbeing Census?

The gap between levels of need and the availability of resources to support school-age young people with mental health and wellbeing issues has been rapidly increasing in recent years against a background where half of all mental health disorders are estimated to emerge by age 14. Wellbeing is positively associated with a range of educational outcomes and schools are an ideal environment to provide educational interventions to improve the social and emotional health of young people but need support to systematically measure and appraise the status of pupils mental health in their schools.

Employing wellbeing metrics to annually gauge the emotional health of young people in school settings (Thapar, Stewart-Brown, & Harold, 2021) is a practical way to indicate the current and ongoing wellbeing and future mental health status of pupils, giving schools the opportunity to both monitor and support their young people.

The 2023 Breathe Education Secondary School Wellbeing Census?

Between Jan-July 2023 a "wellbeing census" was conducted in a sample of secondary schools across the Birmingham LEA. The measures used for the survey were:

The Warwick-Edinburgh Mental Wellbeing Scales (WEMWBS, Tennant et al., 2007). The 14-item scale WEMWEBS has 5 response categories, summed to provide a single score ranging between 14-70. All items are suitable for young people and worded positively, covering both emotional and functional aspects of mental wellbeing thereby making the concept more accessible.

The School Connectedness Scale (Resnick et al., 1997) which is assessed by 4 items across 5 response categories, summed to provide a single score ranging between 0-20. Questions are adapted from Resnick et al. (1997). School connectedness is protective against a range of risk behaviours and poor academic achievement.

Demographics for pupils were collected around ethnicity, sex, school year, SEND status, free school meals and persistent absence. For inter-school comparisons we matched overall averages to publicly available school-level information, %SEN support, % Pupils with English as not first language and % Free School Meal (FSM) status (average of last 6 years) from Dfes (2021) and Local Super Output Area (LSOA) deprivation data from www.gov.uk (2019).

Measures are included in appendix i.

Digital delivery of the census was through www.breathe-schools.co.uk, a platform that enables collaborative work to take place across a regional partnership of mental health professionals and individual schools. This is part of an ongoing programme creating resources and interventions for schools via our teacher focused website www.breathe-edu.co.uk.

For more information regarding the census and this report please contact c.palmer@warwick.ac.uk.

Who were involved?

22 secondary schools collected data for 8,485 pupils between the ages of 11-18 years. Participating schools constituted 18 academies, 3 state-funded schools and 1 voluntary aided school. Birmingham LEA schools spanned across all 5 Birmingham constituencies North (3 schools), East (4 Schools), West (5 Schools), South (3 Schools), Central (4 Schools) and a further 1 school from Staffordshire LEA, 1 school from Warwickshire LEA and 1 school from Coventry LEA [1]. Secondary Schools registered 21,521 pupils for the study of which 8,485 took part a 39%% rate of response. All pupils from years 7-13 (11-18 years old) were able to take part in the census.

Representation

Census schools were generally representative of the broader picture of schools in Birmingham LEAs in terms of percentage of pupils with special needs support 12.6% vs 12.6% (Dfes, 2022) but had slightly lower proportions of pupils with their first language other than English 26% vs 38.% (Dfes, 2022) and pupils in receipt of FSM 39.9% vs 46.5 (Dfes, 2022). The West Midlands typically reports higher levels of these indices compared to the rest of the England. An over-representation of pupils from an Asian background (37.8%) was apparent from the sample in comparison to the actual population of the West Midlands by age group (ONS, 2021).

A note on terminology used in this analysis.

Significant denotes statistical significance – this should not be read as necessarily a "big" difference, as in large samples the effect between groups might be small but legitimate.

Meaningful in the context of this analyses relates to the difference between scores that reaches the WEMWBS threshold for meaningful change, which relates to a scoring difference of 3-8 points (Maheswaran, Weich, Powell, & Stewart-Brown, 2012).

For example, two groups of pupils with a 3-point difference in WEMWBS score can be said to have *meaningfully* different levels of wellbeing. Both groups might have reasonably high wellbeing but one would be meaningfully higher. The difference however might not be *statistically significant* because sub-samples may be too small to pass statistical testing (for example).

These terms, '*significant* and *meaningful'* help to understand what an important finding in our data may be.

[1] Taking part in the census was open to all schools in the Birmingham LEA however as one academy trust had schools operating in neighbouring LEAs so were permitted to take part

2023 Constituency level Mental Wellbeing and School Connectedness

Table 1. details the wellbeing census result categorised by constituency of school and school type. Assessing wellbeing by constituency revealed that average wellbeing was reported to be the highest in the Central constituency **48.9 - which was statistically and meaningfully higher than South (-4.6) and North (-3) constituencies.** Wellbeing was found to be higher in state funded schools compared with academies. This was also a **meaningful and significant difference (-3.2)**. Most constituencies had slightly improved from last year's census in regards to wellbeing with some slight declines in school connectedness.

Table 1. Constituency and School Type Wellbeing & School Connectedness

Secondary School Variables	Frequency	%	WEMWBS	*2022 Diff*	Avg School Connectedness 2023	*2022 Diff*
North	1120	13%	45.9	0.4	11.4	1.3
East	1339	16%	46.0	1.6	11.3	0.3
West	2424	29%	47.6	1.0	12.5	0.4
South	1290	15%	44.3	-1.2	11.9	0.8
Central	1538	18%	48.9	2.4	13.2	0.2
Other LEA	774	9%	44.5	N/A	10.7	N/A
Academy	7125	84%	46.1	0.4	11.9	0.6
State funded	901	11%	49.3	-0.2	12.5	0.1
Voluntary aided	459	5%	48.3	1.0	12.5	0.0

2023 Secondary School Wellbeing

Table 2. details 2023 wellbeing scores for secondary schools. Overall average wellbeing score for secondary school pupils in our sample was **46.5** - similar to our 2022 (45.9) and 2021 (46.8) data. It is still slightly lower than the UK population average found for adolescents in 2020 (48.1) (Widnall, Winstone, Mars, Haworth, & Kidger, 2020) which was assessed during the pandemic. Our findings suggest that average wellbeing appears relatively stable across years but variable between schools.

Females reported lower mental wellbeing (**44.5)** in comparison to males (**48.8)** - a significant and meaningful difference of -4.3 between groups. Pupils reporting from a White ethnicity had slightly lower average wellbeing (**45.3**) compared to all other simplified ethnicities. Whilst this was a statistically significant finding (actual differences in scores) differences in scores were small, between -1.5 and -2.8, though approaching "meaningfulness" for some comparisons. Pupils in receipt of free school meals reported slightly lower wellbeing score than those not in receipt, a small but significant difference of -0.8. Pupils reported as persistent absenters also reported slightly lower wellbeing on average than non-absenters, again a small but significant difference of 1.4.

A trend was found between secondary pupil wellbeing and school year (i.e. pupil age) with wellbeing slightly decreasing as school year (pupil age) increased.

2023 Secondary School Connectedness

Table 2. details 2023 school connectedness for secondary schools. Overall average school connectedness for secondary school pupils was calculated as **12,** a slight decrease on the overall average score in 2022. School connectedness was slightly lower for nearly all demographic groups compared to 2022 however a strong positive relationship was still found between 2023 secondary school pupil wellbeing and school connectedness **with higher wellbeing related to higher school connectedness.**

Table 2. 2023 Wellbeing and School Connectedness with 2022 differences

Secondary School Variables	Frequency (2023)	Percentages (2023)	Avg WEMWBS 2023	*2022 Diff*	Avg School Connectedness 2023	*2022 Diff*
Overall	8485	100	46.5	0.6	12	-0.4
Male	4060	48%	48.8	0.8	12.5	-0.4
Female	4425	52%	44.5	0.8	11.6	-0.3
Year 7	2027	24%	47.1	0.6	12.3	-0.9
Year 8	1934	23%	46.9	0.5	11.9	-0.1
Year 9	2066	24%	46.6	1.2	11.5	-0.3
Year 10	1398	16%	46	0.4	11.9	-0.3
year 11	455	5%	46.5	2.3	12.8	-0.6
Year 12	403	5%	44.9	0.4	13.1	-0.2
Year 13	202	2%	44.4	0.5	13.3	-1.2
White	3061	36%	45.5	1.2	11.7	-0.4
Asian	3211	38%	47.2	0.5	12.4	-0.5
Black	722	9%	47.2	0.3	11.4	-0.2
Mixed	750	9%	46.9	0.7	12.2	-0.2
Other	268	3%	48.2	N/A	12.2	N/A
Ethinicty not known	473	6%	46.9	N/A	11.9	N/A
No SEND	7819	92%	46.6	0.7	12	-0.4
All SEND combined	666	8%	45.7	0.9	12.2	0
Communication & Interaction	214	3%	45.3	1.8	12.5	0.8
Cognition & Learning	286	3%	45.6	-0.3	12.3	-0.1
SEMH	100	1%	45.3	1.68	11.3	-0.7
Physical or Sensory	66	1%	48.4	2.1	12.8	-0.6
In Receipt of FSM	2309	27%	46.1	0.9	11.7	-0.1
Not in receipt of FSM	5899	70%	46.9	0.4	12.2	0.4
FSM not known	277	3%	43.9	-1	11.6	-1
Persistent Absenter	1374	16%	45.4	1.3	12.3	0.7
Below PA threshold	6682	79%	46.8	0.9	11.2	-1.3
PA not known	429	5%	45.6	N/A	10.4	N/A

Inter-secondary school analysis and local norming

Average wellbeing and school connectedness scores for individual schools are presented in Chart 1 - ranging between **51.1** and **41.5** a **-9.6** an overall **statistically significant and meaningful difference** in wellbeing between schools. 2 schools reported a meaningfully higher level of wellbeing than other schools and 3 schools reported meaningfully lower wellbeing compared to most schools. Comparing Department for Education school-level data to schools wellbeing data we found a moderate relationship between the % of SEND pupils in schools and wellbeing/school connectedness with those schools reporting lower wellbeing and school connectedness having a higher % SEND pupils. No significant relationships with wellbeing or connectedness were found for pupils whose first language was not English, or in relation to proportion of pupils eligible for Free School Meals (last 6 years).

Chart 1. Bar chart of average wellbeing and school connectedness for all participating schools with overall average line superimposed

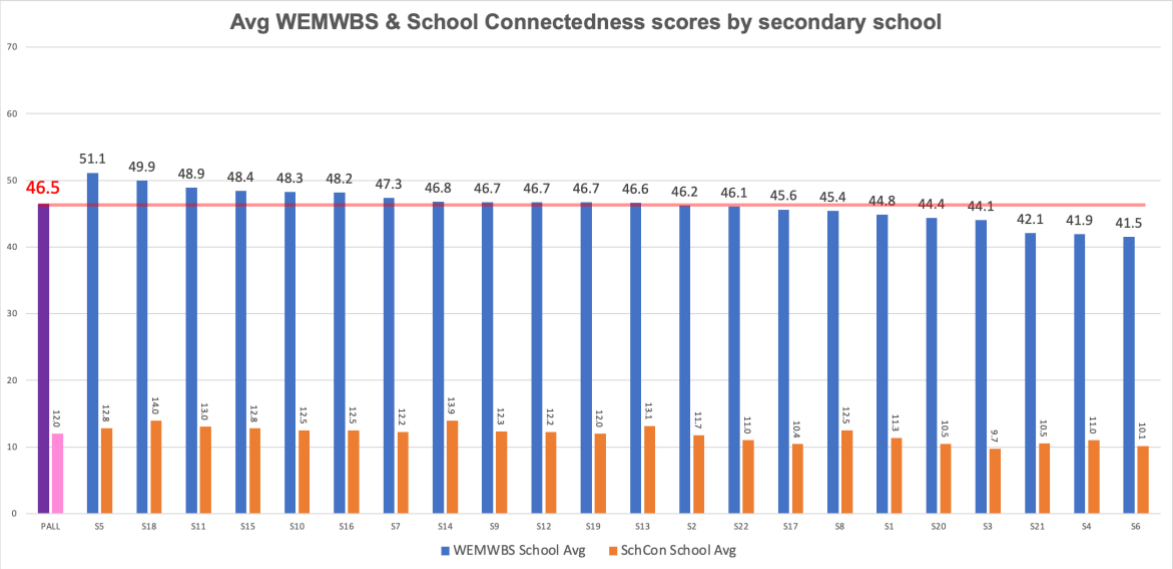


Fig 1 displays a common way to categorise data by + or -1 standard deviation from the overall mean (average) score. This enables us to create 'norms' from our data and define three categories of mental wellbeing **"Low", "Medium" and "High".** Using this method, 14% (1,191) pupils fell into the low wellbeing category, (<36), 72% (6,122) the medium wellbeing category (37-56) and 14% (1,172) the high wellbeing category (57-70). (Note this is a relative comparison of wellbeing categories and should not be employed for any diagnostic purposes).

Fig 1. Overall categorical percentages for all 2023 schools

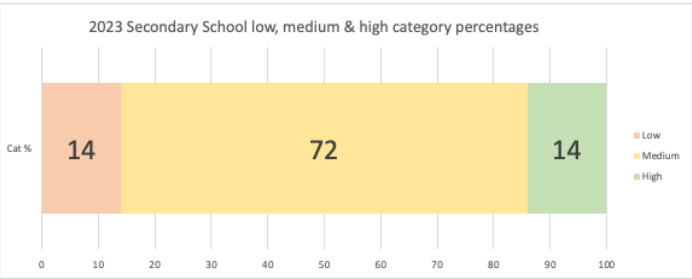
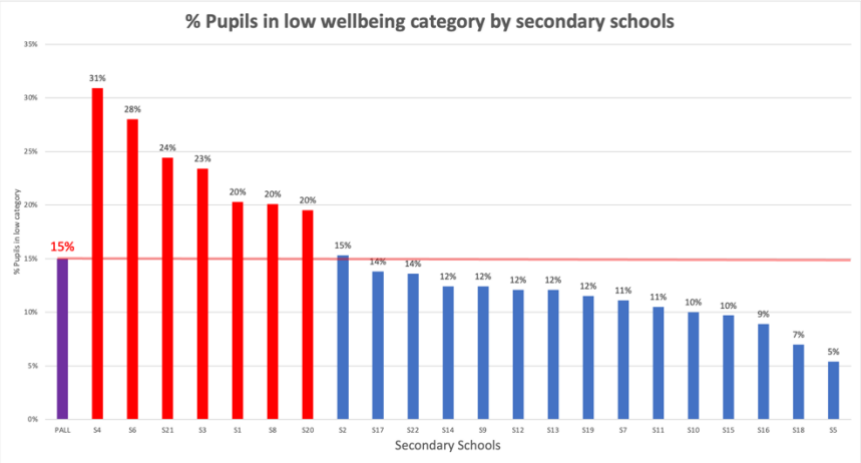


Chart 2. Bar chart displaying the % of pupils in the lower wellbeing category per participating school with 15% cut-off line superimposed.

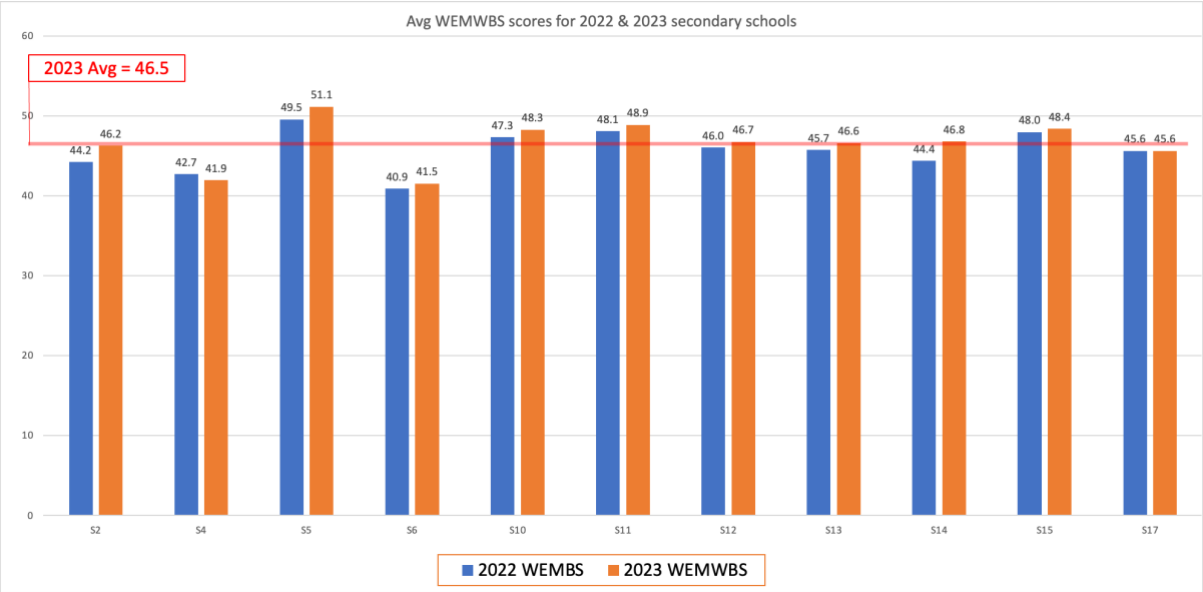


On average secondary schools had 15% of pupils falling within the lower wellbeing category. We found that 7 schools in our sample reported markedly higher (>5% more than average) percentages of pupils in this **lower wellbeing** category and these schools may benefit from a review of wellbeing practices and consideration of accessing targeted support from mental health support services.

2022 and 2023 school comparison

11 of this years participating secondary schools also took part in the 2022 census and wellbeing scores could be compared. Chart 3 shows that for these schools, most had improved average wellbeing compared to last year.

Chart 3. Bar chart of participating school's average wellbeing in 2022 and 2023 with 2023 overall average line superimposed



What this tells us

Gender

On average pupils categorised as female reported meaningful and significantly lower wellbeing than pupils categorised as male. This finding is replicated in our previous 2022 data but also other recent measurements collected during Covid-19 for 13-16 year olds (Widnall et al., 2020) and supports previous international evidence around the gender gap in adolescent health (Campbell, Bann, & Patalay, 2021). In our primary school data a difference between genders has not been observed. It points to secondary school as a key developmental phase in which wellbeing differences emerge.

Ethnicity

Pupils of white ethnicity on average reported slightly lower levels of wellbeing - approaching a meaningful difference in comparison to pupils reporting other ethnicities. This finding was replicated in our 2022 data and again has not been observed in our primary school sample. This supports findings from the most recent NHS Digital survey which show higher levels of mental health difficulties for 6-16 years old of White ethnicity compared to other ethnicities (Newlove-Delgado et al., 2021), however the broad age ranges used by NHS Digital and the differing mental health measures make comparisons here difficult. More analysis is required here into ethnicity at a more granular level as these findings are related to broad-category ethnicity. This may also be a feature of our sample and the local areas from which it was drawn.

Age

We found a statistically significant but weak negative relationship between secondary pupil wellbeing and year group with wellbeing appearing to decrease slightly for older year groups - something we also found in our 2022 data. However we found that this relationship strengthens if we include our primary school data and would appear to support what we already know about adolescent mental health, that approximately half of mental health disorders emerge by age 14 (Kessler et al., 2005; Solmi et al., 2022) with anxiety and conduct issues emerging even earlier by age 11 (Kessler et al., 2005).

School Connectedness

Although school connectedness had slightly reduced overall compared to last year we still found that wellbeing has a strong positive relationship with school connectedness, Although the causal nature of this relationship is unclear from our data our evidence over multiple surveys supports school connectedness as highly related to wellbeing (Waters & Cross, 2010). It is also interesting to consider what appears to be a moderate reduction in school connectedness between primary school and secondary schools, something we have replicated in data from 2022 and 2021. This supports previous findings of (Lester, Waters, & Cross, 2013) who found pupils transitioning to secondary school report reduced school connectedness as a response to the changeable school experience (secondary school experiences being generally less cohesive than at primary school i.e. familiar teachers and class mates). Lester et al. (2013) found that this reduced connectedness was associated with increased levels of depression and anxiety.

Comparisons across Schools

On an inter-school level it appeared that on average wellbeing for each school was broadly similar and at a moderate level. We could identify a small number of schools where wellbeing was meaningfully lower than the average for all schools. In addition, we found that 7 schools reported 20% or more pupils scoring below 36 on the WEMWBS - considered a low score and suggesting a need for a strategic focus on support for these schools. We also found a relationship between the % of SEND pupils in a school and wellbeing. As this finding was only found at the school level it perhaps suggests that schools

with larger SEND populations might be under increased demands that then impact wellbeing of the whole school.

We found that most of the schools which had also taken part in 2022 reported slight improvements in average wellbeing for 2023. Alongside this however, it appeared there was relative consistency in wellbeing reported within schools from the previous year which suggests these modest improvements may be less a feature of individual pupil demographics and more related to general improvements to the environmental and contextual elements of pupils lives. It is our opinion that this should be regarded as suggesting that schools can shape and influence wellbeing positively and that a wellbeing census can also help to identify schools in most need of support to help create these positive changes.

Summary

The 2023 wellbeing census built on findings from previous years highlighting a disparity in wellbeing between boys and girls at secondary school, alongside some potential emerging differences for ethnicity and age. We continue to be able to evaluate pupils & schools wellbeing in a validated and standardised way that has good potential to inform strategic decision-making and help direct resources to schools in most need of support.

Recommendations

- Girls wellbeing at secondary school is a concern and should be an area of targeted focus for all schools
- Late primary school and early secondary school years are a key transitional time for considering the application of preventative educational wellbeing interventions integrated with schools curricula.
- Schools with higher percentages of SEND pupil populations may benefit from increased support for wellbeing.
- More refined research is recommended to understand the relationship of ethnicity to wellbeing at a more granular level as current findings are related to aggregated ethnicity.

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Appendix i

Secondary Demographic (reported by schools)

Demographic data will be collected by school administrators/school champions from existing data available to schools.

Ethnicity (2011 Census)
Sex (2021 Census)
School Year
Percentage of Pupil Absence
SEND Type
Free School Meals

Secondary School Pupils (reported by pupils)

The schedule for the *Warwick-Edinburgh Mental Wellbeing Scales (WEMWEBS) (Stewart-Brown et al., 2009)* contain the following questions and an additional 3 questions on school connectedness (each coded by 1-5 Likert scale)

		Never	Not that much of the time	Some of the time	Quite a lot of the time	All of the time
Warwick-Edinburgh Mental Wellbeing Scale						
1	I've been feeling optimistic about the future					
2	I've been feeling useful	1	2	3	4	5
3	I've been feeling relaxed	1	2	3	4	5
4	I've feeling interested in other people	1	2	3	4	5
5	I've had energy too spare	1	2	3	4	5
6	I've been dealing with problems well	1	2	3	4	5
7	I've been thinking clearly	1	2	3	4	5

8	I've been feeling good about myself	1	2	3	4	5
9	I've been feeling good about myself	1	2	3	4	5
10	I've been feeling close to other people	1	2	3	4	5
11	I've been able to make up my own mind about things	1	2	3	4	5
12	I've been feeling loved	1	2	3	4	5
13	I've been interested in new things	1	2	3	4	5
14	I've been feeling cheerful	1	2	3	4	5

Secondary School Pupils (reported by pupils)

School Connectedness question are adapted from Waters and Cross (2010) and contain the following questions and an additional 3 questions on school connectedness (each coded by 1-5 Likert scale)

Additional questions of school connectedness (Adapted from Waters & Cross 2010)						
16	I feel proud to be a student at my school	1	2	3	4	5
17	I feel like I belong at my school	1	2	3	4	5
18	I enjoy coming to school	1	2	3	4	5
19	I have meaningful relationships with teachers from my school	1	2	3	4	5

Warwick-Edinburgh Mental Wellbeing Scales (WEMWEBS) (Stewart-Brown et al., 2009)

The WEMWEBS has been validated for use in general population and schools for the evaluation of projects, programmes and policies which aim to improve mental wellbeing. The 14-item scale WEMWEBS has 5 response categories, summed to provide a single score. The items are suitable for young people and are all worded positively, covering both feeling and functioning aspects of mental wellbeing and thereby making the concept more accessible. The scale has been widely used nationally and internationally for monitoring, evaluating projects and programmes and investigating the determinants of mental wellbeing. Further information on the measure can be found here: https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs

School Connectedness is assessed by 4 questions measuring school connectedness, these questions adapted from Waters and Cross (2010) questions were adapted to be suitable for use with the population. School connectedness is an important belief that is associated with protecting pupils against a range of risk behaviours and poor academic achievement (McNeely, Nonnemaker, & Blum, 2002).

Each survey is voluntary, pupils cand digitally withdraw from the survey prior to beginning and submitting their answers. A debrief for pupils is presented to on withdrawal or completion of surveys (see appendix i). The survey realistically takes 5-10 minutes (accounting for younger ages).