Assessing Attitude Across Different Age Groups in Regard to Global Issues: Are kids more optimistic than adults?

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SUMMARY

The world faces many problems. This study attempted to determine to what extent people are aware of the current global issues and whether people believe some of them may be successfully addressed. The main objective of the study was to understand if there is a correlation between the age of a person and their outlook. We hypothesized that a positive outlook, i.e. a general belief that many issues can be resolved, would be common among children, from elementary through high school, whereas adults would have a more negative perspective. This research was conducted using a survey-based study. The results supported the hypothesis and showed that children appear more optimistic than adults and believe that most issues can be addressed in the future. Adults are less optimistic and believe that, even with time, it is impossible to resolve many of these issues. Regardless of age, many respondents commented that technology, improved communication, kindness, and general willingness to change, along with an effective political agenda led by non-corrupt politicians, are essential for successfully resolving major problems. On the other hand, greed, selfishness, and the corrupt political system largely prevent any improvement.

INTRODUCTION

Optimists are people who expect positive outcomes and have positive view of the world around them and pessimists are people who expect negative outcomes and have negative view of the world around them. Anticipating positive versus anticipating negative seems to be linked to different underlining attitudes and behaviors among people. The ways in which optimists and pessimists differ in their view of the world has an impact on their lives and consequently the world they live in. Several psychology studies demonstrate that optimists and pessimists differ in how they confront problems, cope with adversity, and utilize social and socioeconomic resources (1).

Furthermore, research in psychology shows that optimism is observed more frequently in children and less in adults (1, 2). There is "positivity bias" in children as early as three years of age (2). This bias peaks in middle school and weakens later in high school, presumably due to education and experience. Research also indicates that children may remain stubbornly optimistic even when

presented with evidence to the contrary (2). With age, this "stubborn optimism" is tempered and many studies reported a decreasing level of positive future perception with increase in age. Several researchers concluded that adults have a more realistic outlook that is practical and functional than having an overly positive and hence unrealistic perception of their life (3, 4, 5). One study analyzed the results from the Life Orientation Test, evaluating different factors of optimism and pessimism among middle-aged and older adults (5). The results suggested that life stressors may affect disposition and showed a trend toward pessimism over age, especially among caregivers. Interestingly, the research pointed out that it is pessimism, not optimism, that has a stronger influence on outcome and may predict psychological and physical health (5).

Element of time has a definite impact on outlook and the trend of negative view increases over age (7). Exploring optimism and pessimism in terms of age and in the context of current global issues and problems may clarify differences in approach between children and adults. A large body of literature indicates that people who have positive expectations for the future respond to difficulty and adversity in more adaptive ways than people who hold negative expectations (8, 9, 10, 11, 12, 13). Expectations influence how people approach both stressors and opportunities, and they influence the success with which people deal with many challenges and even design solutions. In lieu of the many different global problems described below and as studied in the presented survey, the connection between outlook and age was explored.

The world today faces many serious issues and challenges: global warming, pollution, rapidly declining bee populations, energy crisis, health care crisis, immigration, wars, poverty and hunger, overpopulation, political corruption, and more. The global problems in the survey were selected based on current news and what the major non-profit organizations believe to be of concern (14, 15, 16). The United Nations is a global organization dedicated to safeguarding peace, protecting human rights and international justice, promoting economic and social progress, addressing immigration and climate change. In addition to United Nations, two smaller scale organization, the Borgen Project and GVI, were reviewed to understand what common global issues different types of organizations align on. The Borgen Project is a non-profit organization mainly focusing on addressing poverty and hunger, while he GVI is an organization dedicated to building

worldwide partnerships in order to facilitate global citizenship and teach leadership skills in young adults. Even though there are major differences in size, scale, and membership between UN, Borgen Project and GVI, the three organizations still identify same global concerns which require international recognition, cooperation, and implementation of long-term solutions. Identification of the issues is an important first step to building a better, sustainable, and kinder world (14, 15, 16).

Many scientists agree that global warming is a major problem and the cause of climate change (17, 18). Scientists also agree that humans are at fault. Consequences of increasing temperatures include rise of ocean levels, floods, loss of wildlife habitats, species extinction, reduction of the amount of drinkable water, massive human migrations and potential armed conflicts (17, 18). Air pollution is another serious problem that is not only responsible for global warming, but also results in poor air quality that causes cancer, birth defects, and many other health problems (17, 19, 20, 21). The problem of pollution is not limited just to air. Modern humans contaminate most of the resources they come across, including oceans, freshwater, and soil (22, 23). Oil spills and plastic pollution result in the death of ocean life and eventually have a negative impact on human health (24, 25, 26). Fish eat the poisonous plastic, and consumers eat the poisoned fish (27, 28, 29, 30). Freshwater is affected as well. Drinking water is polluted by sewage, industrial waste, oil spills, heavy metals, and other toxic chemicals. Pollution depletes drinking water drastically and poses many health risks (31, 32).

In addition to air and water pollution, people have polluted the soil which prevents successful farming, and accumulation of insecticides and fungicides has become a major problem, harming productive pollinators like bees (33, 34, 35, 36). Pollution and contaminated flora contribute to bee colony collapse disorder and result in the "bee apocalypse" (36, 37). Many scientists agree that death of bees may cause a major shift in the ecosystem, resulting in extinction of many plants and direct impact on food supply, which in turn may cause hunger, poverty, political conflicts, and maybe even wars.

Another critical problem the world faces is an energy crisis. The production and consumption of fossil fuels have increased dramatically (38). However, natural reserves of fossil fuels are at the verge of depletion and will become more expensive and increasingly scarce (38, 39). Turning to renewable energy like solar or wind power, has been considered as a solution. However, integrating the new sources of energy into mainstream society has yet to be implemented on a global level (38, 39).

Terrorism is a growing issue in the world (40, 41, 42). It is a new problem. Wars, on the other hand, have existed since the rise of human civilization. Terrorism and wars cost life and tremendous suffering (43, 44). It is easy to imagine that food shortage due to the impending bee apocalypse or poor living conditions due to changing climate or limited sources of energy may be the future reasons for tension and potentially even lead to armed conflicts such as terrorism and wars.

Hunger and poverty are most common in developing nations. However, even in developed countries such as the USA, many children go to bed without dinner (45, 46). More than half of the world's population lives at levels of poverty that deprive them of their basic needs, and more than 1 billion of those people live in hunger (45, 46). Unfair distribution of wealth, poorly utilized land, inefficient agricultural practices, and droughts are the main sources of hunger in the world (46, 47).

In poorer societies, overpopulation results in poverty and hunger. In more developed countries, overpopulation puts a strain on natural resources and impacts issues such as pollution, energy, and health crisis. With increased population and social inequality, migration poses a challenge as less fortunate and oppressed people look for opportunities in more developed regions of the world (48).

Political corruption can make all these problems not only much worse, but also destroy any hope of ever reaching a solution. Corrupt politicians and lobby groups pursue interests of big companies at the expense of their country and citizens (49, 50, 51, 52). The Chapman University Survey of American Fears in 2018 indicated that for the fourth year in a row the top fear of Americans is corrupt government officials (52). The collective fear of political corruption outweighs the fear of losing a loved one, not having enough money for the future, global warming, and pollution. Corruption in the government demoralizes the public and weakens the entire system of policy making and implementing. It diminishes services, undermines trust, and if not checked, will prevent issue resolution and problem solving (52).

All the described issue must be addressed for the successful future of humanity. Many of them require long-term strategies and commitment. However, the first step is agreeing that these issues do exist. Only then can solutions be developed, and actions taken. Each of these problems is multifaceted and interconnected, meaning that many aspects must be considered as part of a solution strategy. Given many debates and challenges associated with addressing some of these global problems, we wondered whether children and adults are aware of them. We also speculated that children, more so than adults, would have an optimistic outlook about solving these problems. This study attempted to determine if people agree that the aforementioned global issues exist and if people feel that those issues can be solved. Our hypothesis is that school-age respondents, from elementary through high school, are more optimistic about solving global problems, while adults are more pessimistic, being influenced by their experiences and understanding of the reality and causes of these problems. We predict that in our study, children will be more optimistic than adults reflecting the conclusions of previous research.

RESULTS
Demographic Analysis

The demographic results of participants were collected **(Table 1)**. Out of 143 respondents, 56% were female and 44% were male. The ethnicities of the participants were comprised of 66% Caucasian, 15% Asian, 8% African-American, 8% Hispanic, 4% Native American, and 4% other. Among the 143 respondents, 4% were elementary school students, 15% were middle school students, 19% were high school students, 8% were 19-30 years old, 38% were 31-50 years old, 7% were 51-65 years old, and 8% were 65 and above years old. When asked to identify which religion they followed, 49% self-identified as Christians, 12% as atheist, 10% as agnostic, 8% as Buddhist, 6% as Jewish, 5% as Muslim, 3% as Hindu, and 3% as New Age.

The 19-25 years-of-age group was underrepresented at only 4% of the sample size. This meant that the accuracy of data interpretation for that age group was likely low.

Number of Respondents:	143				
Gender	Females	Males			
	56%	44%			
Ethnicity	White	Black	Hispanic	Asian	Native American	Other
	66%	8%	8%	15%	4%	4%
Marital Status	Married	Divorced	Widowed	Single	
	40%	5%	6%	43%	
Political Party	Democratic	Republican	Independent	Libertarian	Green Party
	22%	13%	36%	3%	2%
Religion	Muslim	Jewish	Christian	Buddhist	New Age	Hindu	Atheist	Agnostic
	5%	6%	49%	8%	3%	3%	11%	10%
Age	Elementary	Middle	High	19-30	31-50	50-65	Over 65
	4%	15%	19%	8%	38%	7%	8%
Age Group	7- 18	19-25	Older than 26		
	28%	4%	57%		

Tabel 1. Distribution of respondents' demographics. Shown are percentages of gender, ethnicity, martial status, political party, religion, age, and age group distributions (n = 143 respondents).

The distribution of selected demographics across the different age groups was also assessed **(Table 2)**. Data from both the summary of demographics, and the distribution of demographics across different age groups indicated that the sample size was relatively diverse.

General Issue Analysis

Based on the survey responses, most people believed that all the listed global issues were indeed a problem **(Table 3 and Figures 1-3)**. The issues that generated more than 90% of "yes" responses were pollution, wars, and poverty and hunger. The issues that generated above 70% but below 90% of "yes" responses were global warming, energy crisis, terrorism, healthcare crisis, and government corruption. Bee apocalypse, immigration from Central America, and overpopulation had the lowest numbers of "yes" responses. The issue of bee apocalypse was the least known, as 34% of respondents were not sure that the bee apocalypse even existed, and 16% did not consider it an issue.

The majority of participants indicated that most of the issues could not be solved in the near future **(Table 3 and**

Figures 1-3). Instead, more than half of the issues could be addressed sometime in the remote future. The most likely issue to be solved in the next 50 years was energy crisis with 83% agreement from participants. Many respondents believed that pollution and global warming might be resolved with 72% and 58% agreement, respectively. Healthcare crisis, immigration, poverty, and hunger were considered issues of a concern, but less people believed that they could be fixed. Some participants indicated that these problems might be addressed in the short-term future, but more likely would be solved in the remote future.

Wars, terrorism, overpopulation, and political corruption generated the most pessimistic responses, either in the near or in the remote future, with "yes" responses at 50%, 44%, 41%, and 48%, respectively **(Table 3 and Figure 1-3)**. This suggested that most of the people simply did not believe that these four issues could ever be solved.

Age	White	African American	Hispanic	Asian	Other
6-11	80%				20%
12-14	50%	9%	14%	23%	4%
15-18	70%	4%	11%	15%	
19-30	55%	9%	18%	9%	
31-50	50%	30%	10%	10%	
51-65	50%	30%	10%	10%	
65-100	100%				
All	66%	8%	8%	16%	3%

Age	Male	Female
6-11		100%
12-14	64%	36%
15-18	30%	70%
19-30	45%	55%
31-50	47%	53%
51-65	70%	30%
65-100	17%	83%
All	44%	56%

Age	Muslim	Jewish	Christian	Buddhist	Hindu	New Age	Agnostic	Atheist
6-11		40%	40%				20%	
12-14	9%	5%	41%	23%	9%			14%
15-18	4%	7%	59%	7%	4%	4%		7%
19-30	9%		55%				27%	
31-50	4%	4%	45%	7%	2%	4%	15%	15%
51-65	10%		30#	10%		10%	20%	20%
65-100		8%	67%				8%	8%
All	5%	6%	49%	8%	3%	3%	10%	11%

Table 2. Distribution of selected demographics across studied age groups. Shown are different demographics with which the participants self-identified. The data represented as percentages (n = 143 respondents). A) Ethnicity distribution. B) Gender distribution. C) Religious background distribution. Data based on self-identification.
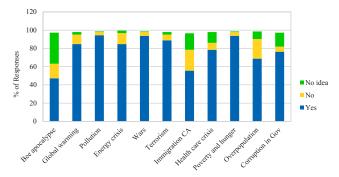

Figure 1. Summary of responses for "Is it an Issue?". Shown is the percentage of "yes", "no" and "no idea" responses to the question of whether each problem is an issue (n=143 respondents).
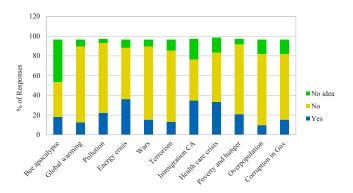
Figure 2. Summary of responses for "Is it possible to solve in near future?". Shown is the percentage of "yes", "no" and "no idea" responses to the question of whether it is possible to address each issue in the next 2-10 year (n=143 respondents).
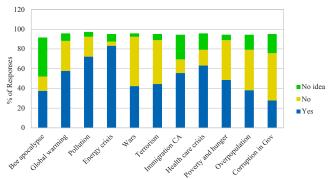

Figure 3. Summary of Responses for "Is it possible to solve in long-term future?". Shown is the percentage of "yes", "no" and "no idea" responses to the question of whether it is possible to address each issue in the next 10-50 year (n=143 respondents).

Age Group Analysis

Chi-square analysis of correlation between responses and demographics of the responders revealed several significant correlations **(Table 4)**. While there were correlations with a few demographic characteristics, we focused on the correlation with age groups. Correlation analysis of age groups and the responses demonstrated that global warming, pollution, energy crisis, wars, terrorism, and poverty and hunger were considered real issues by all age groups, with the majority of "yes" responses higher than 80% and for some age groups reaching 100% **(Table 4)**.

Immigration, healthcare crisis, and political corruption were not considered big problems by the elementary and middle school age groups **(Table 3 and Figure 1-3)**. None of the elementary school students believed that immigration was an issue, while only 36% of the middle school participants found it concerning. Only 40% of the elementary students and 55% of the middle school students considered the health care crisis a problem. Interestingly, 20% percent of elementary school children and 42% of middle school children already viewed Congress corruption as an important issue.

Overpopulation was considered a problem by all the age groups, with the exception of the 51-65 age group, of which only 33% considered it a serious issue **(Table 3 and**

Figure 1-3). Many respondents were not aware of the bee apocalypse, and only the high school aged group recognized it as a problem.

Is it Considered an Issue?	Age						
Issue	Elementary	Middle	High	19-30 years	31-50 years	50-65 years	Above 65
Bee apocalypse	20%	27%	81%	55%	43%	50%	42%
Global warming	80%	91%	100%	82%	87%	70%	64%
Pollution	100%	91%	100%	100%	96%	100%	82%
Energy crisis	100%	86%	100%	64%	74%	70%	58%
Wars	100%	95%	96%	91%	96%	80%	0%
Terrorism	80%	91%	96%	82%	91%	80%	100%
Immigration CA	0%	36%	70%	45%	66%	50%	70%
Health care crisis	40%	55%	96%	91%	83%	100%	67%
Poverty and hunger	100%	95%	100%	100%	91%	90%	100%
Overpopulation	77%	85%	73%	65%	80%	33%	70%
Corruption in Gov	20%	42%	93%	82%	87%	90%	91%

Possible to Solve in 2-10 years?	Age						
Issue	Elementary	Middle	High	19-30 years	31-50 years	50-65 years	Above 65
Bee apocalypse	20%	9%	11%	36%	18%	30%	33%
Global warming	40%	27%	11%	27%	0%	10%	27%
Pollution	100%	91%	100%	100%	96%	100%	81%
Energy crisis	80%	50%	52%	36%	31%	0%	27%
Wars	40%	36%	15%	18%	8%	0%	18%
Terrorism	20%	32%	15%	18%	4%	0%	27%
Immigration CA	0%	32%	44%	36%	38%	20%	45%
Health care crisis	40%	23%	30%	55%	35%	30%	42%
Poverty and hunger	80%	26%	11%	27%	15%	0%	20%
Overpopulation	40%	23%	7%	9%	4%	0%	15%
Corruption in Gov	20%	9%	11%	9%	17%	10%	19%

Possible to Solve in 10-50 years?	Age						
Issue	Elementary	Middle	High	19-30 years	31-50 years	50-65 years	Above 65
Bee apocalypse	0%	27%	69%	55%	34%	30%	44%
Global warming	40%	86%	85%	64%	49%	40%	5%
Pollution	80%	91%	88%	73%	69%	50%	55%
Energy crisis	60%	91%	96%	91%	96%	70%	40%
Wars	80%	86%	65%	27%	28%	0%	20%
Terrorism	40%	82%	77%	36%	28%	20%	33%
Immigration CA	0%	32%	44%	36%	38%	20%	45%
Health care crisis	40%	23%	30%	55%	35%	30%	42%
Poverty and hunger	80%	95%	62%	45%	38%	20%	20%
Overpopulation	40%	68%	58%	27%	28%	30%	22%
Corruption in Gov	40%	32%	46%	27%	21%	20%	27%

Table 3. Summary of yes responses across age groups. Shown are results represented as percentage of "yes" replies across seven different age groups for whether a particular topic is an issue of concern; whether it can be solved in 2-10 years; or whether it can be solved in 10-50 years (n = 143 respondents).

Most participants did not indicate that any of the listed issues could be solved within the next 10 years **(Table 3 and Figure 1-3)**. However, over 60% of respondents across all the age groups believed that the energy crisis, pollution, and global warming could be solved within 50 years. All the age groups agreed that pollution could be solved. As for the energy crisis, all the "yes" responses within the age groups were between 60-90%, except for the above 65 years-of-age group, of which only 40% considered it a challenge.

	Age Group	Educa-tion	Gender	Race	Employment	Marital Status	Income	Personality	Faith
Bees	0.004*	0.052	0.157	0.039	0.069	0.031	0.314	0.681	0.313
Warming	0.009*	0.193	0.095	0.216	0.008*	0.006*	0.626	0.987	0.769
Pollution	0.227	0.908	0.666	0.397	0.001*	0.024	0.642	0.334	0.360
Energy Crisis	0.002*	0.120	0.820	0.126	0.000*	0.000*	0.390	0.000*	0.293
Terrorism	0.198	0.326	0.584	0.754	0.582	0.625	0.853	0.547	0.001*
Immigration	0.003*	0.004*	0.781	0.004*	0.009*	0.474	0.359	0.119	0.000*
Health	0.000*	0.000*	0.708	0.459	0.250	0.053	0.029	0.730	0.354
Poverty	0.391	0.014	0.120	0.000*	0.000*	0.600	0.739	0.433	0.001*
Overpopula-tion	0.064	0.062	0.355	0.120	0.000*	0.003*	0.130	0.535	0.142
Corruption	0.000*	0.000*	0.348	0.029	0.014	0.005*	0.000*	0.124	0.724

Table 4. Correlation of "yes" responses to demographics. Show are p-values calculated with chi-square; p-values lower than or equal to 0.01 are marked with asterisks.

The issues which were universally believed to be difficult to solve in the long term were immigration and healthcare crisis **(Table 3 and Figure 1-3)**. The percentage of responses for those who believed that those issues could be resolved were low, with about 44% of school-age respondents and only 20% of 19 to 65-year-olds indicating that a solution in the remote future was possible.

Wars, terrorism, poverty and hunger, and overpopulation had unfavorable results for the older age groups (from 19 to 65 and older), but the younger participants (from elementary to high school) stipulated that these issues could be solved **(Table 3 and Figure 1-3)**. For the adult group from 19 to 65, the "yes" response rate ranged from 0% to 45%. For respondents from elementary school to high school, the "yes" response rate ranged from 40-95%. This clearly demonstrated that the younger respondents were more optimistic and hopeful about solving the issues of wars, terrorism, poverty and hunger, and overpopulation than the older participants.

Interestingly, Congress corruption was the only issue that was universally considered the most unlikely ever to get resolved, with only 27% of the older people still thinking that the US Congress could be rectified (**Table 3 and Figure 1-3**). The younger age groups were not optimistic either, as indicated by a dramatically lower "yes" response rate. This observation was consistent with other research regarding political corruption in the USA (52).
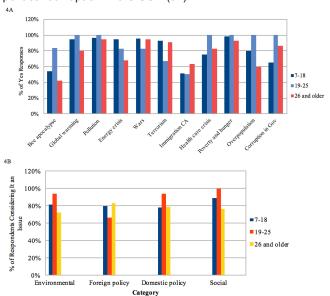
Figure 4. All issues were equally important across all age groups. A) Shown are % of "yes" for each of the issues across three combined age groups. B) Shown are % of respondents for categorized issues across three combined groups.

To better understand correlation with age, the respondents were grouped into three different age groups **(Figures 4-6)**. The "primary and secondary school" group encompassed the 7-18 year-olds, which included elementary, middle, and high school students. The "very young adults" group consisted of the 19-25 year-olds, which included college students and

working young adults. The third group included the 26 years old and older, in which many people typically finished college, could be employed, and often had their own children and/or grandchildren.
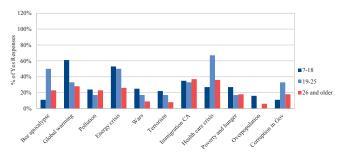

Figure 5. The younger age groups were more optimistic about solving majority of issues in the near future, 2-10 years. Shown are responses for % of "yes" categorized into 3 combined age groups. Younger respondents considered most of the problems to be issues.

The aggregated data clearly showed that children and adults had a different outlook on the presented problems and did not agree whether some issues could or could not be solved **(Figures 4-6)**. Problems such as global warming, wars, terrorism, poverty and hunger, and overpopulation created the most disagreement. It appears that children believed that these challenges could be solved in the remote future, while adults did not think it was ever possible. Based on the written responses, children proposed for people to work together to solve problems. Adults viewed people as greedy, dishonest, and unable to work together to address global concerns.
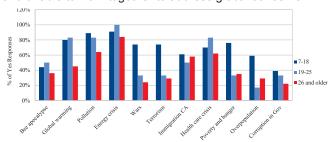

Figure 6. The younger age groups were more optimistic about solving majority of issues in the long term, 10-50 years. Shown are response for % of "yes" categorized into 3 combined age groups. Younger respondents considered most of the problems to be issues.

The 7-18 years-old age group was more confident in solving most of the issues in the long term, while the 26 and older group was significantly less optimistic about resolving the presented topics **(Figure 7)**. These results supported our hypothesis. In contrast to adults, children appeared to be more optimistic and believed that many of the presented issues could be successfully addressed in the future. The level of importance for categorized issues was equally important across all age groups **(Figure 4A)**.

DISCUSSION

The hypothesis of our project was that children are more optimistic than adults in the context of solving world problems.

Overall, the results supported our hypothesis. This survey did not attempt to understand why children are more optimistic than adults, but we clearly saw a correlation with younger age and positive outlook. A possible explanation of why children are more optimistic than adults may center around education, awareness, and understanding of the topics at hand. Perhaps the fact that students do not know in detail about certain issues is the reason why they are optimistic about solving them.
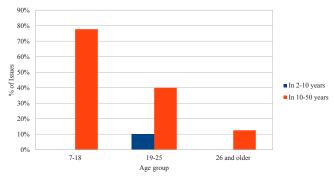

Figure 7. The 7 to 18 age group is the most optimistic. Represented is optimism across combined age groups. Shown are percentages of issues that 65% or more of respondents in the age group believed could be solved in the near or remote future.

An important factor to consider is how often respondents read or watch news. In the USA, children on the average watch more than 20 hours of TV per week, adults watch 35.5 hours per week, and older adults watch around 50 hours per week (53). It is unclear how many hours are spent on news or educational programs versus recreational shows. However, one study found that most broadcasting stations (59%) offered only the minimum of 3 hours per week of educational or informational programming and only 3% of stations offer more than 4 hours (54). Three-quarters of stations confined all their educational and informational programming to weekends, and more than a quarter of programs were rated as high in physical or social aggression (54). Probably, TV contributes very little to children's awareness on topics presented in the survey.

In terms of magazine readership, the age of average reader is increasing. Many magazines report that the average age of their reader is higher than that of the general adult population's (55, 56). Based on research, in the past a newspaper audience has been more educated, affluent, and older than non-newspaper readers, but as digital media has gained in prominence, electronic newspapers attract younger readers (57). Nowadays, younger adults now account for a greater percentage of electronic readers. Readers in the 21 to 34 age group make up 25% of the U.S. population and represent 24% of the total monthly electronic newspaper readership (57). Digital distribution of well-established magazines, journal, newspapers has allowed to reach adults of all ages, but not necessarily school-aged children in elementary through high school level.

Exposure to current news, events, and social media may influence whether respondents are aware of a certain topic and how they feel about it. Social trends and political pressures may also shape a person's view and influence their perspective.

Other elements that may impact outlook are cultural and family upbringing, urban versus rural setting, or personal character and convictions. None of these were examined in this study. The question whether respondents considered themselves a pessimist, optimist, realist, programmatic, or a whiner is not a sufficient, nor reliable marker of accurate self-reflection and may not fully assesses the person's daily outlook and convictions. A new study would need to be conducted to better understand what influences and drives outlook and perspective on a given topic.

An interesting element of this study was the possibility of tracking at what age people start to learn and be concerned about certain topics. Even though our study did not examine educational background behind each issue, we were still able to show a correlation between age and positive-negative outlook. A longitudinal study may be a more appropriate way to assess topic awareness and may have a better capacity to gauge explanation of a perspective. In addition, such a study may help to identify gaps in the educational system and help to augment what is being taught in schools. It is important for students to be aware of current problems the world faces so that the next generation of leaders are better educated and better equipped to develop proper solutions.

Moreover, it would be interesting to learn if the same adults who are now pessimistic about the issues had a different view when they were younger. People appear to be more optimistic when they are young. Children see endless possibilities and stagnation seems an eternity away. But then the years pass and life proves to be difficult. With age, adults become jaded and gradually lose their sense of optimism. This condition is reflected in our study and it does seem that with age positive outlook slowly degrades. Research indicated that older people process negative information less deeply then they do positive information. Perhaps one explanation is that with age people become desensitized towards negative news. When they are younger, they process negative information deeper (58). In the future, we would like to determine whether adults who are pessimistic were more optimistic when they were children and whether personal experiences acquired with age and broader awareness of how things work result in a more negative impression of the world. We would like to also understand whether the children of today turn into adults with opinions similar to those of adults of today. Again, several limitations were noticed as possible shortcomings in interpreting the presented data and may be better answered via a longitudinal study.

During data analysis, other deficiencies became apparent. Some unintentional bias might have been introduced by using terms such as 'crisis' and 'apocalypse'. These terms might have encouraged participants to pick a more pessimistic response. These questions should be

rephrased in future studies. Another limitation of the study was unclear assessment of whether respondents are optimists or pessimists in their daily lives. A scenario with several potential outcomes to choose from, ranging from optimistic to pessimistic, would asses a person's outlook more accurately than relying on background information or self-description. We did not use Likert Scale since we did not think that it would provide any additional details for the general questions about the future that were used in the survey. However, in another study such a scale may help to better understand variation in outlook and general perspective. Respondents also had an opportunity to express and elaborate on their opinion. Many children noted that most of the issues could be solved with the use of technology, communication, and cooperation. Some children said that if society worked together, it could accomplish anything. One middle school student stated: "With kindness and improved technology, we can solve most problems." Another wrote that "people can talk and solve problems because they are mostly good and reasonable." The belief in the goodness of human spirit was common among children.

There were, however, some noteworthy exceptions among the younger group. Some children were clearly less optimistic about the future. Their opinion was like that of the adults, as they also stated that many people are corrupt and greedy. They believe that our country is setup with greedy and selfish intensions and may be difficult to repair. They noted that 50 years is a lot of time, but still not enough to "fix it". Some children understand that our planet is being destroyed by humans, and it is difficult to control greed and desire for power. It is possible that their opinion might have been influenced by the views of their parents and other adults. It is also equally possible that such a negative opinion might be original and may reflect actual sentiments of those children. Research indicated that half of the GenZers questioned agreed that voting is important and even though most are too young to vote, they are interested in social issues at much younger age than many generations before them (59). Many of them are divided on issues such as healthcare and trustworthiness of government officials, but majority has a hopeful outlook and believes in attaining the "American Dream" (59).

Adults were less optimistic and had a more realistic view of the world and people around them. One response summarized well the general perspective of many adults: "People are greedy and power hungry. Their nature won't change. Problems will persist." Most adults believe that the government is corrupt and greedy. Many stated that people are mostly evil, and wars cannot be prevented because they stem from human nature. Many adults pointed out that political corruption is not only the root cause of so many problems, but also will prevent them from being solved in the future.

However, there were exceptions among adults as well. A few adults believed that problems could be solved due to the extraordinary advancement of human technology, cooperation, belief in the common good, and reforms in the government which include the elimination of political corruption.

The results of this study clearly demonstrate that children are much more optimistic than adults. Perhaps adults can learn from children to be more hopeful. Perhaps children could learn from adults and from their experiences to be more pragmatic in addressing world issues. Understanding the relationship between optimism, experience, and pragmatic thinking, may be a key to addressing many concerning issues and building strategies to solve them.

MATERIALS AND METHODS

This survey was designed using multiple choice questions to assess demographic characteristics of the participants and their opinions about different world issues. Additionally, there was one open response question giving respondents an opportunity to discuss their opinion in more detail.

The study was approved by Andover public school administration committee. An appropriate Scientific Review Committee (SRC) form was obtained and approved.

Respondents were approached in public places such as the Senior Center, the Youth Center, local stores, streets, and private houses. The survey was anonymous and did not capture respondents' name and contact information.

Results were analyzed using free, open-source PSPP statistical software. Correlations were evaluated using chi-square method. The data were further analyzed in the free, open-source LibreOffice Calc application.

The number of respondents was 143. Respondents were not limited by residency in a specific town, only to the state of Massachusetts. To determine if the results of the survey matched the population of a typical mid-size town, highest margin of error was calculated for different confidence levels across all of the reported data. The margin of error (MOE) was calculated according to the formula:

This calculation allowed us to determine if the amount of people surveyed was enough to be confident about the accuracy of the data collected. If we assume that a typical mid-size town has a population of around 30,000, the margins of error for the confidence levels of 90%, 95% and 99% are ±6.9%, ±8.2%, and ± 10.7% respectively.

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