A Meeting of the Minds

WOMEN’S HEALTH RESEARCH AT YALE IS BORN

In 1998, scientists observed the first direct evidence of dark energy, thought to be responsible for the accelerating expansion of the universe. A NASA probe found frozen water on the moon’s surface. French surgeons completed the world’s first hand transplant, duplicated with more lasting success in the United States the following year. In California, Larry Page and Sergey Brin started a company they named Google. And in New Haven, Conn., Dr. Carolyn M. Mazure was awarded a generous grant from the Patrick and Catherine Weldon Donaghue Medical Research Foundation to create Women’s Health Research at Yale, a center within Yale School of Medicine dedicated to improving well-being for all through new scientific knowledge translated into medical and personal practice.

It was the culmination of a year of detailed personal and written discussion with the foundation that began in a series of meetings with Raymond Andrews, a widely-respected lawyer, probate judge, and the then Individual Trustee of the foundation.

“This was a real meeting of the minds,” Mazure said. “Ray was truly dedicated to the language and intent of Ethel Donaghue’s will to fund projects ‘for medical research of practical benefit.’ And this was precisely what I was hoping to achieve.”

At the time, it had only been five years since President Bill Clinton signed a law requiring the inclusion of women in clinical studies seeking federal grants from the National Institutes of Health, an effort to make up for decades in which women were not routinely included in biomedical research. And it would be years still before researchers began to more fully publish studies based on the inclusion of women.

In this atmosphere, Mazure implemented her ideas about leading the study of women’s health beyond the commonly adopted bounds of reproduction to engage in interdisciplinary research covering multiple diseases and conditions that affect women as well as efforts to uncover health-related sex and gender differences that can improve the lives of women and men.

Thanks in great part to the Donaghue Foundation’s initial grant, WHRY has now entered its 20th year of stimulating Yale’s renowned research engine to explore women’s health and

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Women’s Health Research at Yale was founded in 1998 with initial funding from The Patrick and Catherine Weldon Donoghue Medical Research Foundation. Women’s Health Research at Yale is a program within Yale School of Medicine. Yale University is a 501(c)(3) nonprofit organization.

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Consider a donation to Women’s Health Research at Yale in celebration of a birthday, a special occasion, or to honor someone in your life.

Our Society of Friends ensures the future of Women’s Health Research at Yale. Gifts are welcome at all levels.

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Women’s Health Research at Yale
NIH UPDATE

The Future of Federal Funding for Health Research

When examining the subatomic world of electrons, scientists employ equations to determine either a particle’s location or momentum using probabilities. In some ways, it’s a little like trying to hit a moving target.

Which brings us to the federal budget. In any given year, no one knows for certain how much money will be set aside to pay for biomedical research until Congress passes a bill and the President signs it. The budget of the National Institutes of Health, the largest single source of biomedical funding, has traditionally been recognized as benefiting society and America’s global leadership in advancing human health.

The NIH budget doubled between 1998 and 2003, a period that saw the completion of the Human Genome Project along with scores of insights into diseases and the creation of new tests and treatments.

From 2003 to 2014, the NIH budget remained basically flat while costs for goods and services steadily increased. As a result, the purchasing power of the NIH’s budget over that time declined by 25 percent.

In 2015, Congress approved a $2 billion, 7 percent increase to the NIH budget. And last year, the 21st Century Cures Act called for a $4.8 billion increase over 10 years, appropriating the current fiscal year’s funding and requiring annual appropriations for subsequent years that are not guaranteed.

But the President’s first budget proposal, released in March, called for cutting nearly $6 billion from the NIH’s $32 billion spending plan, an 18 percent decrease.

Dr. Harold Varmus, a former Director of the National Institutes of Health, expressed concern in a New York Times opinion piece from March that a cut of this magnitude could “undermine the fiscal stability of universities and medical schools,” “erode the United States’ leadership in medical research,” and “diminish discovery aimed at preventing and treating diseases.”

Still, as Varmus argues, a presidential budget proposal makes a statement worth noting. In this case, the statement represents a value judgement concerning the importance of science in advancing human health and driving sound policy decisions.

According to the higher education and careers research company QS, 16 out of the top 25 medical universities in the world are American. And 17 American universities last year made the top 25 for biological sciences. These institutions’ administrators, faculty, and students — including those at Yale, near the top of both lists — can take a lot of credit for their success. But much of the work they do in biomedical research derives funding from the NIH.

The United States has long led the world in innovation to improve and save lives. A renewed commitment to supporting the work behind such advancements can make a healthier and happier future for everyone more certain.
A Meeting of the Minds (Continued from front cover)

sex and gender differences; forging working partnerships among faculty in diverse fields to advance science and clinical practice to benefit women and men; educating junior faculty, medical students, undergraduates, and the public on the importance of fully considering sex and gender in research and personal health care decisions; and asserting a national voice to inform public health policy.

Over the years, the center has helped launch the careers of researchers such as Dr. Megan Smith — who created and built a unique neighborhood-based infrastructure for studying and responding to the health needs of the community. It has been the scientific home for major NIH grants, including Specialized Centers of Research focusing on sex differences in the pernicious effects of stress on health outcomes. It has hosted scientific trailblazers such as Dr. David C. Page, Director of the Whitehead Institute — who is a leader in human genetics showing us that sex chromosomes within every human cell play an essential role in reading one’s genome. And it is changing the future of medical education with dedicated and accomplished faculty such as Dr. Njeri Thande, a talented cardiologist who is integrating the study of sex and gender into the medical school’s curriculum.

Moreover, WHRY’s studies have, for example, shown that a treatment for autism to help children become more socially engaged — which was never previously tested with girls — works better in girls than boys, revealed new data on critical breast cancer risk detection techniques, and are discovering if a virus that has been shown to eliminate a type of brain tumor can also be effective in treating ovarian cancer.

Over the years, WHRY has provided grant funding for more than 80 pilot projects, research studies that benefit women or explore sex and gender differences requiring preliminary data to obtain larger external grants. Additional forward-thinking foundations and private donors have joined the Donaghue Foundation in this core endeavor. So far, the center’s $4.9 million in pilot grants has allowed its investigators to earn $85 million in external funding to advance the research in their labs and clinical research settings.

Starting with this issue of “Innovations in Women’s Health,” we will look back at some of the many success stories among the researchers who contributed to this unique and often groundbreaking body of work. We will recap their WHRY-funded studies, examine the findings, see where the work has led them all these years later, and where they suspect it will lead them next.

“It’s almost hard to believe we are approaching our 20th anniversary,” Mazure said. “We have accomplished so much since my first meeting with Ray Andrews. And we have so much more exciting work yet to come.”

Understanding Abuse

FROM INTIMATE PARTNER VIOLENCE TO SPIKED DRINKS

When Dr. Suzanne Swan and colleagues conducted a recent survey of over 6,000 students at three universities, she found that one in 13 students reported being drugged at a social event and that 1.4 percent admitted to either drugging someone else or knowing someone who did.

The study was published last year in the American Psychological Association’s journal Psychology of Violence.

“When I talk about the study in my classes I find that students say, ‘We know about that,’” Swan said of the prevalence of campus drugging behavior. “College students are quite aware this is going on.”

Swan, an Associate Professor in the University of South Carolina’s Department of Psychology and Women’s and Gender Studies Program, has devoted her career to understanding the causes and consequences of intimate partner violence and other forms of aggression. Her focus includes the influence of gender, both in her ongoing research and in classes she teaches on women’s health and on men and masculinity.

Swan’s interest in these topics date back to her time as the Director of Family Violence Programs at The Consultation Center in Yale School of Medicine’s Department of Psychiatry, where in 1998 she received one of the first research grants from Women’s Health Research at Yale.

“It’s been 20 years?” she said when contacted for this story. “And you’ve gone on to fund over 80 projects? What an amazing and wonderful accomplishment!”

In her WHRY pilot project, Swan found that in intimate partner violence, women may respond to their partners’ abuse with violence, which then can lead to even more violence from their male partners. And compared with male victims, women were more often victims
of more serious types of abuse, including sexual violence and injury. 

She also found that almost all of the women who committed acts of domestic violence against their partners were themselves victims of violence, sometimes perpetrated by their current partners but also by others in past relationships.

“Sometimes they were women who were suffering from post-traumatic stress disorder as a result of violence in their past and were then taking out their anxiety, anger, and frustration on a new partner,” Swan said.

“These were important insights,” Swan said. “Because the types of interventions we used at that time were all based on models of male violence against women. These interventions didn’t really work very well when we tried to use them with women because the women’s violence was often in reaction to male violence.”

Data from this study were used to identify factors that could predict violence and help shape treatment interventions that were designed to be more effective in preventing violence by both men and women.

More than one in three women in the United States have experienced physical violence, sexual assault, or stalking by an intimate partner. The majority of female victims of all types of violence report men as their attackers, and intimate partner violence is the primary cause of women’s injury-related emergency room visits. However, Swan began investigating the subject as part of her work with individuals referred by criminal courts following domestic violence incidences and found that about 25 percent of the referrals were women.

“That was an eye-opener for me,” Swan said. “Most research on intimate aggression focused on male violence.”

In a recent study Swan co-authored, she and her colleagues found that college students perceive male victims of sexual assault as less likely than female victims to tell someone else or seek formal services to help. And the students found campus resources for male victims of sexual assault inadequate. So Swan has challenged colleges to better understand how gender and other identities have shaped the administrations’ responses to sexual assault. And she continues to explore interventions that address the differing perspectives and experiences of male and female victims and perpetrators.

Since leaving Yale in 2003, Swan has embraced the opportunity to work with college populations, and she has discovered similar gender disparities.

CONTINUED ON NEXT PAGE
at play in her more recent research involving drink spiking on college campuses. Her study found that women were more likely to report having had their drinks spiked with a drug, but 21 percent of the victims were men.

Women tended to report sexual assault as a motive behind the drugging, while men more often considered it part of recreational or party behavior that fits with the binge drinking common on campuses.

“When you talk about drugging, the image most people get in their head is the drug-facilitated sexual assault scenario,” Swan said, referencing the allegations of more than 50 women who have accused the comedian Bill Cosby of drugging and sexually assaulting them. “But there are people who report doing it for fun, sort of as a prank in a party atmosphere.”

Which doesn’t mean such behavior carries no danger, Swan quickly added. “People need to know this could hurt somebody,” she said. “You don’t know what medications people are taking. You don’t know their biology. In developing interventions to curb drugging, I think if students realize there are some very significant risks involved, that may make some of them rethink this behavior.”

For Swan, data-driven knowledge offers the best path toward a healthier and happier future for everyone. Dating back to her WHRY-funded project through her current teaching and research, she aims to make sure gender remains part of the discussion.

“Speaking generally, men and women have different health needs and motivations,” Swan said. “We need to understand those differences to provide the most effective solutions to the serious problems of violence and aggression.”

While at Yale Medical School in the early 1990s, Dr. Linda Bartoshuk sprang to national attention for her discovery that roughly one in four people were born with an unusually large number of structures containing taste buds, allowing them not only to experience the flavor of foods in far more vivid ways but also to experience greater pleasure from food than an average person with far fewer taste buds.

She dubbed them “supertasters,” a major discovery in a research career spanning five decades, dedicated to helping solve mysteries behind the subtlety of how humans experience taste and when that can result in a disorder.

“It’s wonderful,” said Bartoshuk, now a Bushnell Professor of Food Science and Human Nutrition at the University of Florida. “Good science keeps circling back to the great problems.”

But she soon found out that not all was equal among the population of supertasters.

Bartoshuk estimates that the label applies to 35 percent of women and only 15 percent of men in the United States.

“For the average person, the strongest sweet you’ve ever tasted does not taste the same to a supertaster,” Bartoshuk said. “For a supertaster — more often women — it’s twice as sweet.”

Supertasters, Taste Loss, and Menopause

However, there can be a real downside to being a supertaster, especially for peri- and postmenopausal women. Studies have shown between 10 and 40 percent of women seeking treatment for menopausal symptoms complain of burning mouth syndrome, or BMS, which is a painful recurring or regular sensation of oral burning with no clear origin.

In 1998, Bartoshuk received one of the first grants from Women’s Health Research at Yale and confirmed her suspicion that burning mouth syndrome in postmenopausal women was caused by an abnormal activation of the oral pain center in the brain linked to supertasters.
Normally, the tastes of foods activate nerves in the tongue that send taste messages to the brain, which in turn relay messages to block oral pain.

Bartoshuk’s lab discovered that patients with BMS are often supertasters who have experienced severe taste losses on the fronts of their tongues that leave them virtually unable to taste bitter, and her WHRY-funded study explained why postmenopausal women are at special risk for BMS. Specifically, although the loss of taste is most likely caused by a viral illness, the viral damage leaves a woman without the normal inhibition of the brain’s oral pain center, and the resulting activity creates abnormally intense effects.

Sex hormones influence the ability of women to taste bitter. For example, tasting bitterness intensifies early in pregnancy as a selective advantage that evolved to help pregnant women better avoid poisons. When sex hormones decrease during menopause, the intensity of bitter tastes are reduced, resulting in less inhibition of the brain’s oral pain center.

“When you put it all together, women who are born supertasters, are postmenopausal, and have experienced damage to their sense of taste are at a high risk for developing burning mouth syndrome,” Bartoshuk said.

“Think of these sensory connections along an evolutionary path aided by natural selection,” she said. “Imagine that millions of years ago, an animal had to fight with its sharp teeth to survive. Teeth are very close to the tongue, and an injury to the tongue might lead an animal not to eat. But if an animal takes a bite of food and pain is reduced, the animal will be rewarded for eating despite the injury. Consequently, it is more likely to survive to pass this trait along to the next generation.”

But when there is enough damage to the taste sensors on the tongue, the messages from the brain to block oral pain no longer arrive. As a result, an individual can feel what is called an oral phantom — a sensation in the absence of any physical stimulus.

Bartoshuk credits much of her lab’s success to working with talented colleagues, students, and postdocs including Dr. Valerie Duffy, now Director of the Graduate Program in Allied Health Sciences at the University of Connecticut.

Importantly, data from her WHRY-funded study provided the critical science that confirmed the clinical observations her colleague, Dr. Miriam Grushka, now an oral pain specialist in Toronto, found in using medications to treat BMS. For example, the drug clonazepam, which promotes the inhibition of brain activity, helped reduce burning mouth pain in about 70 percent of patients. And we now know that it works by “replacing” the inhibition of the oral pain center lost because of damage to taste, Bartoshuk said, opening the door to finding other treatments as well.

The Fruit of the Future

Bartoshuk’s current research has begun to link with her earlier WHRY-funded work on oral phantoms by focusing now on how taste buds are only part of the story when it comes to mouth sensations and the flavors we experience from food.

When we sniff fruit, volatiles are drawn into our noses and stimulate the olfactory receptors at the top of the nasal cavity. When we eat fruit, chewing releases these volatiles, and they travel up behind our palates and into our noses from the rear. This backdoor to smell and the sensations detected by taste buds on tongues combine to form flavor.

Since the 1970s, scientists have known that some volatiles could intensify sweetness, but in more than 30 years of research, only about a dozen of these volatiles had been identified, Bartoshuk said. While aiming to restore taste to supermarket tomatoes bred for color and hardiness, she and her colleagues discovered how to identify the volatiles in fruit that enhance sweetness. They now have more than 80.

“This is a new source of sweetness, and it means we can make fruit better,” she said. “Imagine strawberries you don’t have to add sugar to. We’re going to make strawberries sweet naturally.”

Bartoshuk hopes her work with volatiles will help show new ways to treat oral phantoms. And she expressed gratitude for WHRY’s part in showing her how studying women can pay great dividends.

“It was awfully welcome funding when we got it,” she said, noting the difficulty of generating funding for innovative gender-based research without preliminary data derived from such initial support. “And it has motivated a lot of research since then and led us to making new discoveries that will benefit both women and men.”

ABOUT THE INVESTIGATOR —

Dr. Linda M. Bartoshuk earned her Ph.D and M.S. from Brown University and her B.A. from Carleton College. She is currently a Bushnell Professor for Food Science and Human Nutrition at the University of Florida’s Institute of Food and Agricultural Sciences.

Dr. Bartoshuk’s lab has discovered supertasters, studied links between taste damage and weight gain, and developed new measurement techniques for quantifying sensations and the pleasure or displeasure they evoke. She is currently working with plant scientists to cultivate more flavorful fruits.
There is a reason NASA scientists have been looking for water on Mars, and that’s because, at least on Earth, water is life.

Blood is mostly water, delivering oxygen from heart to head to toes to fingertips and everywhere in between. Water, through urine and perspiration, rids the body of waste. We also lose water through sweating to cool our bodies down when hot. Water in saliva aids digestion. It keeps mucous membranes moist to stop germs from getting in. Water lubricates joints. Water cushions the brain and spinal cord from shocks. Most of our water is in our cells, which they need to survive, grow, and reproduce. It’s most of everything inside of us.

Water makes up about 50-60 percent of all human body weight, and we need to consume enough every day to remain healthy through drinking and eating.

“The body always wants equilibrium,” said Dr. Nina Stachenfeld, a Fellow at the John B. Pierce Laboratory and a Senior Research Scientist in Obstetrics, Gynecology, and Reproductive Sciences at Yale School of Medicine. “If you stop drinking, you start to dehydrate cells, which will inhibit their function and lead to bad outcomes.”

But beyond drinking, the ways in which our bodies regulate water content remain a subject of ongoing investigation. With the help of Women’s Health Research at Yale, Stachenfeld’s lab has helped pioneer research to understand the role of female sex hormones in the regulation of body fluids.

“Estrogen and progesterone fluctuate widely in women of reproductive age,” she said. “So isolating the effects of each hormone is difficult.”

However, knowledge of how hormones affect fluid regulation carries significant health benefits beyond simple curiosity. For example, these hormones affect sodium balance in the body, which can increase the risk of high blood pressure and carries a risk for developing heart disease. Estrogen and progesterone also have important direct effects on blood vessels themselves.

With one of the first grants from Women’s Health Research at Yale in 1998, Stachenfeld used a synthetic hormone called leuprolide acetate to suppress all estrogen and progesterone production in young, healthy women volunteers and then introduced each of the sex hormones individually to study its effects on body fluid regulation.

“This was the first study in which we used this method,” Stachenfeld said, crediting Dr. David Keefe, currently the Chair of Obstetrics and Gynecology at the New York University School of Medicine, for teaching her. “You can start fresh and introduce hormones one at a time. These days we use a different drug, but this is now a standard technique we use in our lab.”

Stachenfeld had hypothesized that estrogen was the main player in the way that a hormone secreted by the heart called atrial natriuretic peptide altered body fluid dynamics. Instead, the researchers discovered that progesterone was driving the process.

“The focus of researchers has mostly been on estrogen, without considering changes in other hormones such as progesterone,” Stachenfeld said. “But we’ve learned that progesterone has important influences on how estrogen affects cardiovascular changes and body fluid and sodium regulation in women.”

Stachenfeld credited the model developed in her WHRY-funded
study for the ability to better study progesterone today. And her work has opened avenues of research to minimize the side effects of hormone therapy for menopausal women and oral contraceptives for women of reproductive ages that often lead them to abandon otherwise beneficial treatments.

“Water retention, bloating, and high blood pressure carry serious health risks,” Stachenfeld said. “Our studies on the mechanisms underlying the effects of sex hormones on body water regulation can lead to therapeutic advances for both young and older women.”

Stachenfeld’s current work has also focused on orthostatic tolerance, which is the ability to stay in an upright position or move quickly from a seated to an upright position without fainting. As it turns out, young women possess much poorer orthostatic tolerance compared to men of similar age. And, not surprisingly, the mechanism involves water — the primary ingredient of blood.

“Low blood volume can contribute to poor orthostatic tolerance, but is not the only factor,” Stachenfeld said. “If there’s not the appropriate amount of water at the level of the heart and the brain, this can lessen the amount of blood that reaches the center of the body and brain. Reflexes that control the constriction of blood vessels all the way down to the toes can cause blood to move toward the center of the body and the brain so you can stand up are also key to this process.”

This complex process involved in helping human beings remain upright might not work as well in women, possibly because of the effect of blood volume, reflexes, or the impact of hormones on both, Stachenfeld said. But interestingly, the sex difference doesn’t appear to apply to African American women, who appear to have higher orthostatic tolerance than white women.

“This finding might point to an advantage for black women when they are younger,” she said, adding that these racial differences emphasize how important it is to include women from all ethnicities and races in research. “But it could also be a clue to the higher risk of cardiovascular disease that black populations experience as they grow older. This is something we continue to study.”

Stachenfeld expressed gratitude for WHRY’s grant, which she said showed great confidence in her as a research scientist relatively new to Yale and in the promise of a study unlikely to receive outside financial support without first providing a proof of concept.

With the results of her WHRY-funded study, Stachenfeld applied for and received two grants from the National Institutes of Health to continue her work. “I think there are so many important things to study in the physiology of women and the impact of hormones that have gone understudied for so long,” she said. “We haven’t caught up yet. There’s a lot to be done.”

**Dr. Nina Stachenfeld**

Dr. Nina Stachenfeld earned her Ph.D. from Columbia University, her M.A. from New York University, and her B.A. from Antioch College. Since 2015, she has been a Fellow at The John B. Pierce Laboratory and a Senior Research Scientist in Obstetrics, Gynecology, and Reproductive Sciences at Yale School of Medicine.

Dr. Stachenfeld’s research program addresses reproductive hormone effects on temperature and body fluid regulation, cardiovascular and autonomic function, and exercise response. In addition, the lab studies the interaction between sex hormone exposure and insulin resistance.
A Unique Force for Improving Lives

When I talk to people about Women’s Health Research at Yale, many do not realize that, as a self-supporting center within the medical school, we rely on money raised annually from foundations, private donations, and federal grants along with income from our own small endowment.

Although we receive significant benefits from being a part of this great university — not least of which is Yale’s help in managing the growth of our endowment — when it comes to operating costs and supporting innovative research, we depend upon and are so grateful for our generous and loyal supporters. Many of you have been with us for most of our almost 20 years on the journey to secure the best possible health research and care for everyone.

In many ways, WHRY has helped pave that road.

No other institution is doing more than WHRY to advance women’s health and ensure the full consideration of sex and gender in biomedical research. That includes funding studies on diseases and conditions that most affect women, training the next generation of researchers to carry on this vital work, conducting interdisciplinary research with a unique focus on issues confronting women, communicating crucial information to the public so they can make more informed health decisions, and serving as a national voice to influence policies to improve the lives of everyone.

These are critical endeavors that, if overlooked or underfunded, will leave us all more vulnerable in a health care system without crucial information to guide best practices. With the current uncertainty surrounding the future of health insurance and federal research funding, now more than ever we must fortify the institutions we have that are looking out for our best interests.

I can think of no worthier organization than Women’s Health Research at Yale.

Your support could allow WHRY to fund another promising investigator seeking new cancer treatments or insight into the ways in which sex and gender influence obesity. Or help WHRY mentor the next outstanding junior faculty member or undergraduate student focused on sex-and-gender research. Or underwrite a new series of videos using the latest research findings to raise public awareness of pressing health issues.

With your support, we have made a real difference in the lives of women and men. Together we can continue to build a better future for everyone.

Sincerely,

Bobbi Mark, Philanthropy Chair

RESEARCH TRAINING FELLOWSHIP

WHRY Fellow Graduates to New Challenges

As Benjamin Fait has told us, he will take with him throughout his career in biomedical science an enduring scientific lesson learned at WHRY. The lesson — sex and gender have an influence and an impact on health outcomes. Now he will apply this crucial perspective as he pursues his studies in neuroscience, first as the recipient of a Fulbright Scholarship for the next academic year and then as a doctoral student at The Rockefeller University.

Fait, one of WHRY’s first undergraduate research fellows and a graduating senior, will work from September to May at the Universitat Pompeu Fabra in Barcelona, mentored by Dr. Rafael Maldonado in the Department of Experimental and Health Sciences studying the neurobiology of hunger.

The following year Fait will begin a doctoral program at The Rockefeller University in New York, one of the most prestigious biomedical research institutions in the world. He hopes to take advantage of the school’s open structure to investigate subjects like immunology beyond his current field of neuroscience.

Fait credits WHRY for helping him think about biomedical science as a more complete system than he had before spending a year at the center working on scientific communications to benefit the community.

“It’s not just bench work, but systems of funding and policy and interaction with the public,” Fait said. “My work with Women’s Health Research at Yale helped me solidify what I thought the science establishment should be doing. And that’s being vocal, making recommendations, and having an impact on the public.”
George Orwell once wrote, “If liberty means anything at all it means the right to tell people what they do not want to hear.” He was discussing freedom of the press in a proposed preface to “Animal Farm,” his allegory on the Russian Revolution and communism under Stalin. But what if modern technology has enabled a brand of freedom that makes it hard to even reach people who can easily tune out information they may want to hear?

Today’s intense competition for the attention of audiences allows people to pick from among dozens or even hundreds of TV channels and the ability to call up content via DVR recordings, on-demand cable offerings, and internet streaming services. Much of the world’s collection of recorded music can float through the air and into ears at the push of a digital button. New theatrical films and TV shows compete with vast libraries stocked with possibilities for instant binge-watching sessions of, for example, the entire seven-season run of “The West Wing,” which went off the air 10 years ago.

Having grown up in the 70s and 80s, I can recall the days of three and then four major television networks, hefty local and regional newspapers, and an overall sense of shared experience and culture. Perhaps this perception of unity was always a mirage augmented by my white, upper-middle class status. But today’s fragmented media environment leaves no doubt we live in individual bubbles filled with content curated by personal choice filtered through corporate interests and algorithms.

Last year, 72 percent of American adults reported owning a smartphone, and most engage with one or more social media apps that employ murky math to populate their news feeds with content based on their personal connections and interests. Seventy-two percent of online adults use Facebook, encompassing 62 percent of all American adults. They are consuming individually focused news, jokes, and pictures posted by friends and family. They are playing games. And arguing about politics and parenting.

Wherever people go, they are barraged by advertisements, often targeted to their online browsing habits. The messages can be for retail businesses, political candidates, and public interest — including health care.

Even news gets consumed in a splintered manner, with people seeking like-minded sources and sharing stories among like-minded people in their networks, sometimes in direct conflict with established facts.

For example, most Americans believe 25 percent of the federal budget is spent on foreign aid, when the real figure is below 1 percent. Seventy-eight percent of Americans can name all Three Stooges, but only 42 percent can name the three branches of government. Twenty percent of voters believe in the soundly debunked link between childhood vaccines and autism, and 7 percent believe the moon landing was faked.

Amid this ceaseless stream of information and disinformation, Women’s Health Research at Yale provides a valuable service that people can use to live healthier, more productive lives. Now in our 20th year, the center has served as a trusted and clear voice breaking through artificial, often self-imposed barriers and piercing the fog of confusion.

And our job is an important one.

Currently, only three out of 25 American adults are considered health literate, meaning they can easily obtain, process, and understand health information. More than 1/3 of adults in the United States have difficulty with common health tasks, such as following directions on a prescription label and adhering to a childhood immunization schedule using a standard chart. Even high school and college graduates have trouble with health literacy.

WHRY has begun to confront this challenge with smart, accessible, targeted messages capitalizing on the way people communicate today — distributing short, engaging, and educational videos via social media, YouTube, and our popular website. After all, 72 percent of internet users look online for health information, and of all internet traffic in 2017, experts predict 74 percent will be video viewing.

People are easily distracted and confused. WHRY seeks to speak to people in a language we can all understand with vital information that we can relate to our lives. More and more, we are seeking to meet people where they already are: online and often on their phones. And we are aiming to grab attention with appealing imagery, wit, and clear messages they will find helpful and difficult to ignore.

Our videos follow proven psychological models aimed at increasing knowledge, influencing attitudes, and affecting behavior — evaluated through surveys and focus group discussions.

Because while we are all free to pursue our interests selected from a vast, often-personalized menu of news and entertainment options, our health can depend on navigating these streams to reach the best, most informed decisions.
HELP WITH THE HEADLINES

According to a recent study, low levels of HDL cholesterol were unlikely to represent a specific risk factor for cardiovascular disease.

For more information on this and other health topics in the news, join our email list or visit our website: www.yalewhr.org.

Educational and outreach activities are made possible through the generous support of:

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