



University of Pennsylvania Positive Psychology Center Annual Report

May 28, 2024

Martin Seligman, Director
Peter Schulman, Executive Director

Table of Contents:

I. Research Summaries

II. Recent News

- New Course
- Media Coverage
- Awards and Recognition

III. Organization and Operation

- PPC Personnel
- PPC Advisory Board
- Research Grants

IV. Education: Graduate, Undergraduate, and Non-Credit

- Master of Applied Positive Psychology Program (MAPP)
- Online Certificate through LPS: Applied Positive Psychology (APOP)
- Online Certificate on Coursera: Foundations of Positive Psychology
- Education Through Popular Websites
- Dissemination through Professional Associations

V. Resilience Training Programs and Penn Outreach

VI. Research Publications 2023-2024

This is a report on the activities of the Positive Psychology Center (PPC) at the University of Pennsylvania, the birthplace of Positive Psychology. The PPC was officially created November 7, 2003 and is thriving intellectually and financially. It is a leading center in the world for research, education, and the dissemination of Positive Psychology. It is widely recognized in both the scholar community and public press. The PPC is financially self-sustaining.

The mission of the PPC is research, education, and the dissemination of Positive Psychology. Positive Psychology is the scientific study of the factors that enable individuals and communities to thrive. This field is founded on the belief that people want to lead meaningful and fulfilling lives, to cultivate what is best within themselves, and to enhance their experiences of love, work, and play.

I. RESEARCH SUMMARIES

Following are summaries of current research at the Positive Psychology Center . . .

Professor Martin Seligman's Research

[Professor Seligman](#) is presently focusing on **Agency**, that the mental state “I can bring about my goals” produces progress and the opposite “I am helpless” produces stagnation.

Agency is a psychological state that has changed the course of history and it is the immediate cause of progress and innovation. In the absence of this mindset, humanity stagnates.

Agency is the belief that I can influence the world, made up of three components: efficacy, optimism, and imagination. Efficacy is the expectation that I can achieve a specific goal now. Optimism is how long into the future I believe I can achieve that goal. Imagination is the range of goals that I believe I can achieve. Efficacy causes trying hard, optimism causes persistence, and imagination causes innovation. These are the mechanisms by which Agency causes progress.

Progress over the sweep of human history has been viewed through the lens of economics, ecology, theology, ‘great man’ biography, and ‘social force’ history, but almost never through the lens of psychology.

Over the last 14,000 years there have been several psychological epochs in which agency changes radically to keep pace with new social and material demands. Before writing, we can infer agency from behaviors such as the control of fire, burial practices, and the invention of agriculture. The first epoch for which we have writing is the Divine Age in which the gods command and humans obey. We have limited agency and not even much ‘self.’ Then, after the Bronze Age, between 1100 BCE and 600 BCE, the balance between the agency of the gods and of humans tilts toward humans. Greece develops much expanded Agency by 400 BCE with considerable efficacy, considerable optimism, and enormous imagination. Material, technological, artistic and political progress all follow from this Agentic self. This is true, and at about the same time, of Greece, of the Judeo-Christian Bible, and of China. Chinese history adds the importance of the balance between “I” agency and “We” agency.

As Rome declines, the theology of Augustine, in which only God has true Agency, looms large. The quality of human life in the West becomes miserable and life stagnates for almost one thousand years. Very little is invented, but then, around 1450 CE, an Age of Progress in the West, but not elsewhere, begins as humans re-acquire substantial Agency. The printing press, the New World, Michelangelo and Shakespeare appear. Sadly, the Reformation in 1525 abandons free will and human progress in Europe grinds to a halt. With the overthrow of Puritanism in England in 1660, progress resumes. Newtonian science, vaccination in medicine, true wealth in capitalism, and political revolution all stem from this rebirth of Agency. Agency democratizes, particularly in America, during the Industrial Revolution of 1800 and it becomes almost universal around 1950 as technology explodes.

The world is now in labor, about to birth an Age of Agency populated by fully Agentic individuals who peer far into the future in order to flourish. If potential barriers – nuclear war, pandemic, climate catastrophe, racial warfare, and financial collapse – can be overcome, this will

be an age of unprecedented progress. Mindful of the limits of human agency, this will be our first Age of Well-being.

In addition, Abigail Blyler and Martin Seligman are investigating the use of **artificial intelligence (AI) to help individuals flourish**. Their preliminary research shows that ChatGPT-4 can analyze people's stream-of-consciousness thoughts along with basic demographic information to generate perceptive and accurate “personal narratives”. These narratives encapsulate the stories we tell ourselves about our lives which shape our sense of identity and meaning.

The potential of this tool for enhancing wellbeing is significant. When people read these AI-generated narratives about themselves, 25 of 26 people found them totally accurate or mostly accurate. They found them to provide valuable self-insight, with many learning something new about their core values, strengths, and patterns of thinking. Blyler and Seligman then showed how these narratives can be used by coaches and therapists to devise highly personalized strategies to help clients gain self-understanding, reframe their stories more positively, and work towards personal growth goals aligned with their values and dreams. This points to a new approach for increasing human flourishing – by using AI to quickly uncover people's key strengths, hopes, and positive attributes so they can be activated in the service of living a more fulfilling and meaningful life. By leveraging leading-edge AI technologies, we hope to help individuals and communities thrive.

Professor Angela Duckworth’s Research

With Katy Milkman, [Dr. Duckworth](#) is co-directing Behavior Change for Good (BCFG). They have been conducting several BCFG mega studies, including:

- **College Retention Mega Study Pilot:** They conducted a pilot study including over ten thousand college first years that compared the effects of interventions designed to promote social connections versus share information about college resources with the goal of increasing student retention and GPAs. Data collection is in progress.
- **Emergency Savings Mega Study:** They conducted a 2 million person mega study with a large national bank to test new ways of encouraging emergency savings. The mega study tested different ways of messaging customers to encourage them to set more money aside for emergencies and measured actual savings balances as the dependent variable. Results are being analyzed currently.
- **Elementary School Math Mega Study:** We are preparing a manuscript on a mega study with Zearn Math, the most widely-used elementary school math program in the U.S. We found that emails with personalized data increased student achievement more than emails without personalized data.
- **Planning Prompts with Defaults Studies:** Prompting people to plan when and where they will follow through on their intentions is an effective nudge for closing the intention-action gap. However, such prompts typically require people to deliberate before committing to a goal. Could planning prompts be enhanced by suggesting a default plan?

This would simplify effortful consideration—which could be helpful or harmful. In a large field experiment (N=985,145) with a U.S. pharmacy chain, we find that reminders prompting patients to make a plan and suggesting a personalized default time and location for vaccination are more effective than control reminders without these “default” planning prompts.

In partnership with National Education Equity Lab and also Wharton-SAS, Dr. Duckworth has been conducting an RCT national field study of **Grit Lab 101**, a 13-week psychoeducational intervention aimed at improving life outcomes for students at Title 1 eligible high schools. Compared to a wait-list control group, students who take this course in their junior year are hypothesized to develop more adaptive and accurate meta-cognitive beliefs and to earn admission to more selective colleges. College outcome data are forthcoming, but already we see a significant benefit of the intervention on an objective test of meta-cognitive beliefs.

Projects in collaboration with PhD and Postdoctoral Students:

- Benjamin Lira (third-year PhD student, psychology) is conducting research at the intersection of artificial intelligence and self-regulation. He is formulating a research program on the influence of generative AI on System 1 vs. System 2 thinking.
- Asaf Mazar (second-year post-doctoral fellow, Wharton) has three multi-study papers in preparation: (1) the effect of small delays on consumer choices; (2) the effect of small amounts of friction on online learning; and (3) the effect of consistent vs. variable rewards on brand loyalty.

Professor Lyle Ungar’s Research

The World Well-Being Project ([WWBP](#)) is a collaboration with Stanford University and Stony Brook University. Led by [Dr. Lyle Ungar](#), WWBP is pioneering scientific techniques for measuring psychological well-being and physical health based on the analysis of language in social media and text message data.

As a collaboration between computer scientists, psychologists, and statisticians, they are shedding new light on the psychosocial processes that affect health and happiness and exploring the potential for our unobtrusive well-being measures to supplement, and in part replace, expensive survey methods.

In the past year, they have used Twitter to study a wide range of regional variations in well-being, for example looking at how concerns about Covid have varied across U.S. counties and over time. They are studying what people’s text messages reveal about their healthy and unhealthy drinking habits. They are also starting to extend these methods to work in other languages (Chinese, Spanish, Hindi, etc.) so that they can run similar studies in other countries.

They have also started building "chatbots," computers that can hold text-based conversations, that have adjustable personalities and different levels of empathy. They are currently testing a "gritcoach" chatbot that helps students who are taking Prof. Angela Duckworth's online "Gritlab"

course, learning soft skills such as how to study, what 'flow' is (and why it matters), and how to do informational interviews.

Professor Allyson Mackey's Research

Children will grow up to solve problems we cannot even imagine today. To be successful, they need to learn not only to read and write, but also to reason and imagine. [Dr. Mackey](#) is interested in understanding how children's experiences shape the development of their minds and brains, so we can develop new ways to support their learning. She has focused on how children's experiences influence neuroplasticity, the brain's ability to change. During development, maturational processes stabilize synaptic connections, cementing knowledge and skills. Even once brakes on plasticity are in place, brains retain mechanisms to boost plasticity when learning is essential.

Neurotransmitters, including dopamine, can signal that current neural configurations are a poor match for new inputs. Dr. Mackey's research program examines how early life experiences influence *maturation* and *motivation*, and their consequences for learning. Her research on the theme of maturation reveals how brain structure and function change through childhood, and how the pace of maturation of the brain and the body varies as a function of early life stress. Her work on motivation explores how early experiences shape motivation systems in the brain, and motivational behaviors. Together, these lines of work can inform interventions to improve children's well-being.

Professor James Pawelski's Research

The [Humanities and Human Flourishing Project](#) (HHF), led by [Dr. Pawelski](#), is an interdisciplinary research project that explores how engaging in the arts and humanities brings well-being to individuals and communities. Since its inception in 2014, the HHF Project has spearheaded the development of the Positive Humanities, an emerging field that integrates the rigorous science of positive psychology with the wisdom of the humanities. HHF is interested broadly in the arts and humanities in their relation to human flourishing. HHF has successfully published seven edited volumes as part of the *Humanities and Human Flourishing* series, published by Oxford University Press and edited by Dr. Pawelski, and anticipates publication of the final two volumes in the series within the next year.

In addition to our research spanning across arts and humanities disciplines, HHF is spearheading the research initiative, "Art Museums: Institutions for Well-being" and has been designated a National Endowment of the Arts Research Lab in support of their work. HHF partners with various art museums as well as art museum professionals around the globe to understand and promote well-being within these important cultural institutions. This past year, HHF led a research study on building empathy and social connecting in a digital arts environment. HHF also hosted [Visual Arts for Flourishing: Philadelphia \(VAFFP\)](#), a free, interdisciplinary conference which brought together researchers and practitioners to explore how the visual arts in Philadelphia and beyond promote well-being in individuals and communities. Held on April 26 and 27, 2024, VAFFP convened some 100 attendees from 5 countries.

Dr. Jer Clifton's Research

The [Primals Project](#) promotes empirical research on the origins and psychological impact of primal world beliefs. Primal world beliefs are very simple and general beliefs about the world (e.g., *the world is abundant*) that are generally uncorrelated to demographic backgrounds (e.g., personal wealth) but highly correlated to well-being and behavior patterns (e.g., low depression and curiosity). They also seek to communicate important empirical findings to the public, such as through a recently launched [freely available opportunity](#) for the general public to take the scientifically validated primals survey, get their scores, and participate in research studies in the process.

One of the topics his group is currently researching, for example, is the plasticity of primals. [Dr. Nick Kerry](#) is leading investigations into (a) if demographic backgrounds influence primals (e.g., do rich people see the world as more abundant?), (b) the impact of very extreme life experiences on primals (incarceration for negligent homicide after accidentally killing a loved one; getting cancer; having cystic fibrosis), and (c) if new interventions can influence primals to improve wellbeing. Much of their work is in partnership with others. For example, [Dr. Clifton](#) is working with [Dr. Alia Crum](#) at Stanford on the relationship between primals and personality, [Dr. David Yaden](#) at Johns Hopkins on how psilocybin impacts primals, and robotics expert [Dr. Bilge Mutlu](#) at the University of Wisconsin-Madison on giving different primal world beliefs to robots to simulate human personality characteristics.

In the spring of 2024, the Penn Primals Project hosted a retreat of 40 primals researchers who came from around the world and a variety of disciplines, studying everything from politics to suicide to violent extremism, to discuss emergent findings.

Max Genecov's Research

Mr. Genecov has two research initiatives. First, how do very happy people stay happy? This work surveys people with highly stable positive emotions to understand how this stability, rather than just their average emotion, affects their social lives and internal worlds. The mechanisms are also being examined. For the average person, emotions help regulate behavior. Emotions tell you whether to keep going forward or to change tactics and goals. If someone is stably happy, what non-emotional information are they using to navigate challenges and opportunities?

Second is translating concepts and methods between positive psychology and clinical psychology. Important details often get lost across the divide between the study of human flourishing and the study of mental disorder. For instance, how much of well-being is just psychological distress in reverse, and how much is uniquely positive? How can clinical methods be used to characterize and investigate well-being? Understanding the shared and distinct components of these subfields can help better illustrate the landscape of human experience.

II. RECENT NEWS

New Course:

- **Psych 3446: The Science of Wellbeing:** In spring 2024, Dr. Seligman created and taught a new course for about 230 Penn undergraduates. This course covered the foundations of Positive Psychology as well as cutting-edge science in Positive Psychology. The course was rooted in research, discussion, experiential learning, and small group reflection.
 - The format combined didactic learning with personal experience. As Christopher Peterson said, "Positive Psychology is not a spectator sport" .
 - Topics included Well-Being as a Life Goal, Good Character, Learned Helplessness, Optimism, Interventions & Prevention, Positive Interventions, Critics, Positive Military, Positive Education, the Positive Corporation, Physical Health and Mortality, Prospecation, Agency, Artificial Intelligence, and Positive Theology & Limits of Human Agency.
 - Course objectives included:
 - (1) Increase the well-being of students by end of semester and beyond
 - (2) Build deep foundational knowledge of Positive Psychology
 - (3) Explore the cutting-edge scientific research and methodology, e.g., Artificial Intelligence
 - (4) Apply course material in real life through intervention and reflection
 - (5) Develop strong positive student-to-student and student-to-TA relationships within semester-long small groups (12-15 students per TA).

Media Coverage: PPC faculty have been featured in national media.

- In a May 2023 *Happiness Lab* podcast, Dr. Laurie Santos interviewed Professor Martin Seligman about founding the field of Positive Psychology and his decades of research on measuring and building well-being.
<https://www.pushkin.fm/podcasts/the-happiness-lab-with-dr-laurie-santos/the-man-who-invented-happiness-science-marty-seligman>
- On October 5, 2023, a course taught by Dr. James Pawelski and Dr. Katherine Cotter at the Barnes Foundation on the benefits of art on wellbeing was featured on CBS news.
<https://www.cbsnews.com/philadelphia/news/art-therapy-upenn-mental-health-barnes-foundation/>
- An [October 2023 article in IANS](#) featured research by Abigail Blyler and Professor Seligman that suggests ChatGPT-4 can produce accurate personal narratives from stream-of-consciousness data. These narratives encapsulate the stories we tell ourselves about our lives which shape our sense of identity and meaning. This research was also featured in a [Penn Today article](#).

- A September 2023 article in Science Daily spotlighted research by Dr. Jeremy Clifton and Dr. Nick Kerry that, contrary to popular intuition, positive world beliefs are a poor indicator of an individual's privilege and background. This research also appeared in a Penn Today article.
https://www.sciencedaily.com/releases/2023/09/230907130407.htm#google_vignette
<https://penntoday.upenn.edu/news/primals-project-positive-world-beliefs-privilege/>
- A February 2024 article in The Conversation spotlighted Dr. Jeremy Clifton's primals beliefs research.
<https://theconversation.com/five-signs-that-you-might-be-rightwing-221930/>
- On March 28, 2024, James Pawelski was interviewed on WHYY about American's cultural focus on happiness and how it seems to elude so many.
<https://whyy.org/episodes/the-pursuit-of-happiness-phillies-home-opener-studio-2s-first-anniversary/>

Awards and Recognition:

- *Academic Influence* cited Professor Martin Seligman as the single most influential psychologist in the world for the time period 2010-2020 and 2024, and one of the top 10 most influential psychologists of the last 50 years (1970-2020).
<https://academicinfluence.com/rankings/people/most-influential-psychologists-today/>
<https://academicinfluence.com/rankings/people/most-influential-psychologists-today#seligman/>
- Professor Seligman received the [Joseph Priestly Award](#) from Dickinson College for outstanding achievement and contribution to our understanding of science and the world.
- Professor Seligman was selected as an awardee for the 2023 Liberal and Professional Studies Award for Distinguished Teaching in Professional Graduate Programs.
<https://www.lps.upenn.edu/about/news/lps-faculty-announced-2023-distinguished-teaching-award-winners/>
- Dr. Jeremy Clifton was named an [APS Rising Star](#). This award “*recognizes researchers whose innovative work has already advanced the field and signals great potential for their continued contributions*”.
- Professor Seligman received the 2024 Vision of Excellence Award from the Institute of Coaching, McLean Hospital.

III. ORGANIZATION AND OPERATION

PPC Personnel:

Martin Seligman, Ph.D., Director of PPC and Zellerbach Family Professor of Psychology
Peter Schulman, Executive Director
Angela Duckworth, Ph.D., Christopher H. Browne Distinguished Professor of Psychology
Allyson Mackey, Ph.D., Associate Professor of Psychology
James Pawelski, Ph.D., Professor of Practice, Director of Education
Karen Reivich, Ph.D., Director of Training Programs
Lyle Ungar, Ph.D., Professor, Computer and Information Science
Jeremy Clifton, Ph.D., Primals Project Director
John Hollway, J.D., Associate Dean and Executive Director of the Quattrone Center for the Fair Administration of Justice, Penn Carey Law School
Howard Blumenthal, Senior Scholar
Michael Baime, MD, Clinical Associate Professor of Medicine, Penn School of Medicine,
Director, Penn Program for Mindfulness
David Yaden, Ph.D., Visiting Scholar

Master of Applied Positive Psychology Program (MAPP):

James Pawelski, Ph.D., Director of Education
Leona Brandwene, Associate Director
Aaron Boczkowski, Program Coordinator
Laura Taylor, Program Assistant Coordinator
Nicole Stottlemeyer, Assistant Coordinator, Positive Education Programs
Jayden Gibison, Administrative Assistant

Humanities and Human Flourishing Project:

James Pawelski, Ph.D., Principal Investigator
Sarah Sidoti, M.S.Ed., Assistant Director
Katherine Cotter, Ph.D., Associate Director, Research
Christa Mahlobo, Ph.D., Postdoctoral Fellow
Alina Spas, Research Administrative Coordinator

Resilience and Positive Psychology Training Programs:

Karen Reivich, Ph.D., Director of Training Programs
Peter Schulman, Client Development, Operations Oversight
Judy Saltzberg, Ph.D., Instructor and Curriculum Developer
Robert Szybist, MAPP, Instructor and Project Director, PRP for Law Enforcement
Jennifer Knapp, Strategic Advisor
Erin Oelkers, Project Manager
Colleen Fegley, Project Manager
Erin Fitzgerald, Project Coordinator
Lily Kozak, Project Manager
Kristen Salvatore, Project Manager

Primals Grant:

Jeremy Clifton, Ph.D., Primals Project Director
Rive Cadwallader, Project Manager
Frank Jackson, Interim Project Manager
Roger Irwin, Interim Project Manager
Nicholas Kerry, Postdoctoral Fellow

Agency and the History of Human Progress

Martin E.P. Seligman, Ph.D., Project Director
Noah Love, Research Manager
Jacob Lisner, Data Scientist

Happy People Project:

Max Genecov, Graduate Student and Project Leader
Abigail Blyler, Research Manager

World Well Being Research:

Lyle Ungar, Ph.D., Project Director
Haitao Huang, Data Scientist
Abhay Singh, Data Scientist
Sai Karthik Kosuri, Data Scientist
Tingting Liu, Postdoctoral Fellow

Graduate Student with Dr. Seligman:

Max Genecov

Dr. Allyson Mackey's Research: Brain Plasticity and Development:

Cassidy McDermott, Graduate Student
Monami Nishio, Graduate Student
Maayan Ziv, Research Coordinator
Andrew Koepp, Ph.D., Postdoctoral Scholar
Monica Ellwood-Lowe, Ph.D., Postdoctoral Scholar
Mac Woodburn, Ph.D., Postdoctoral Scholar

Dr. Angela Duckworth's Research: Grit, Self-Control, and Character Development:

Sean Talamas, Executive Director
Paolo Terni, Director, Senior Research Support

Information Technology Support Staff:

Tammer Ibrahim, IT Systems Administrator
Ani Leonhart, IT Systems Support Specialist

Undergraduate Student Assistants: Various Penn student research assistants help with various projects.

PPC Advisory Board:

The advisory board for PPC and the MAPP program includes:

Mark Trodden

Associate Dean for the Natural Sciences, SAS
Co-Director of the Penn Center for Particle Cosmology
Fay R. and Eugene L. Langberg Professor of Physics

Nora Lewis

Vice Dean, Professional and Liberal Education

Susan Meyer (emeritus)

Professor of Philosophy

Michael Platt

Professor of Neuroscience, James S. Riepe University Professor
Professor of Neuroscience, Professor of Psychology, Professor of Marketing

Lyle Ungar

Professor of Computer and Information Science

Research Grants:

PI MARTIN SELIGMAN RESEARCH GRANTS:

The Primals Project: Seeding Catalytic Investigations in Psychology, February 2021 to July 2024, Templeton Religion Trust (PI Seligman, Co-PI Clifton).

Penn Resilience Program for Law Enforcement Personnel, October 2023 to September 2024 (PI Seligman), Subcontract from International Association of Chiefs of Police (IACP), under prime award from the U.S. Department of Justice.

Penn Resilience Program for Law Enforcement Personnel, January 2018 to September 2023 (PI Seligman), Subcontract from International Association of Chiefs of Police (IACP), under prime award from the U.S. Department of Justice.

PI JEREMY CLIFTON RESEARCH GRANT:

Mapping Self Beliefs, August 2024 to July 2028, Templeton Religion Trust (PI Clifton).

PI JAMES PAWELSKI RESEARCH GRANT:

Humanities and Human Flourishing Project: The Impact of the Arts on Well-being and Shifting Attitudes, 2022-2024, National Endowment for the Arts. Designated as an NEA Research Lab (PI Pawelski).

PI ANGELA DUCKWORTH RESEARCH GRANTS:

Creating the Conditions for Equity and Excellence in Adolescence, Walton Family Foundation (PI Duckworth).

PI ALLYSON MACKEY RESEARCH GRANTS AND FUNDING:

From Cradle to Grave: Measuring the Lifetime Impact of Early-Life Stress, Scialog: Research Corporation and CIFAR (PIs: Mackey, Robinson-Drummer, Trask).

Stable and Dynamic Home Environment Predictors of Learning Engagement and Success, CIFAR (PIs: Mackey & Ansari).

CAREER: Leveraging neuroscience to predict and improve science learning in early elementary school, National Science Foundation (PI Mackey).

Evaluating the impact of early cognitive enrichment on brain development, William Penn Foundation (PI Mackey).

IV. EDUCATION: GRADUATE, UNDERGRADUATE, AND NON-CREDIT:

The Master of Applied Positive Psychology Program (MAPP):

The MAPP program has completed its eighteenth year and this program has been successful in academic and financial terms. During the pandemic, we quickly transitioned to virtual delivery of this program, with positive results. The number and quality of applicants and matriculates has been consistently high and the students have given the program high marks in their evaluations. Following are the number of applicants and admissions each year:

| | <u>2005/6</u> | <u>2006/7</u> | <u>2007/8</u> | <u>2008/9</u> | <u>2009/10</u> | <u>2010/11</u> | <u>2011/12</u> | <u>2012/13</u> |
|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Applications | 106 | 111 | 123 | 166 | 163 | 181 | 178 | 236 |
| Admits | 34 | 36 | 41 | 38 | 45 | 36 | 36 | 36 |
| | <u>2013/14</u> | <u>2014/15</u> | <u>2015/16</u> | <u>2016/17</u> | <u>2017/18</u> | <u>2018/19</u> | <u>2019/20</u> | <u>2020/21</u> |
| Applications | 198 | 166 | 162 | 209 | 178 | 189 | 182 | 187 |
| Admits | 39 | 32 | 38 | 39 | 42 | 47 | 49 | 43 |
| | <u>2021/22</u> | <u>2022/23</u> | <u>2023/24</u> | <u>2024/25</u> | | | | |
| Applications | 223 | 192 | 133 | 152 | | | | |
| Admits | 39 | 54 | 50 | 50 (est.) | | | | |

In line with the PPC’s stated mission of promoting education, PPC faculty, lecturers, post-doctoral fellows and graduate students teach the following undergraduate and graduate-level courses through the School of Arts and Sciences and the College of Liberal and Professional Education:

Martin Seligman

- MAPP 600: Intro to Positive Psychology (graduate level)
- Psych 3446: The Science of Wellbeing (undergraduate level)

Angela Duckworth

- Psych 005: Grit Lab: Fostering Passion and Perseverance (undergraduate level)
- MAPP 712: Psychology and the Neuroscience of Character (graduate level) – Guest Speaker

James Pawelski

- MAPP 602: Foundations of Positive Interventions (graduate level)
- MAPP 710: Humanities and Human Flourishing (graduate level)

Allyson Mackey

- MAPP 712: Psychology and the Neuroscience of Character (graduate level)

Leona Brandwene

- MAPP 603: Perspectives on Well-being (graduate level)
- MAPP 714: Applying Positive Interventions in Institutions (graduate level)

Judith Saltzberg

- MAPP 708: Positive Psychology and Individuals (graduate level)
- MAPP 800: Capstones (graduate level)

Laura Taylor

- MAPP 710: Humanities and Human Flourishing (graduate level) – Assistant Instructor
- MAPP 800: Capstone (graduate level) – Assistant Instructor

Michael Baime

- MAPP 603: Approaches to Well-being (graduate level) – Guest Speaker

David Yaden

- MAPP 708: Positive Psychology and Individuals (graduate level) – Guest Speaker

Chris (John) Feudtner

- MAPP 714: Applying Positive Interventions in Institutions (graduate level) – Guest Speaker

Faisal Khan

- MAPP 600: Intro to Positive Psychology (graduate level) – Assistant Instructor
- MAPP 708: Positive Psychology and Individuals (graduate level) – Assistant Instructor

Tamara Myles

- MAPP 708: Positive Psychology and Individuals (graduate level) – Assistant Instructor

Jodi Wellman

- MAPP 708: Positive Psychology and Individuals (graduate level) – Assistant Instructor

Mina Simhai

- MAPP 708: Positive Psychology and Individuals (graduate level) – Assistant Instructor

Courtney Daly

- MAPP 708: Positive Psychology and Individuals (graduate level) – Assistant Instructor

Gloria Park

- MAPP 708: Positive Psychology and Individuals (graduate level) – Guest Speaker
- MAPP 800: Capstone (graduate level) – Assistant Instructor

Eric Patterson

- MAPP 710: Humanities and Human Flourishing (graduate level) – Guest Speaker

Christa Mahlobo

- **MAPP 710: Humanities and Human Flourishing (graduate level) – Guest Speaker**

Johannes Eichstaedt

- MAPP 600: Intro to Positive Psychology (graduate level) – Guest Speaker

Katherine Cotter

- MAPP 710: Humanities and Human Flourishing (graduate level) – Guest Speaker

Online Certificate through LPS: Applied Positive Psychology (APOP):

The [Applied Positive Psychology \(APOP\) certificate](#) launched in January 2019 with support from the Positive Psychology Center, as a part of Penn’s College of Liberal and Professional Studies (LPS) online Bachelor of Applied Arts and Sciences ([BAAS](#)). This online, accredited degree offers a variety of degree concentrations and certificate “clusters” that are designed to meet the needs of working adults and non-traditional students who wish to pursue a liberal arts education with career enhancement in mind.

- The certificate continues to sustain strong enrollments. In Summer 2023, Fall 2023, and Spring 2024, we offered 11 courses with a combined total of 314 course enrollments.
- The APOP 2000: Positive Psychology at Work course was rebuilt to feature Martin Seligman’s new book about positive psychology in the workplace, *Tomorrowmind: Thriving at Work with Resilience, Creativity, and Connection – Now and in an Uncertain Future*.
- APOP 2700: Flourishing and Well-Being in Resilient Communities is under construction and will launch in the Fall 1 term of 2024. Christa Mahlobo, Ph.D., is the designer and instructor. This course will be cross-listed with the Social Difference: Diversity, Equity, and Inclusion certificate.

The APOP four-course certificate launched with its first courses in Spring 2019 and **total course enrollments to date are 1,731**. Those students have learned from 35 different U.S. states, the District of Columbia, and 33 different countries (most recently, Israel, Qatar, and Thailand).

Students can also choose to take a six-course “advanced” certificate. Their seven course options are:

- 1000: Introduction to Positive Psychology
- 1200: Human Flourishing: Strengths and Resilience
- 2000: Positive Psychology at Work
- 2200: Flourishing with Others: Building Thriving Relationships
- 2900: Understanding the Science of Positive Psychology
- 3400: Flourishing through Creativity and the Arts
- 2700: Flourishing and Well-Being in Resilient Communities (Fall 2024)

APOP develops tools and practices to enhance human flourishing. Students are introduced to the field of Positive Psychology and learn practical strategies that support personal, organizational, and community well-being. The courses teach the theoretical and empirical foundations of human flourishing, how well-being is measured, and what activities increase human flourishing in various contexts and settings.

Online Certificate on Coursera: Foundations of Positive Psychology:

Under the leadership of Dr. Martin Seligman, the Positive Psychology Center and the College of Liberal and Professional Studies produced a popular five-course online specialization on the Coursera platform called Foundations of Positive Psychology, which launched March 2017. Students learn about the theories, research, and applications of Positive Psychology. The five courses are taught by Positive Psychology Center personnel, including:

- **Positive Psychology: Martin Seligman’s Visionary Science**, taught by Dr. Seligman.
 - Total Learners as of May 20, 2024: 111,944.
 - Student rating = 4.9 out of 5.0 (5,807 ratings).
- **Positive Psychology: Resilience Skills**, taught by Dr. Karen Reivich.
 - Total Learners as of May 20, 2024: 79,525.
 - Student rating = 4.9 out of 5.0 (2,077 ratings).
- **Positive Psychology: Applications and Interventions**, taught by Dr. James Pawelski.
 - Total Learners as of May 20, 2024: 48,215.
 - Student rating = 4.8 out of 5.0 (2,056 ratings).
- **Positive Psychology: Character, Grit, and Research Methods**, taught by Dr. Angela Duckworth.
 - Total Learners as of May 20, 2024: 31,688.
 - Student rating = 4.4 out of 5.0 (1,134 ratings).
- **Positive Psychology Specialization Project: Design Your Life for Well-Being**, taught by Dr. Martin Seligman.
 - Total Learners as of May 20, 2024: 29,271.
 - Student rating = 4.8 out of 5.0 (793 ratings).

Education Through Popular Websites:

The PPC has two popular websites to promote Penn educational programs, as well as educate people around the world about the Positive Psychology Center and the field of Positive Psychology:

- <https://ppc.sas.upenn.edu/>
 - Google Analytics from May 22, 2023 to May 21, 2024:
 - 278,941 Users
 - Google’s definition: “Users who have initiated at least one session during the date range.”
 - 562,452 Pageviews
 - Google’s definition: “Pageviews is the total number of pages viewed. Repeated views of a single page are counted.”
- <https://www.authentic happiness.sas.upenn.edu/>
 - Google Analytics from May 22, 2023 to May 21, 2024:
 - 893,994 Users
 - 9,306,844 Pageviews
 - Total Registered Users: 6,655,996

Dissemination through Professional Associations:

- **The International Positive Psychology Network (IPPA).** <http://www.ippanetwork.org/>
Dr. Seligman is Senior Advisor for IPPA and played the lead role in creating IPPA, with contributions from Dr. James Pawelski. IPPA has thousands of members and it’s three-part mission is to promote the science and practice of Positive Psychology to enable individuals and institutions to thrive; to facilitate collaboration among researchers, teachers, students, and practitioners of positive psychology around the world and across academic disciplines; and to share the findings of positive psychology with a broad audience. IPPA will host the Eighth World Congress in July 2023 in Vancouver, Canada. IPPA virtually hosted the Seventh World Congress in July 2021. IPPA hosted the Sixth World Congress on Positive Psychology in June 2019 in Melbourne, Australia and there were more than 1,200 registrants. At each conference, the Positive Psychology Center staffs a booth at the conference to promote Penn’s Online Applied Positive Psychology Certificate program (APOP), Penn’s Master of Applied Positive Psychology program (MAPP) and the online Foundations of Positive Psychology Coursera Certificate. Speakers from the PPC included Dr. Martin Seligman, Dr. James Pawelski, among others.
- **The International Positive Education Network (IPEN).** <https://www.ipen-network.com/>
Dr. Seligman is Senior Advisor for IPEN and played a lead role in creating IPEN with Lord James O’Shaughnessy to bring together teachers, parents, academics, students, schools, colleges, universities, charities, companies and governments to promote a new approach to education: academics + character + well-being. The goals are to support collaboration, change education practice and reform government policy. IPEN hosted the Second World Positive Education Conference in June 2018 in Fort Worth, Texas and

there were more than 600 registrants. The Positive Psychology Center staffed a booth at this conference to promote the MAPP program and the online Foundations of Positive Psychology Coursera Certificate. Speakers from the PPC included Dr. Martin Seligman, Dr. James Pawelski, and Dr. Angela Duckworth. IPEN has thousands of members and is now chaired by Anne Johnstone, Head Principal, Ravenswood School, Sydney, Australia.

V. RESILIENCE TRAINING PROGRAMS AND PENN OUTREACH

Since 2007, we have delivered more than 400 Penn Resilience and Well-Being Programs to more than 60,000 people. Many of these programs are train-the-trainer programs in which we train people how to teach resilience skills to others, using a structured curriculum. Attendees of these programs have gone on to teach these skills to well over a million people around the world. These train-the-trainer programs are an effective model for large-scale and sustainable dissemination of the resilience skills.

These programs have been delivered to a variety of populations – health care professionals, educators and their students (college and secondary schools), U.S. Army soldiers, law enforcement personnel, a professional sports team, and corporate executives and their employees.

Training programs we delivered, organized by market, since we began delivering these programs in 2007:

- **Higher Education:**
 - University of North Carolina
 - University of Notre Dame
 - Western Governors University
 - University of Texas
 - Oklahoma State University
 - University of Pennsylvania
- **Secondary Schools:**
 - Oklahoma City public school high school students, sponsored by the Oklahoma City Thunder
 - UK public schools
 - Geelong Grammar School (Australia)
 - St. Peter's College (Australia)
 - The Hackley School
 - St. Catherine's School (Australia)
 - Wellington College (England)
- **Health Care:**
 - Centerstone
 - Ochsner Health
 - Hemophilia patients and their caregivers, sponsored by Genentech
 - Royal College of Surgeons in Ireland: Students, leadership, staff, faculty
 - University of Michigan Medical School: Leadership Development Team
 - Penn School of Medicine: Faculty and Physicians

- Penn Dental Medicine: Students
- Yale School of Medicine: Physicians
- Sentara Healthcare: Executives
- Children’s Hospital of Philadelphia Foundation: Leadership and Staff
- **Government / Law Enforcement / Military:**
 - U.S. Army
 - U.S. Department of Justice
 - U.S. Department of Defense, Washington Headquarters Services
 - U.S. Department of Defense, Defense Threat Reduction Agency
 - International Association of Chiefs of Police
 - City of Philadelphia Fire Department
 - Pennsylvania State Police
 - Penn Division of Public Safety
 - World Bank
- **Corporations:**
 - Philips
 - Schneider Electric
 - PSI Pharma
 - Indeed
 - Oklahoma City Thunder (NBA team)
 - BAE Systems (British Aerospace)
 - Delta Galil
 - Alcon Vision
 - Deloitte
 - Kimberly-Clark
- **Wharton Executive Education programs:**
 - Estée Lauder Companies
 - Merrill Lynch Financial Bootcamp
 - Merrill Lynch Certified Financial Advisors
 - American Bankers Association
 - Sun Life
 - Sompo International
 - Client Psychology for Certified Financial Planners
 - Client Psychology Program for Citi Global Sales Managers
 - Client Psychology Program for Citi Advanced Sales Program
 - Securities Industry Institute for Securities Industry and Financial Markets Association (SIFMA)
 - Athlete Development Professional Certification Program

Training programs we have delivered, in reverse chronological order:

Penn Resilience and Well-Being Train-the-Trainer Program for University of North Carolina System Students, March 2024 to November 2024.

Penn Resilience and Well-Being Train-the-Trainer Program for University of North Carolina System Students, June 2023 to March 2024.

Penn Resilience and Well-Being Train-the-Trainer Program for University of Notre Dame Students, June 2024 to January 2025.

Penn Resilience and Well-Being Program for Philips Corp. Leadership, January 2024 to June 2024.

Penn Resilience Program for U.S. Department of Defense, Defense Threat Reduction Agency, July 2023 to October 2023.

Penn Resilience Program for Law Enforcement Personnel, October 2023 to September 2024 (PI Seligman), Subcontract from International Association of Chiefs of Police (IACP), under prime award from the U.S. Department of Justice.

Penn Resilience Program for Law Enforcement Personnel, January 2018 to September 2023 (PI Seligman), Subcontract from International Association of Chiefs of Police (IACP), under prime award from the U.S. Department of Justice.

Penn Resilience Program for Schneider Electric Vice Presidents, September 2022 to May 2023.

Penn Resilience and Well-Being Train-the-Trainer Program for Centerstone Employees, September 2022 to August 2023.

Penn Resilience and Well-Being Train-the-Trainer Program for PSI Pharma Support Inc. Employees, November 2021 to June 2023.

Penn Resilience Program for Ochsner Health Nurses, September to December 2022.

Penn Resilience and Well-Being Train-the-Trainer Program for University of Notre Dame Students, September 2021 to October 2022.

Penn Resilience and Well-Being Train-the-Trainer Program for Western Governors University Employees, May 2021 to April 2022.

Following are older resilience training programs for a broader historical context:

Penn Resilience Program for Indeed Inc. Marketing Employees, July to December 2021.

Penn Resilience and Well-Being Train-the-Trainer Program for Medical Students at the Royal College of Surgeons in Ireland, September 2021 to July 2022.

Penn Resilience Program for Hemophilia Patients and their Caregivers, December 2018 to December 2021 (PI Seligman), Sponsored by Genentech USA, Inc.

Penn Resilience Program for City of Philadelphia First Responders, July 2020 to December 2021 (PI Seligman).

Penn Resilience Program for Oklahoma City Thunder, September 2014 to August 2020.

Penn Resilience Program for Oklahoma City Thunder Community Outreach with Oklahoma City High School Students, January 2018 to June 2020.

Penn Resilience and Well-Being Program for Senior Leaders at British Aerospace, 2020.

Penn Resilience and Well-Being Train-the-Trainer Program for University of Michigan Medical School, 2020.

Penn Resilience and Well-Being Train-the-Trainer Program for Western Governors University, 2020.

Penn Resilience Program for Western Governors University, 2019.

Penn Resilience Program for Oklahoma State University, 2019.

Penn Resilience Program for Alcon Vision, 2019.

Penn Resilience Program for University of Michigan Medical School, 2019.

Penn Resilience and Well-Being Program for Sales Managers at Investors Group, 2019.

Penn Resilience Program for Sentara Healthcare, June 2018.

Penn Well-Being Program for the World Bank, June 2018 (PI Seligman).

Penn Resilience Program for Royal College of Surgeons in Ireland, November 2017.

Penn Resilience Program for Yale School of Medicine Faculty and Staff, 2017 (PI Seligman).

Positive Psychology Program for Delta Galil Executives, August 2017.

Penn Resilience Program for UAE Ministry of Happiness, March 2017.

Penn Resilience Program for U.S. Department of Defense, Washington Headquarters Services, FY17.

Penn Resilience Program for Deloitte Senior Leaders, September 2016.

Penn Resilience Program for University of Texas System, May 2015 to August 2016 (PI Seligman).

Penn Resilience Program for St. Catherine's School Educators (Australia) FY16.

Penn Resilience Program for Deloitte Clinicians, FY16.

Penn Resilience Program for Kimberly-Clark Professional Global Marketing & Sales Team, FY16.

Penn Resilience Program for U.S. Army, Sept 2014 through Sept 2016 (PI Seligman).

U.S. Army Resilience Training of Soldiers 2012 through Sept 2014 (PI Seligman).

U.S. Army Resilience Training of Soldiers in 2011 (PI Seligman).

U.S. Army Resilience Training of Soldiers in 2010 (PI Seligman).

U.S. Army Resilience Curriculum Development and Training Soldiers in 2009 (PI Seligman).

Penn Resilience Programs for Penn Students, Faculty, and Staff: We are delighted to bring our programs to the Penn community. These programs have received positive feedback and word-of-mouth has increased demand, especially since the pandemic. Since the pandemic, we have delivered about 80 resilience programs to more than 2,000 Penn staff, faculty, and students, so they can benefit from these evidence-based programs. We have been delivering programs to:

- Penn Wellness Initiative under Dowd / Sanders Gift Donation (Benoit Dubé): Four, 90-minute resilience workshops for 71 Penn undergraduates in fall FY24. A six-hour resilience summit for 104 Penn undergraduates in spring FY24.
- Penn Human Resources (Jack Heuer): A 2-hour resilience workshop for about 100 HR staff in honor of Jack Heuer's retirement, in spring FY24.
- Penn Medicine at Home (Joanne M Piscitello): One, in-person 90-minute workshop for about 100 leadership in long-term care communities in FY24 (June 2024) at a conference.
- Penn Medicine at Home (Joanne M Piscitello): Three, 90-minute virtual workshops for 81 leadership and staff in long-term care communities in FY24.
- Wharton Undergraduate Division (Diana Robertson): Twelve, 60-minute resilience workshops for 660 students in FY24 in the Wharton 1010 class.
- Penn Wrestling (Roger Reina): Four, 90-minute resilience workshops for 37 wrestling students and 6 wrestling coaches in FY24.
- Penn Human Resources Work-Life Program (Karen Kille): Six, 90-minute virtual resilience workshop series for about 60 faculty and staff in FY24.
- Penn Global (Kristyn Palmiotto): One, 90-minute resilience workshop for 23 Penn Global ISSS leadership and staff in FY24.
- Penn Business Services Division (Courtney Dombroski): Three, half-day resilience workshops for 50 residential and hospitality services staff in FY24.
- Penn Carey Law School (Meghan Summonte and Christine Droesser): One, 90-minute resilience workshop for about 50 law school staff in FY24.
- Wharton Graduate Division (Samuel Jones): One, 90-minute resilience workshop for seven directors of the seven top-ranked MBA programs in the U.S. in December 2023. One, 90-minute resilience workshop for 32 MBA Career Management staff in FY24 (March 2024).
- Penn Integrated Product Design Master's Program (Sarah Rottenberg): One, 90-minute resilience workshop for 28 master's students in FY24.
- Penn Global (Kristyn Palmiotto): One, 3-hour workshop for 30 study abroad leadership from Ivy League schools in FY23.

- Penn Medicine at Home (Joanne M Piscitello): One, in-person 90-minute workshop for about 50 leadership in long-term care communities in FY23 (June 2023) at a conference.
 - Penn Human Resources Work-Life Program (Karen Kille): Six, 90-minute virtual resilience workshop series for 70 faculty and staff in FY23.
 - Penn EVP Center (Craig Carnaroli): One, 90-minute resilience workshop for 45 Executive Assistants in EVP Center in FY23.
 - Penn Wellness Initiative under Dowd / Sanders Gift Donation (Benoit Dubé): Three, 90-minute resilience workshops for 38 undergraduates in FY23.
 - Penn Wrestling (Roger Reina): Four, 90-minute resilience workshops for 44 wrestling students and 6 wrestling coaches in FY23.
 - Penn Athletics Wharton Leadership Academy (PAWLA: Rudy Fuller): Five, 90-minute to 2-hour resilience workshops for 285 Penn student-athletes in FY23.
 - Wharton Graduate Division (Samuel Jones): One, 90-minute resilience workshop for 31 MBA Career Management staff in FY23.
 - Wharton Undergraduate Division (Diana Robertson): Three, 90-minute resilience workshops for 6 students in FY23.
 - Wharton Undergraduate Division (Diana Robertson): One, 3-hour resilience workshop for 26 staff in FY23.
-
- Penn Human Resources Work-Life Program (Karen Kille): Six, 90-minute virtual workshop series for 35 faculty and staff in FY21 and 45 in FY22.
 - Penn Dental Medicine (Margaret Yang): Six, 90-minute virtual workshop series for 150 Penn Dental Medicine students in FY22.
 - Penn School of Medicine (Megan Maxwell): One, 90-minute virtual workshop for 30 Penn Medicine Master's Students in FY22.
 - Penn Athletics Wharton Leadership Academy (PAWLA: Rudy Fuller): Five workshops for 350 Penn student-athletes in FY21 and 300 in FY22.
 - Penn Executive Vice President (Craig Carnaroli): One-hour virtual presentation for 100 senior administrative leadership speaker series in FY21 (July 2020).
 - Penn Provost Centers (Ufuoma Pela): Six, 90-minute virtual workshop series for 20 staff in FY21.
 - Penn Division of Human Resources (Jack Heuer): Six, 90-minute virtual workshop series for 75 staff in FY21.
 - Penn Development and Alumni Relations (Gretchen Ekeland): Six, 90-minute virtual workshops (3+3) for 100 staff in FY21.
 - Penn Graduate School of Education (Emma Grigore): Two, 90-minute virtual workshops for 37 staff in FY21.
 - Penn Law School (John Hollway): Two-hour workshop for 4 law school students in FY21.
 - Penn School of Medicine (Lisa Bellini, Deborah Driscoll). Five, one-day programs for 203 faculty and physicians in FY18-20.
 - Penn Professional and Liberal Education (Nora Lewis): One-day program for 60 staff in FY19.
 - Penn Athletics (Rudy Fuller): For 91 coaches in FY19.
 - Penn Athletics (Rudy Fuller): Two-semester course for 87 student athletes in FY19.

- Penn Division of Human Resources (Jack Heuer): A two-day program for 30 leadership and 30 staff in FY17-18.
- Penn Wharton MBA Staff (Paula Greenberg): One-day program for 50 staff in FY17 and 30 in FY19.
- Penn Rodin College House (Kathryn McDonald): A 1.5 hour workshop for 20 undergraduate students in January 2019 and 20 in February 2020.
- Penn Division of Finance (Paul Richards): A 2-hour program for 220 staff in FY18.
- Penn Wharton Computing (Scott McNulty): One-day program for 50 leadership and staff in FY18.
- Penn Office of Audit, Compliance, and Privacy (Greg Pellicano). One-day program for 30 staff in FY18.
- Penn School of Social Policy and Practice (Regine Metellus): One-day program for 9 staff in FY18.
- Penn Business Services Division (Marie Witt): A 3-day program for 40 on the leadership team and a one-day program for 120 staff in FY17.
- Penn Division of Public Safety (Maureen Rush): A one-day program for 170 police officers and staff in FY16 (10 cohorts of about 17).
 - In July 2020, Dr. Karen Reivich and the Positive Psychology Center produced a video, “Resilience: Strategies of Optimistic Thinking” for Penn’s Division of Public Safety”. <https://vimeo.com/438684773/afb52085a7>
- [Online resilience course through PLE for Penn staff \(click here for press coverage\).](#)

Penn Outreach: The PPC has provided actionable wellness resources for the Penn community:

- Throughout FY21-24, the PPC’s Penn Resilience Program team, under the leadership of Dr. Karen Reivich, has delivered more than 80 resilience workshops to more than 2,000 Penn faculty, staff and students through numerous departments.
- In spring 2024, we again offered a virtual six-workshop series in partnership with the Penn Division of Human Resources Work-Life Program, which any Penn staff and faculty could sign up to attend. We also offered this popular workshop series in 2023 and 2022 for the HR Work-Life Program.

VI. RESEARCH PUBLICATIONS 2023-2024

Martin E.P. Seligman Publications:

Book: Kellerman, G. and Seligman, M. (2023). *TomorrowMind*. N.Y.: Atria/Simon & Schuster.

Zhao, Y., Huang, Z., Seligman, M., Peng, K. (2024). Risk and prosocial behavioural cues elicit human-like response patterns from AI chatbots. *Scientific Reports*, 14(1), 7095.

<https://www.nature.com/articles/s41598-024-55949-y>

Genecov, M., Blyler, A., Love, N., & Seligman, M.E.P. (In press). The history of happiness in academic psychology. In Barclay, K., McMahon, D., & Stearns, P. (Eds.) *Routledge History of Happiness*. Routledge.

- Jones, J.J., Buffone, A., Giorgi, S., Eichstaedt, J., Crutchley, P., Yaden, D., Elstein, J., Zamani M., Kregor, J., Smith, L., Seligman, M.E.P., Kern, M., Ungar, L., Schwartz, H.A. (Under review). Quantifying Generalized Trust in Individuals and Counties Using Computational Linguistic Analysis. *Frontiers in Social Psychology*.
- Rapuno, K.M., Bernecker, S., Reece A., Yost, A., Auer, E., Waters, S., Hutchinson, D.M., Kellerman, G., Seligman, M.E.P., Niederhoffer, K. (Under review). Measuring workplace well-being and coaching effectiveness using the Whole Person Model. *Journal of Positive Psychology*.
- Eubanks, A., Reece, A., Liebscher, A., Ruscio, A.M., Baumeister, R., and Seligman, M. (2023). Pragmatic Prospecion is linked with positive life and workplace outcomes, *Journal of Positive Psychology*. <https://doi.org/10.1080/17439760.2023.2230479>
- Baratta, M.V., Seligman, M.E.P., & Maier, S.F. (2023). From helplessness to controllability: toward a neuroscience of resilience. *Frontiers in Psychiatry*. DOI: [10.3389/fpsyt.2023.1170417](https://doi.org/10.3389/fpsyt.2023.1170417)
- Blyler, A.P., & Seligman, M.E.P. (2023). Personal narrative and stream of consciousness: an AI approach. *Journal of Positive Psychology*, 1-7. <https://www.tandfonline.com/doi/full/10.1080/17439760.2023.2257666>
- Blyler, A.P., & Seligman, M.E.P. (2023). AI assistance for coaches and therapists. *Journal of Positive Psychology*, 1-13. <https://www.tandfonline.com/doi/full/10.1080/17439760.2023.2257642>
- Kellerman, G.R. & Seligman, M. (2023). Reimagining HR for better well-being and performance. *MIT Sloan Management Review*, Spring 2023 Issue. <https://sloanreview.mit.edu/article/reimagining-hr-for-better-well-being-and-performance/>
- Kellerman, G.R. & Seligman, M. (2023). Cultivating the four kinds of creativity. *Harvard Business Review*, January-February Issue. <https://hbr.org/2023/01/cultivating-the-four-kinds-of-creativity>
- Genecov, M. & Seligman, M. (2023). Optimism and pessimism. In D.J. A. Dozois & K. S. Dobson (Eds.), *Treatment of psychosocial risk factors in depression* (pp. 253–280). American Psychological Association. <https://doi.org/10.1037/0000332-012>
- Rashid, T., Summers, R.F. & Seligman, M. (2023). Positive Psychology Model of Mental Function and Behavior. In A. Tasman, M.B. Riba, T.G. Schulze, C.H. Ng, C.A. Alfonso, D. Lecic-Tosevski, S. Kanba, R.D. Alarcon, & D.M. Ndeti (Eds.). *Tasman's Psychiatry* (Fifth Edition). Cham, Switzerland: Springer Nature Switzerland AG.
- Seligman, M. (2023). Memories of Jack. *Journal of Behavior Therapy and Experimental Psychiatry*, Special Issue in Honour of Stanley (Jack) Rachman, 78, <https://doi.org/10.1016/j.jbtep.2022.101798>
- Seligman, M. (2023). How to Manage Catastrophic Thinking. *Time*, January 5, 2023. <https://time.com/6244557/catastrophic-thinking-how-to-manage/>
- Seligman, M., Love, N., & Maymin, P. (2023). Agency in the Bible: Humans Wrestling with God. In E. Brown & S. Weiss (Eds.), *An Ode to Joy: Judaism and Happiness in the Thought of Rabbi Lord Jonathan Sacks and Beyond*. Switzerland: Palgrave Macmillan.

James Pawelski Publications:

- Book Series:** Pawelski, J.O. (Series Editor) (2023). *The Humanities and Human Flourishing*. Nine volumes. New York: Oxford University Press.
- Book:** Pawelski, J.O. (Ed.). (under preparation). *The Humanities and Human Flourishing*. New York: Oxford University Press.

Book: Tay, L., & Pawelski, J. O. (Eds.) (2022). *The Oxford handbook of the Positive Humanities*. New York: Oxford University Press.

Barry, G., Cotter, K. N., & Pawelski, J. O. (in press). The ability of art museums to enhance human flourishing. In B. Redmond-Jones (Ed.), *Welcoming museum visitors with unapparent Disabilities*. Roman & Littlefield.

Pawelski, J. O. (2023). Arts, culture, and human flourishing. (Translated into Dutch as Kunst, cultuur en menselijke ontplooiing. In L. Bormans (Ed.), *The new world book of happiness* (pp. 126-127). Lannoo.

Pawelski, J. O. (2023). Teaching philosophy: The love of wisdom and the cultivation of human flourishing. In J. J. Stuhr (Ed.), *Philosophy and human flourishing* (pp. 237-261). New York: Oxford University Press.

Lomas, T., Pawelski, J. O., & VanderWeele, T. J. (in press). Flourishing as “sustainable well-being”: Balance and harmony within and across people, ecosystems, and time. *The Journal of Positive Psychology*.

Crone, D. L., Shim, Y., Cotter, K. N., Tay, L., & Pawelski, J. O. (in press). Personally significant forms of engagement in the arts and humanities in a representative sample of United States residents. *Psychology of Aesthetics, Creativity, and the Arts*.

Cotter, K. N., Rodriguez-Boerwinkle, R. M., Silver, S., Hardy, M., Putney, H., & Pawelski, J. O. (2024). Emotional experiences, well-being, and ill-being during art museum visits: A latent class analysis. *Journal of Happiness Studies* 25:24. <https://doi.org/10.1007/s10902-024-00736-9>.

Lomas, T., Pawelski, J. O., & VanderWeele, T. J. (2024). A flexible map of flourishing: The dynamics and drivers of flourishing, well-being, health, and happiness. *International Journal of Wellbeing*, 13(4), 3665, 1-38. <https://doi.org/10.5502/ijw.v13i4.3665>

Cotter, K. N., Rodriguez-Boerwinkle, R. M., Boerwinkle, M., Silvia, P. J., & Pawelski, J. O. (2023). Virtual art visits: Examining the effects of slow looking on well-being in an online environment. *Psychology of Aesthetics, Creativity, and the Arts*.
doi:<https://doi.org/10.1037/aca0000548>

Thapa, S., Vaziri, H., Shim, Y., Tay, L., & Pawelski, J. O. (2023, March 23). Development and validation of the mechanisms of engagement in the arts and humanities scales. *Psychology of Aesthetics, Creativity, and the Arts*. Advance online publication. doi:10.1037/aca0000556

Cotter, K. N., & Pawelski, J. O. (2023). Flourishing aims of art museums: A survey of art museum professionals. *Empirical Studies of the Arts*, 41(1), 52-79.
doi:10.1177/02762374221118528

Angela Duckworth Publications:

Duckworth, A. L. (2024). Commentary on Personal perspectives on mindsets, motivation, and psychology by Carol S. Dweck. *Motivation Science*, 10(1), 12–13.
<https://doi.org/10.1037/mot0000316>

Duckworth, A. L., & Gross, J. J. (2024). Self-Control. In J. J. Gross & B. Q. Ford (Eds.), *Handbook of Emotion Regulation* (pp. 250–255).

Duckworth, A. L., Copeland, M., Polson, S. H., & Chamorro-Premuzic, T. (2023). *Grit (HBR Emotional Intelligence Series)*. Harvard Business Press.

Buyalskaya, A., Ho, H., Milkman, K. L., Li, X., Duckworth, A. L., & Camerer, C. (2023). What can machine learning teach us about habit formation? Evidence from exercise and hygiene.

Proceedings of the National Academy of Sciences, 120(17), e2216115120.
<https://doi.org/10.1073/pnas.2216115120>

- Lira, B., Gardner, M., Quirk, A., Stone, C., Rao, A., Ungar, L., Hutt, S., Hickman, L., D’Mello, S. K., & Duckworth, A. L. (2023). Using artificial intelligence to assess personal qualities in college admissions. *Science Advances*, 9(41), eadg9405.
<https://doi.org/10.1126/sciadv.adg9405>
- Park, D., Gunderson, E. A., Maloney, E. A., Tsukayama, E., Beilock, S. L., Duckworth, A. L., & Levine, S. C. (2023). Parental intrusive homework support and math achievement: Does the child’s mindset matter? *Developmental Psychology*, 58(7), 1249–1267.
<https://doi.org/10.1037/dev0001522>
- Patel, M. S., Milkman, K. L., Gandhi, L., Graci, H. N., Gromet, D., Ho, H., Kay, J. S., Lee, T. W., Rothschild, J., Akinola, M., Beshears, J., Bogard, J. E., Buttenheim, A., Chabris, C., Chapman, G. B., Choi, J. J., Dai, H., Fox, C. R., Goren, A., ... Duckworth, A. L. (2023). A randomized trial of behavioral nudges delivered through text messages to increase influenza vaccination among patients with an upcoming primary care visit. *American Journal of Health Promotion*, 37(3), 324–332. <https://doi.org/10.1177/08901171221131021>
- Rai, A., Sharif, M. A., Chang, E. H., Milkman, K. L., & Duckworth, A. L. (2023). A field experiment on subgoal framing to boost volunteering: The trade-off between goal granularity and flexibility. *Journal of Applied Psychology*, 108(4), 621–634.
<https://doi.org/10.1037/apl0001040>
- Southwick, D. A., Liu, Z. V., Baldwin, C., Quirk, A. L., Ungar, L. H., Tsay, C. J., & Duckworth, A. L. (2023). The trouble with talent: Semantic ambiguity in the workplace. *Organizational Behavior and Human Decision Processes*, 174, 104223.
<https://doi.org/10.1016/j.obhdp.2022.104223>
- Zhang, T., Park, D., Tsukayama, E., Duckworth, A. L., & Luo, L. (2023). Sparking virtuous cycles: A longitudinal study of subjective well-being and grit during early adolescence. *Journal of Youth and Adolescence*. <https://doi.org/10.1007/s10964-023-01862-y>

Allyson Mackey Publications:

- Keller, A. S., Moore, T. M., Luo, A., Visoki, E., Gataviņš, M. M., Shetty, A., Cui, Z., Fan, Y., Feczko, E., Houghton, A., Li, H., **Mackey, A. P.**, Miranda-Dominguez, O., Pines, A., Shinohara, R. T., Sun, K. Y., Fair, D. A., Satterthwaite, T. D., & Barzilay, R. (2024). A general exposome factor explains individual differences in functional brain network topography and cognition in youth. *Developmental Cognitive Neuroscience*, 101370.
- McDermott, C.L.¹, Norton, E.S., & **Mackey, A.P.** (2023) A Systematic Review of Interventions to Ameliorate the Impact of Adversity on Brain Development. *Neuroscience and Biobehavioral Reviews*. doi: 10.1016/j.neubiorev.2023.105391
- Boroshok, A.L.¹, McDermott, C.L.¹, Fotiadis, P., Park, A.T.², Tooley, U.A.¹, Gataviņš, M.M.³, Tisdall, M.D., Bassett, D.S., **Mackey, A.P.** (2023) Individual differences in cortical myelin map development during childhood. *Developmental Cognitive Neuroscience*, 101270.
<https://doi.org/10.1016/j.dcn.2023.101270>.
- Sydnor, V.J., Larsen, B., Seidlitz, J., Adebimpe, A., Alexander-Bloch, A.F., Bassett, D.S., Bertolero, M.A., Cieslak, M., Covitz, S., Fan, Y., Gur, R.E., Gur, R.C., Mackey, A.P., Moore, T.M., Roalf, D.R., Shinohara, R.T., Satterthwaite, T.D. (2023) Intrinsic activity development unfolds along a sensorimotor-association cortical axis in youth. *Nature Neuroscience*. 26: 638-649. doi: 10.1038/s41593-023-01282-y

- McDermott, C.L. 1, Lee, J. 3, Park, A.T. 1, Tooley, U.A. 1, Boroshok, A.L. 1, Hilton, K., Mupparapu, M., & Mackey, A.P. (2023) Developmental correlates of accelerated molar eruption in early childhood. *Biological Psychiatry: Global Open Science*. <https://doi.org/10.1016/j.bpsgos.2023.02.006>
- Keller, A.S., Mackey, A.P., Pines, A., Fair, D., Fezcko, E., Hoffman, M.S., Salum, G.A., Barzilay, R., Satterthwaite, T.D. (2022) Caregiver monitoring, but not caregiver warmth, is associated with general cognition in two large samples of youth from the ABCD study. *Developmental Science*. <https://doi.org/10.1111/desc.13337>

Jeremy Clifton Publications:

- Kerry, N., Hämpke, J., & Clifton, J. D. W. (2024). World beliefs predict sustainable behaviors beyond Big Five personality traits and political ideology. [In press]. Department of Psychology, University of Pennsylvania.
- Clifton, J. D. W. (2024). Psychologists return to the first question of western philosophy. *American Psychologist*. In press.
- Kerry, N., Perry L. M., & Clifton J. D. W. (2024). Predictors of palliative care attitudes among US patients with cancer and survivors: ideology, personality, world beliefs. *BMJ Supportive & Palliative Care*. Published Online First: 15 April 2024. <https://doi.org/10.1136/spcare-2024-004892>. Free full-text PDF.
- Kerry, N., Chhabra, R., & Clifton, J. D. W. (2023). Being thankful for what you have: A systematic review of evidence for the effect of gratitude on life satisfaction. *Psychology Research and Behavior Management*, 16, 4799-4816. <https://doi.org/10.2147/PRBM.S372432>. Free full-text PDF.
- Kerry, N., White, K. C., O'Brien, M., Perry, L., & Clifton, J. D. W. (2023). Despite popular intuition, positive world beliefs poorly reflect several objective indicators of privilege, including wealth, health, sex, and neighborhood safety. *Journal of Personality*. Advanced online publication. <https://doi.org/10.1111/jopy.12877>. Free full-text PDF.
- Mercurio, Z., Adams W., Myles, T., & Clifton, J. D. W. (2023). Mapping and measuring leadership practices intended to foster meaningful work. *Occupational Health Science*. Advanced online publication. <https://doi.org/10.1007/s41542-023-00161-z>. Free full-text PDF.
- Schlechter, A. D., McDonald, M., Lerner, D., Yaden, D., Clifton, J. D. W., Moerdler-Green, M., & Horwitz, S. (2023). Positive psychology psychoeducation makes a small impact on undergraduate student mental health: Further curriculum innovation and better well-being research needed. *Journal of American College Health*. <https://doi.org/10.1080/07448481.2023.2227719>. Free full-text PDF.
- Clifton, J. D. W. (2023). Measuring primal world beliefs. In W. Ruch, A. B. Baker, L. Tay, & F. Gander (Eds.), *Handbook of positive psychology assessment (Psychological Assessment – Science and Practice, Vol. 5, pp. 385 – 401)*. Hogrefe Publishing Group. Free full-text PDF.
- Clifton, A. B. W., Stahlmann, A. G., Hofmann, J., Chirico, A., Cadwallader, R., Clifton, J. D. W. (2022). Improving scale equivalence by increasing access to scale-specific information. *Perspectives on Psychological Science* 18(4), 843–853. <https://doi.org/10.1177/17456916221119396>. Free full-text PDF.
- Ludwig, V. U., Crone, D. L., Clifton, J. D. W., Rebele, R. W., Schor, J. A., & Platt, M. L. (2023). Resilience of primal world beliefs to the initial shock of the COVID-19 pandemic. *Journal of Personality*, 91(3), 838–855. <https://doi.org/10.1111/jopy.12780>. Free full-text PDF.

- Kerry, N., Al-Shawaf, L., Barbato, M., Batres, C., Blake, K., Cha, Y. J., Chauvin, G., Clifton, J. D. W., Fernandez, A. M., Galbarczyk, Ghossainy, M., A., Jang, D. Jasienska, G., Karasawa, M., Laustsen, L., Loria. R., Luberti, F., Moran, J., Pavlović, Z... Murray, D. R. (2022). Experimental and cross-cultural evidence that parenthood and parental care motives increase social conservatism. *Proceedings of the Royal Society B: Biological Sciences*. <https://doi.org/10.1098/rspb.2022.0978>. Free full-text PDF.
- Clifton, J. D. W., & Kerry, N. (2023). Belief in a dangerous world does not explain substantial variance in political attitudes, but other world beliefs do. *Social Psychological & Personality Science*, 14(5), 515–525. <https://doi.org/10.1177/19485506221119324>. Free full-text PDF.

Max Genecov Publications:

- Genecov, M. (in press). “Psychological and subjective well-being protect from death after adjusting for ill-being: A meta-analysis.” *Psychological Bulletin*
- Genecov, M., Blyler, A., Love, N., & Seligman, M. (2024). The history of happiness in academic psychology. K. Barclay, D. McMahon, & P. Stearns (Eds.) *Routledge History of Happiness*. Routledge
- Genecov, M., & Seligman, M. (2023). Optimism and pessimism. D. Dozois & K. Dobson (Eds.) *Treatment of psychosocial risk factors in depression*. American Psychological Association

Professor Lyle Ungar: World Well-Being Project Publications:

- Key Language Markers of Depression on Social Media Depend on Race. S Rai, EC Stade, S Giorgi, A Francisco, LH Ungar, B Curtis, SC Guntuku. *Proceedings of the National Academy of Sciences* 121 (14), e231983712, 2024
- Large language models could change the future of behavioral healthcare: a proposal for responsible development and evaluation. EC Stade, SW Stirman, LH Ungar, CL Boland, HA Schwartz, DB Yaden, J Sedoc, RJ DeRubeis, RWiller, JC Eichstaedt. *NPJ Mental Health Research* 3 (1), 12, 2024
- A cross-cultural examination of temporal orientation through everyday language on social media. XD Hou, SC Guntuku, YM Cho, G Sherman, T Zhang, M Li, L Ungar, L Tay. *PloS One* 19 (3), e0292963, 2024
- Language-based EMA assessments help understand problematic alcohol consumption. AH Nilsson, HA Schwartz, RN Rosenthal, JR McKay, H Vu, YM Cho, S Mahwish, AV Ganesan, L Ungar, *PloS One* 19 (3), e0298300, 2024
- Using Daily Language to Understand Drinking: Multi-Level Longitudinal Differential Language Analysis M Matero, H Vu, A Nilsson, S Mahwish, YM Cho, J McKay, J Eichstaedt, R Rosenthal, L Ungar, HA Schwartz, *Proceedings of the 9th Workshop on Computational Linguistics and Clinical Psychology*, 133-144, 2024
- Differential temporal utility of passively sensed smartphone features for depression and anxiety symptom prediction: a longitudinal cohort study. CA Stamatis, J Meyerhoff, Y Meng, ZCC Lin, YM Cho, T Liu, CJ Karr, T Liu, BL Curtis, LH Ungar, DC Mohr. *NPJ Mental Health Research* 3 (1), 1, 2024
- Building a Multimodal Classifier of Email Behavior: Towards a Social Network Understanding of Organizational Communication. H Shah, K Jaidka, L Ungar, J Fagan, T Grosser. *Information* 14 (12), 661, 2023

- Conditioning on Dialog Acts improves Empathy Style Transfer. R Qu, L Ungar, J Sedoc. Findings of the Association for Computational Linguistics: EMNLP 2023, 13254-13271, 2023
- Smartphone sensor data estimate alcohol craving in a cohort of patients with alcohol-associated liver disease and alcohol use disorder T Wu, G Sherman, S Giorgi, P Thanneeru, LH Ungar, PS Kamath, DA Simonetto, BL Curtis, VH Shah. Hepatology Communications 7 (12), e0329, 2023
- AWARE-TEXT: An Android Package for Mobile Phone Based Text Collection and On-Device Processing. S Giorgi, G Sherman, D Bellew, SC Guntuku, L Ungar, B Curtis. Proceedings of the 3rd Workshop for Natural Language Processing Open Source Software, 102-109, 2023
- Specific associations of passively sensed smartphone data with future symptoms of avoidance, fear, and physiological distress in social anxiety. CA Stamatis, T Liu, J Meyerhoff, Y Meng, YM Cho, CJ Karr, BL Curtis, LH Ungar, DC Mohr, Internet Interventions, 34, 100683 2023
- The online language of work-personal conflict. G Liou, J Mittal, NKR Sehgal, L Tay, L Ungar, SC Guntuku. Scientific Reports, 13 (1), 21019, 2023
- Predicting the Effect of Proton Beam Therapy Technology on Pulmonary Toxicities for Patients With Locally Advanced Lung Cancer Enrolled in the Proton Collaborative Group Prospective Clinical Trial. G Valdes, J Scholey, TF Nano, ED Gennatas, P Mohindra, N Mohammed, J Zeng, R Kotecha, LR Rosen, J Chang, HK Tsai, JJ Urbanic, CE Vargas, YY Nathan, LH Ungar, E Eaton, CB Simone. International Journal of Radiation Oncology, Biology, Physics 2023
- Prospective Learning: Principled Extrapolation to the Future. A De Silva, R Ramesh, L Ungar, ... and, JT Vogelstein. Conference on Lifelong Learning Agents, 347-357, 2023
- A transdiagnostic, dimensional classification of anxiety shows improved parsimony and predictive noninferiority to DSM. EC Stade, RJ DeRubeis, L Ungar, AM Ruscio Journal of Psychopathology and Clinical Science 132 (8), 937 2023
- Comparison of wellbeing structures based on survey responses and social media language: A network analysis S Sametoğlu, DHM Pelt, JC Eichstaedt, LH Ungar, M Bartels Applied Psychology: Health and Well-Being 15 (4), 1555-1582 2023
- Visual Topics via Visual Vocabularies. S Havaldar, W You, L Ungar, E Wong, XAI in Action: Past, Present, and Future Applications. NeurIPS XAIA 2023
- Using artificial intelligence to assess personal qualities in college admissions. B Lira, M Gardner, A Quirk, C Stone, A Rao, L Ungar, S Hutt, L Hickman, SK D'Mello, A Duckworth. Science Advances 9 (41), eadg9405 2023
- AI-based analysis of social media language predicts addiction treatment dropout at 90 days. B Curtis, S Giorgi, L Ungar, H Vu, D Yaden, T Liu, K Yadeta, HA Schwartz Neuropsychopharmacology 48 (11), 1579-1585 2023
- A deep learning approach to personality assessment: Generalizing across items and expanding the reach of survey-based research. S Abdurahman, H Vu, W Zou, L Ungar, S Bhatia, S Abdurahman, H Vu, W Zou, L Ungar, S Bhatia Journal of Personality and Social Psychology 2023
- Fair Skill Brier Score: Evaluating Probabilistic Forecasts of One-Off Events with Different Numbers of Categorical Outcomes J Wang, B Mellers, L Ungar, V Satopää, INSEAD Working Paper 2023
- Effect of integrating patient-generated digital data into mental health therapy: a randomized controlled trial. RM Merchant, L Southwick, RS Beidas, DS Mandell, SC Guntuku, A Pelullo, L Yang, N Mitra, B Curtis, L Ungar, DA Asch. Psychiatric Services 74 (8), 876-879 2023
430. Depression and anxiety have distinct and overlapping language patterns: Results

from a clinical interview. EC Stade, L Ungar, JC Eichstaedt, G Sherman, AM Ruscio. *Journal of Psychopathology and Clinical Science* 2023

Automated Detection of Interpretable Causal Inference Opportunities: Regression Discontinuity Subgroup Discovery. T Liu, P Lawlor, L Ungar, K Kording, R Ladhania ICML 3rd Workshop on Interpretable Machine Learning in Healthcare (IMLH) 2023

Automated Detection of Causal Inference Opportunities: Regression Discontinuity Subgroup Subgroup Discovery T Liu, P Lawlor, L Ungar, K Kording, R Ladhania. *Transactions on Machine Learning Research* 2023

The value of social media language for the assessment of wellbeing: a systematic review and meta-analysis. S Sametoğlu, DHM Pelt, JC Eichstaedt, LH Ungar, M Bartels *The Journal of Positive Psychology*, 1-19 2023

Predicting US county opioid poisoning mortality from multi-modal social media and psychological self-report data. S Giorgi, DB Yaden, JC Eichstaedt, LH Ungar, HA Schwartz, A Kwarteng, Brenda Curtis, *Scientific reports* 13 (1)S, 9027 2023

Different affordances on facebook and sms text messaging do not impede generalization of language-based predictive models. T Liu, S Giorgi, X Tao, SC Guntuku, D Bellew, B Curtis, L Ungar. *Proceedings of the International AAAI Conference on Web and Social Media Volume 17* 2023

Analyzing text message linguistic features: Do people with depression communicate differently with their close and non-close contacts? J Meyerhoff, T Liu, CA Stamatis, T Liu, H Wang, Y Meng, B Curtis, CJ Karr, G Sherman, LH Ungar, DC Mohr, *Behaviour Research and Therapy*, 104342 2023

Characterizing empathy and compassion using computational linguistic analysis. DB Yaden, S Giorgi, M Jordan, A Buffone, JC Eichstaedt, HA Schwartz, L Ungar, PBloom *Emotion* 2023

PD-0173 Proton center variations in predicting pulmonary toxicities from proton radiotherapy of lung cancer. T Nano, G Valdes, J Scholey, A Comas-Leon, E Gennatas, W Hartsell, J Zeng, M Chuoung, M Mishra, L Rosen, J Chang, H Tsai, J Urbanic, C Vargas, L Ungar, E Eaton, C Simone. *Radiotherapy and Oncology* 182, S134 2023

Sa1514 Digital Phenotyping for Craving Prediction in a Cohort with Alcohol-Associated Liver Disease: A Pilot Study. T Wu, G Sherman, S Giorgi, P Thanneeru, LH Ungar, PS Kamath, D Simonetto, BL Curtis, V Shah. *Gastroenterology* 164 (6), S-1279 2023

OC-019 Leveraging Natural Language Processing and Artificial Intelligence to Label Unstructured Data for Risk Prediction. C Amro, A Desai, P Dattatri, T Liu, JY Hsu, RB Broach, LH Ungar, JP Fischer. *British Journal of Surgery* 110 (Supplement_2), znad080. 026 2023

Beyond beliefs: Multidimensional aspects of religion and spirituality in language. DB Yaden, S Giorgi, ML Kern, A Adler, LH Ungar, MEP Seligman, JC Eichstaedt *Psychology of Religion and Spirituality* 15 (2), 272 2023

Detecting symptoms of depression on reddit. T Liu, D Jain, SR Rapole, B Curtis, JC Eichstaedt, LH Ungar, SC Guntuku. *Proceedings of the 15th ACM Web Science Conference 2023*, 174-183 2023

Insights into the accuracy of social scientists' forecasts of societal change. I Grossmann *Nature human behavior* 7 (4), 484-501 2023

Author Correction: Opioid death projections with AI-based forecasts using social media language. M Matero, S Giorgi, B Curtis, LH Ungar, HA Schwartz *NPJ Digital Medicine* 6 (1), 45 2023

Reddit language indicates changes associated with diet, physical activity, substance use, and smoking during COVID-19. K Wanchoo, M Abrams, RM Merchant, L Ungar, SC Guntuku PloS one 18 (2), e0280337 2023

The trouble with talent: Semantic ambiguity in the workplace. DA Southwick, ZV Liu, C Baldwin, AL Quirk, LH Ungar, CJ Tsay, A Duckworth. Organizational Behavior and Human Decision Processes 174, 104223 2023

Current Research in Ecological and Social Psychology. S Giorgi, JC Eichstaedt, D Preotiuc-Pietro, JR Gardner, HA Schwartz, LH Ungar. Current Research in Ecological and Social Psychology 5, 100159 2023

Filling in the white space: Spatial interpolation with Gaussian processes and social media data. S Giorgi, JC Eichstaedt, D Preotiuc-Pietro, JR Gardner, HA Schwartz, LH Ungar Current research in ecological and social psychology 5, 100159 2023

“That’s Interesting!”: Using Facebook Language to Predict Vocational Interests. YYL Du, D Jain, SC Guntuku, X Hou, L Ungar, L Tay. Academy of Management Proceedings 2023 (1), 10905 2023

Perseverative Thinking is Associated with Features of Spoken Language, EC Stade, L Ungar, S Havaladar, AM Ruscio, Behaviour Research and Therapy, 104307, 2023

Opioid Death Projections with AI-Based Forecasts Using Social Media Language, M Matero, S Giorgi, B Curtis, LH Ungar, HA Schwartz, NPJ Digital Medicine 6 (1), 2023

Reddit Language Indicates Changes Associated with Diet, Physical Activity, Substance Use, and Smoking During COVID-19, K Wanchoo, M Abrams, RM Merchant, L Ungar, SC Guntuku, Plos One 18 (2), e0280337 2023

Chess Lessons: Harnessing Collective Human Intelligence and Imitation Learning to Support Clinical Decisions, GE Weissman, LH Ungar, SD Halpern Annals of Internal Medicine 176 (2), 274-275 2023

Mining for Equitable Health: Assessing the Impact of Missing Data in Electronic Health Records, E Getzen, L Ungar, D Mowery, X Jiang, Q Long, Journal of Biomedical Informatics, 104269 2023

Detecting Symptoms of Depression on Reddit, T Liu, D Jain, SR Rapole, B Curtis, JC Eichstaedt, LH Ungar, S Chandra WebSci ’23, 2023

A Daily Diary Study Into the Effects on Mental Health of COVID-19 Pandemic-Related Behaviors, P Shaw, S Blizzard, G Shastri, P Kundzicz, B Curtis, L Ungar, L Koehly, Psychological Medicine 53 (2), 524-532 2023.