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INTERVIEW

Educational Psychology Early Career Award Winners: How Did They Do It?

Kenneth A. Kiewra[1] · Linlin Luo[2] · Abraham E. Flanigan[3]

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The present study investigated early career award winners in educational psychology to explain how they became so productive so early in their careers and to perhaps guide emerging educational psychology scholars now in graduate school or early in their careers hoping to boost their own productivity. This is the first known study to investigate early career productivity in educational psychology.

Previous Research Investigating Productive Educational Psychologists

Researchers have tallied the publication rates of educational psychologists to determine who are the most productive (Greenbaum et al., 2016; Hsieh et al., 2004; Jones et al., 2010; Smith et al., 1998, 2003). Although these quantitative studies were successful in determining who published the most, they could not explain why these particular scholars were so productive. Kiewra and colleagues have begun to do just that using qualitative methods. In four previous studies, Kiewra and colleagues identified highly productive educational psychologists, based primarily on nominations tallied from educational psychology professional organization member surveys, and interviewed them to determine what factors aided productivity and to offer advice to other educational psychologists wanting to increase productivity. The first two studies investigated American scholars. Richard Anderson, Richard Mayer, and Michael Pressley were interviewed in the first study (Kiewra & Creswell, 2000); Patricia Alexander, Richard Mayer, Dale Schunk, and Barry Zimmerman were interviewed in the second study (Patterson-Hazley & Kiewra, 2013). The third study investigated a cohort of German educational psychologists: Frank Fischer, Hans Gruber, Heinz Mandl, and Alexander Renkl (Flanigan et al., 2018), and the fourth study investigated female

✉ Kenneth A. Kiewra
kkiewra1@unl.edu

[1] Department of Educational Psychology, University of Nebraska-Lincoln, Lincoln, NE 68588-0345, USA

[2] University of Regensburg, 93053 Regensburg, Germany

[3] Georgia Southern University, Statesboro, GA 30458, USA

educational psychologists from the USA and Europe: Patricia Alexander, Carol Dweck, Jacquelynne Eccles, Mareike Kunter, and Tamara van Gog (Prinz et al., 2020).

Factors Aiding Productivity

There were several productivity-bearing factors common among the scholars, such as the following.

Home Environment

Scholars were often raised in homes where education and a strong work ethic were valued. Dale Schunk credited his parents for being "wonderful role models who demonstrated how effort, persistence, and self-efficacy promote success" (Patterson-Hazley & Kiewra, 2013, p. 28).

Work Environment

Scholars often credited a supportive and stimulating work environment for their productivity. Richard Mayer said, "I've been extremely fortunate to work with a lot of talented people who've gotten me interested in a lot of good research questions. I'm fortunate to be at a university where I have the resources to carry out my studies" (Patterson-Hazley & Kiewra, 2013, p. 29).

Mentorship

Graduate school and postdoctoral mentors were instrumental in helping productive scholars excel. Mentor Jürgen Baumert taught Mareike Kunter the importance of maintaining high standards. Kunter said, "We always had to supply work of the highest quality. This was annoying sometimes when we still didn't get it right. But I think striving for the highest quality is so important" (Prinz et al., 2020, p. 13).

Student Influence

Michael Pressley credited graduate students for his research directions. He said:

> I've been able to have around me just very, very smart graduate students who were able to take me into things that I wouldn't have gotten into otherwise. We explore these things together and cut some paths that neither of us would have found on our own. (Kiewra & Creswell, 2000, p. 153)

Time Management

Several scholars preserve the morning hours for writing when they are freshest and push more routine tasks like meetings and correspondence to the afternoon hours. All the scholars are tireless workers, but the German educational psychologists work particularly long hours. Frank Fischer works at his university office from 8:00 a.m. to 8:00 p.m., and Hans Gruber works 70 h a week. Gruber credits his mentor, Heinz Mandl, for his and other Mandle protégées' work

ethics, "Heinz was certainly a workaholic. He never asked us to be similar, but we certainly learned that from him" (Flanigan et al., 2018, p. 317).

Research Management

Productive scholars juggle multiple projects at any given time with those projects in varying stages of completion. German scholars Renkl and Fischer, for example, report working on 10 or more different projects at a time. To manage so many projects at once, the scholars often assign project leaders and hold weekly meetings with their research teams to gauge new accomplishments, provide feedback, set new goals, and generate plans. The scholars also hold students accountable for moving the group forward. Renkl said:

> You don't want to be the only one who says that you only reached 30% of your writing goal for that week while the others are at 100%. When this happens, students have discussions about why they didn't reach their goals and get stern advice on how to reach their goals next time. (Flanigan et al., 2018, p. 320)

Writing

Scholars labor over their writing as they seek clarity. Anderson said:

> I work very hard at my writing. . . . I work at the clarity of making the argument stand out, but when I find that it isn't standing out very clearly that means that the thinking behind it is murky. I like writing that has some interest but first it must be clear. (Kiewra & Creswell, 2000, p. 151)

Advice Culled

The productive educational psychologists also passed along helpful advice to other educational psychologists wishing to boost productivity, including:

- Get solid training. Gravitate to centers of excellence—where other top scholars in your area of interest assemble—for both graduate training and for work.
- Don't aim to be a productive scholar; aim to be the best scholar you can be one project at a time. Aim for quality.
- Do pioneering science. Examine new or under-researched areas you find interesting.
- Investigate a few things systematically rather than spread your work among disparate topics.
- Establish a professional identity by attaching your name to a research domain.
- Ask good research questions and design feasible studies to answer those questions.
- Set goals and continually monitor your progress toward those goals.
- Build an apprenticeship program involving teams of graduate students working concomitantly.
- Collaborate and network. Reach out to senior scholars for advice and potential collaborations. Establish a professional network that can offer scholarly guidance and support.
- Be persistent. Get used to rejection but always learn from it.

- Work hard for a long time. As Pressley often said, “There are no quick fixes” (Kiewra & Creswell, 2000, p. 155).

The Present Study

Although previous studies (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020) offer insight on how established educational psychologists go about their work and why they are productive, the literature is silent as to the factors that foster early productivity. Are those who are productive early in their careers influenced by the same or different factors? And what advice might they have for other early scholars wanting to boost productivity? Hearing from early scholars might be especially advantageous because they are closer to the start than more senior scholars and perhaps more mindful about the productivity path.

In the present study, six early career award winners identified through Division C (Learning and Instruction) of the American Educational Research Association (AERA) and through Division 15 (Educational Psychology) of the American Psychological Association (APA) since 2017 were interviewed to determine key factors that led to their early productivity.

Method

Participants

To understand how early career award-winning educational psychology scholars become so productive so early in their careers, we invited via email those who received early career awards from AERA Division C or APA Division 15 since 2017 to participate in the study. Those recipients were Rebecca Collie (AERA 2020), Logan Fiorella (AERA 2019 and APA 2020), Doug Lombardi (AERA 2018 and APA 2019), Sabina Neugebauer (AERA 2017), Erika Patall (AERA 2015 and APA 2018), and Ming-Te Wang (APA 2017). Three of them are female (Collie, Neugebauer, and Patall), and three of them are male (Fiorella, Lombardi, and Wang). All agreed to participate.

Data Collection

Demographic information was collected from all participants using a questionnaire and by examining their current curriculum vitae. The questionnaire first requested information about educational institutions, educational timeline, degrees earned, and doctoral advisor. The questionnaire next explored participants’ research focus, grant acquisitions, service activities, teaching load, and advising load. Finally, the questionnaire tapped scholarly productivity by requesting total numbers of published articles, chapters, and books as well as total number of conference presentations. In addition, participants recorded their total number of publications and conference presentations for each year dating back to their first ones, and they calculated their percentage of sole-author and first-author publications.

Next, participants were interviewed individually by the three authors via Zoom in January 2021, with each interview lasting about 90 min. Participants were told beforehand to think about what factors they believe led to their being so productive so early in their career. Participants were also

given a few prompts that prepared them to consider possible factors such as influencers, time management, and research management—factors found relevant in previous studies of scholarly productivity (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020). Interviews were recorded via Zoom, which automatically produced both an audio and written transcript for coding and interpretation.

Data Analysis

Interview transcripts were analyzed in two steps. First, an exploratory analysis was conducted for each interview transcript to identify primary factors that led to early career success for each scholar (Brinkmann & Kvale, 2014). The authors read the transcripts and created codes for statements relevant to scholars' early career success. Next, the authors examined all codes and categorized related codes into larger themes for each transcript. Finally, the authors assessed the themes, regrouped connected themes (e.g., a theme might be a subtheme of another), and determined the final themes (i.e., primary factors) for each scholar. Each author coded two interview transcripts independently. For each interview transcript, the responsible author created a summary of themes, subthemes, and codes for the other authors' review.

Next, a cross-case approach (Yin, 2014) was used to explore the similarities and differences among the six early career scholars. Guided by the productive factors identified in the previous studies (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020), the first author examined the themes and subthemes in all interview transcripts and compared the six early career scholars with respect to the common themes. All authors reviewed the themes, discussed, and resolved disagreements. Finally, a member-checking procedure was conducted (Creswell & Poth, 2018) by having the six scholars read the manuscript, make corrections, offer suggestions, and validate the findings.

Results

First, demographic data across the six early career scholars are reported. Next, the primary factors that led to early productivity for each scholar are reported in turn.

Demographic Data

Table 1 provides information about each of the six early career award-winning scholars. Five of them are professors in the USA; Collie is a professor in Australia. The scholars were recognized for their early contributions by AERA Division C (Collie and Neugebauer), APA Division 15 (Wang), or both (Fiorella, Lombardi, and Patall), as well as other organizations. In terms of college education, five of them majored in fields related to educational psychology. Fiorella, Neugebauer, and Patall majored in psychology (Neugebauer also majored in French studies); Collie majored in education; Wang majored in English literature and counseling psychology, whereas Lombardi majored in a non-related field (mechanical engineering). Three of them earned baccalaureate degrees outside the USA—Collie in Australia, Patall in Canada, and Wang in Taiwan. All earned their doctoral degrees in North America (all in the USA with the exception of Collie who earned her degree in Canada) in fields related to education and/or psychology at prestigious universities under prominent advisors. Four of the scholars spent 4 years in their doctoral programs (Collie, Fiorella, Lombardi, and Wang), the others spent 5

Table 1 Demographic information for the six early career award scholars

	Rebecca Collie	Logan Fiorella	Doug Lombardi	Sabina Neugebauer	Erika Patall	Ming-Te Wang
Present institution	University of New South Wales, Australia	University of Georgia	University of Maryland	Temple University	University of Southern California	University of Pittsburgh
Awards	AERA Div C Early Career, 2020; Scientia Fellowship, UNSW, 2018–2021	APA Div 15 Early Contributions, 2020; AERA Div C Early Career, 2019	APA Div 15 Early Contributions, 2019; AERA Div C Early Career, 2018	AERA Div C Early Career, 2017	APA Div 15 Early Contributions, 2018; AERA Div C Early Career, 2015	APA Div 15 Early Contributions, 2017; AERA Div E Early Career, 2013; SRCD Early Career, 2015; Distinguished Scientific Award for Early Career Contribution to Psychology, APA, 2019
BA degree	University of Melbourne, Education, 2007	University of Central Florida, Psychology, 2009	University of Colorado, Mechanical Engineering, 1987	Wesleyan University, Psychology and French Studies, 2002	McGill University, Psychology, 2003	Tamkang University, Taiwan, English Literature and Counseling Psychology, 1998
Doctoral degree	University of British Columbia, Human Development, Learning, and Culture, 2014.	University of California, Santa Barbara, Psychology, 2015.	University of Nevada, Las Vegas, Educational Psychology, 2012.	Harvard University, Human Development and Education, 2011.	Duke University, Social Psychology, 2009.	Harvard University, Human Development and Psychology, 2010.
Doctoral advisor(s)	Jennifer Shapka	Richard Mayer	Gale Sinatra and E. Michael Nussbaum	Catherine Snow	Harris Cooper and Lisa Linnenbrink--Garcia	Robert Selman and John Willett
Years in doctoral program	4	4	4	6	5	4
Years post graduate school	6	5	8	9	11	10
Research focus	Motivation, well-being, and social-emotional development	Generative learning strategies and multimedia design	Epistemic cognition, thinking, and reasoning	Language and literacy development	Motivation and choice	Motivation, engagement, emotion, and learning in context

Table 1 (continued)

	Rebecca Collie	Logan Fiorella	Doug Lombardi	Sabina Neugebauer	Erika Patall	Ming-Te Wang
Total publications	70	43	43	35	58	90
Publications during graduate school	4	10	2	6	11	3
Publications past 5 years	48	23	26	20	24	54
Sole authorship publications	6%	2%	2%	19%	10%	1%
First or sole author publications	50%	53%	42%	62%	45%	54%
Conference presentations	68	43	129	50	87	26*
Annual teaching load	2	4	3	4	3	2
Doctoral advisees	6	3	4	1	7	4
Notable grant funding (amounts rounded)	Australian Research Council Discovery Early Career Research award, $300,000; Social Science and Humanities Research Council, $160,000	Institute of Education Sciences, $3.5 million; NSF, $1.1 million, $450,000	NSF, $2.3 million, $500,000; US Department of Education, $2.3 million	Spencer Foundation, $50,000; Temple University Partner Grant, $400,000	William T. Grant Foundation, $500,000; NSF, $500,000; Institute of Education Sciences, $400,000	NSF, $1.5 million, $1.5 million, $400,000; Spencer Foundation, $1 million
Notable service activities	Associate Editor, *Journal of Educational Psychology* and *Educational Psychology: An International Journal of Experimental Educational Psychology*	Editorial Board, *Journal of Educational Psychology*; Cognitive Science Workshops, University of Georgia	Associate Editor, *Contemporary Educational Psychology* and *Journal of Research in Science Teaching*; Treasurer, APA, Division 15	Editor, *Harvard Educational Review*; Ad Hoc Reviewer for Several Journals; Social Justice Committee, Temple University	Associate Editor, *Journal of Educational Psychology* and *Journal of Personality*; Chair, Motivation SIG, AERA	Editorial Board, *AERA Open, Journal of Youth and Adolescence,* and *Developmental Psychology*; APA and AERA Award Committee Member

(Patall) or 6 (Neugebauer) years. At the time of the interviews, the scholars had completed graduate studies between 5 and 11 years ago, with the average post-graduate time being 8 years. In terms of research focus, three of the scholars study motivation topics (Collie, Patall, and Wang), two study learning and cognition topics (Fiorella and Lombardi), and one studies language and literacy development (Neugebauer).

Total publications (books, journal articles, and chapters) range from 35 to 90, with the median number of publications being 50. The number of publications produced during graduate school ranged from two to 11 with a median of 5. The scholars have been particularly active the past 5 years producing between 20 and 54 publications, with a median of 25. The scholars collaborate on most of their work. The percentage of sole-author publications ranges from just 1–19%, with a median of 4%. The scholars are first author on about half of their published work, with a range of 42 to 62% (median of 52%) first-author publications. The scholars' research is well supported by funding agencies. For instance, the National Science Foundation (NSF) has awarded eight grants to these scholars (three to Wang, two to Fiorella, two to Lombardi, and one to Patall). Other agencies awarding sizable grants include Institute of Education Sciences (Fiorella), US Department of Education (Lombardi), Spencer Foundation (Neugebauer, Wang), and William T. Grant Foundation (Patall). Collie, meanwhile, was awarded a 3-year national research fellowship in Australia.

Regarding teaching load, the scholars often teach less than a full-course load because of grants. The scholars teach two (Collie and Wang), three (Lombardi and Patall), or four (Fiorella and Neugebauer) courses a year. The number of doctoral advisees past or present ranges between one and seven. Regarding professional service, the scholars serve the field of educational psychology largely through editorial responsibilities. Collie, Lombardi, and Patall each serve as associate editor for two research journals. Wang is a member of three editorial boards, Fiorella is an editorial board member for a leading journal, and Neugebauer was an editor for the *Harvard Educational Review* and serves as an ad hoc reviewer for several journals. Lombardi, Patall, and Wang also hold leadership positions in national organizations.

Key Factors Impacting Each Scholar

In this section, we present four to five key factors leading to early career success reported by each scholar.

Logan Fiorella

Ph.D. Advisor, Richard Mayer Fiorella called Mayer "the single biggest influence on my professional life" and said that Mayer "laid the foundation for how to develop a solid system of research." Most importantly, Mayer taught him his "systematic approach for generating specific research questions and for designing simple experiments to address those questions." Just like Mayer, Fiorella wants the whole of his research output to "tell a coherent and flowing story." He also credits Mayer for influencing his "big picture" view of research outcomes, saying that both he and Mayer seek to uncover "general principles and themes rather than specific details," and that they are more "lumpers than splitters." Toward this integrative end, Fiorella said that Mayer also stressed "imposing your own structure on the literature." For instance, rather than reporting on studies individually, Mayer advised "finding key themes and principles across studies and synthesizing those in your own way." Fiorella also credits Mayer for teaching him how to write "clearly and concisely" thereby making him a "stickler for writing, always spending a lot of time trying to make

sure that my writing is clear and makes sense." Fiorella also said that Mayer modeled a "machine-like work ethic" that gets things accomplished and results in a lot of publications. Finally, Mayer also provided Fiorella with opportunities many graduate students would not normally have such as coauthoring a book on generative learning strategies (Fiorella & Mayer, 2015) and opening doors to collaborations with other well-known scholars because Mayer is "someone everyone knows." Fiorella has done enough independent work to get out from under Mayer's long shadow, but as for future collaborations, he said: "We work really well together. I love working with Rich and have no plans to stop."

Work Habits Fiorella reported having a "relatively normal nine to five work schedule." "I'm not a workaholic," he said. He and his wife have a 3-year old daughter, so he limits his work hours to when she is in school. He rarely works in the evenings or on weekends. During his work hours, Fiorella employs a system of work habits that increase productivity. First and foremost, he preserves the morning hours to focus on his chief priority: scholarly activities, a habit he also picked up from Mayer. Fiorella said:

> I try to work on the most important task, such as writing a manuscript or grant proposal, for the first two or three hours. If I do that, it's already a productive day. A couple of hours a day for a month really add up.

Fiorella added, "It's really important to establish a writing habit, doing it at the same time and place day after day, where it's just what you do, and it feels like no big deal." To preserve the morning hours, Fiorella pushes more routine tasks like student meetings and teaching to the afternoon hours. To get the most from his work time, Fiorella makes weekly and daily plans and prioritizes their completion. At any given time, he usually works on about five to seven different projects in various stages of completion. To stay true to that workload, he has learned to say "no" to many invitations and opportunities in order to stay focused on his priorities. He finds that when he makes too many commitments, even small ones, he becomes distracted by the unfinished things that linger. Fiorella credits his "coherent research program" for staying on track. He said, "Pretty much everything I've done addresses this one broad question: 'How do we help students learn for understanding?' whether the helping aids are visualizations or explanations and whether the helping aids are generated by the instructor or learner."

Fiorella also values his health, so he exercises most days after a brief lunch, usually in his home gym, and said he "enjoys playing golf as much as I can." His wife is also an academic, and the two of them equally share life chores like cleaning and childcare, allowing each to be productive. Fiorella's own work habits led to him taking a scientific interest in productive habits. Recently, he published a review (Fiorella, 2020) and taught a freshman seminar on the topic.

Institutional Support Fiorella also credits his early success to his University of Georgia work environment where he has been given considerable autonomy and flexibility and gets to work with outstanding graduate students. He said, "My university has been highly supportive of my research. They've assigned me a manageable course load and few service obligations that allows me to be productive." Regarding teaching assignments, Fiorella generally teaches the same two graduate-level courses and one of those is a doctoral seminar. He also chooses the time slots for those courses and teaches each once a week in the afternoon to preserve time for scholarly work. Presently, he teaches no courses because of a Spencer Fellowship. His university colleagues have also nominated him for awards, including the Rising Star Award at the University of Georgia.

Regarding graduate students, Fiorella advises two or three doctoral students and one or two masters students at a time. He works closely with each student advising them on their independent projects. Much like his former advisor, Rich Mayer, Fiorella is an advocate of graduate students pursuing their own interests, not their advisor's. Fiorella holds weekly meetings with individual students during which students present their latest work or ideas in written form. Fiorella said, "I like to have something concrete in writing that we can review together rather than just talking, so I usually require a one-page summary for which I can offer explicit feedback." In addition to supervising students' independent projects, Fiorella also invites graduate and undergraduate students to join him on the projects he initiates. Through this system of supervision, Fiorella has coauthored nine publications with students since starting at the University of Georgia.

Happenstance Fiorella's path to educational psychology success was more one of happenstance than plan. Neither of Fiorella's parents completed college. He said, "I didn't really have any kind of family background that would point me in this direction." The series of fortunate events perhaps began when Fiorella, "not especially motivated to look at colleges, just happened to apply to the University of Central Florida" because it was close to home. He then "naïvely majored in psychology thinking, 'oh, that sounds interesting.'" Once there, he thought, "I guess I need to get research experience, whatever that means." That realization led Fiorella to "randomly explore different research labs and stumble onto the Institute for Simulation and Training" where he got his first exposure to research. He said, "I really had no idea about anything dealing with research." The lab experience turned out to be formative and ignited a general enthusiasm for research, though after obtaining his bachelor's degree, Fiorella admitted, "I still didn't know what I wanted to do." Because of his lab experience in college, he applied to Ph.D. programs in human factors but was not accepted. This setback led him to stay at Central Florida and pursue a master's degree in human factors psychology. That 2-year experience, he said, "was a critical time to figure out what I wanted to do and actually prepare myself for graduate school." Most importantly, Fiorella's masters training led him to Richard Mayer and educational psychology. While in the master's program at Central Florida, Fiorella came across Mayer's work and was "especially drawn to Mayer's work on multimedia learning, his scientific approach of conducting simple and systematic experiments, and his clear writing style." Fiorella contacted Mayer to express his interest, applied to the program, and was accepted with Mayer as his advisor. Reflecting on his incidental path to educational psychology and to Mayer, Fiorella said, "It was all so accidental. I could have gone in a completely different direction." And, just for the record, Fiorella's transition from graduate school star (10 publications and several awards) to early career award winning scholar was not without setbacks. After graduate school, he "applied for about 20 academic positions, had a handful of phone interviews, a couple campus interviews, but just one offer." Fiorella's journey to educational psychology demonstrates that even productive scholars might stumble onto and along what might otherwise seem like the chosen path.

Ming-Te Wang

Home Environment A solid home environment set the stage for Wang's professional direction and success. Wang said, "My work ethic really comes from my family, especially my parents and grandparents who valued hard work and gave everything to provide a good education for me despite financial constraints." More than that, Wang's parents taught him "to care about others, not just

yourself, and to honor God above all else." Wang does that. He is committed to using psychology to help children from disadvantaged backgrounds. This commitment began in college when Wang took a mission trip, a crystalizing experience that changed his perspective on success. He said:

> Before the trip, I wanted to be a businessman and make money. That's how I defined success. But, when I saw people with few material resources and limited educational opportunities, I wanted to help. I changed my perspective and decided I wanted to be a teacher.

Wang became a teacher and credits his 5-year experience teaching indigenous youth in a remote mountain area in Taiwan for his decision to attend graduate school, study psychology, and investigate how to build the kind of environments that help children thrive. Wang said:

> Family issues like poverty and substance abuse made it an uphill battle just to get these kids to come to school each day, let alone engage them. I left teaching and attended graduate school in order to become a professor and leverage psychological science to address real-world issues like those I saw each day in the classroom.

Mentor Influence Wang's doctoral advisors at Harvard University, Robert Selman and John Willett, helped him develop a solid theoretical foundation and strong analytical skills. Wang recalled that Selman always pushed him to "think like a theorist." Wang said:

> I was statistically minded. Whenever I found something statistically significant, I was excited to share the findings with [Selman], and he always tried to help me by saying, "Okay, this is interesting, and it's good to find something significant, but it will be more interesting to figure out the theory behind the findings, which can help you interpret them." He helped me switch my study focus from data-driven to theory-driven. Selman's mentorship made me want to be a theorist and develop my own theory someday.

On the other hand, Wang's co-advisor, Willett, was a methodologist who taught Wang advanced statistical methods and strong quantitative skills that allowed Wang to establish a research agenda using large-scale longitudinal datasets.

Wang's postdoctoral advisor, Jacquelynne Eccles, also provided influential mentorship. Wang was especially grateful for Eccles' mentorship on how to write and secure multimillion-dollar grants. Wang recalled:

> I remember one time Jackie and I worked on a grant proposal together. Originally, I was thinking to propose $500,000 for the study, but Jackie said, "We need to propose a 1.5 million grant." I suggested that we should be more conservative. Jackie said, "No, no, I think this is a 1.5-million-dollar project. We can get it." And we did!

In addition to receiving mentorship from these three renowned psychologists, studying at Harvard University also inspired Wang to pursue scholarly excellence as modeled by his Harvard professors. Wang said:

> When you sit in the classroom and the instructor is some big name you actually read, like Howard Gardner and Robert Selman, it helps me to know that I can do it too. I can publish my work in the top-tier journals too.

Supports Wang identified various support groups as instrumental to his scholarly success. While in graduate school at Harvard University, Wang was part of a writing group and a

person-of-color peer group. The writing group was composed of graduate students who met regularly, reviewed one another's written products, and provided critical feedback that led to revisions and subsequent rounds of critiques and revisions. Wang credits that experience for making him a good professional writer today who "always goes through multiple rounds of revision until the work really flows." Wang said, "Receiving feedback is sometimes painful, but you just need to get over it because no one is a perfect writer and feedback is what makes you better." Wang also credits the person-of-color peer group for his Harvard success and beyond. The group was composed of five men representing diverse backgrounds such as African American, Asian, and Latinx. They met weekly for lunch to discuss their work and how they could support one another socially and professionally. One issue that came to light was how some eventual hiring committees might underestimate non-native speakers because of their speech patterns and accents. Wang and his group were determined to become strong writers so their published ideas could be clearly articulated and valued. Wang also belongs to a Christian fellowship group, which he said, "offers an opportunity to share my strengths and concerns with others." He credits the group for helping him "cope with the stress and anxiety" that arise from his job.

Another support that helps Wang lead a "more healthy and less stressful lifestyle" is running. Wang has been a runner since he was 18 years old, and he runs 30 to 40 min every day, "even in the snow and rain." Wang's biggest support comes from his family. Wang said, "I have a very supportive wife. She was a nurse but decided to quit her job to be a full-time mom once we had kids." Her decision to be the primary caretaker affords Wang more time to work. When the workday ends, Wang finds comfort and joy in his family. He spends evenings and weekends with his family taking care of the children and doing fun, outdoor things like hiking, fishing, and skiing. A well-balanced life is a priority to Wang and instrumental to his work-hard-when-you-do-work mentality, which originated in his home as a youngster.

Work Hard and Strategically Throughout his career, Wang has made it a priority to "focus on quality over quantity" and to "have a few really impactful publications rather than many less impactful publications in not-so-good journals." Wang said, "It's important to do ground-breaking work that moves the field forward and for people to know your work." That said, Wang has worked hard and strategically to be productive—especially early in his career.

Wang is "self-disciplined and really good at getting things done." He said, "I set goals, lay out a very specific timeframe for achieving them, and stick with that timeframe." Early in his career, Wang dedicated a lot of time to meeting those goals. Wang said, "For the first seven years of my career, I worked like a dog." He worked from 7:00 a.m. until 4:00 p.m., again from 9:00 p.m. until midnight, plus more time on weekends, logging about 60 work hours per week. Since then, he realized, "I cannot do this for the rest of my life," and he sought a "better work-life balance." Now Wang works about 6 h a day Monday through Friday and rarely on weekends.

Wang has always preserved the morning hours for writing and pushed classes and meetings (Wang calls most service-type meetings "time killers") to the afternoon hours whenever possible. Wang said:

> I force myself to write every day even if it's just an hour or two or a single paragraph. Psychologically, I know I'm making progress. Moreover, when I put something aside for a few days, it is really difficult for me to find the thread and pick back up.

Wang has long been strategic in what he selects to do and not do. For instance, he chose to complete a postdoctoral fellowship under Jacquelynne Eccles at Michigan rather than at Stanford or Yale, despite both offering more money, because Eccles had access to a large longitudinal data set. Eccles told Wang, 'We can't give you more money, but we can give you plenty of data to work with.' Wang reasoned:

> As a junior scholar, it is difficult and time consuming to attain grants to collect your own data, especially for longitudinal studies. With that in mind, the best option is to work with someone who already has a large data set. I took advantage of the opportunity of working with Dr. Eccles at Michigan and was able to publish a lot of important papers in top journals using her data set in the first three years of my career.

As a new assistant professor at Pittsburgh, Wang was still reluctant to chase grants because he thought doing so was a high-risk, low-reward endeavor if he wanted to be productive early in his career. He reasoned:

> You can always find a home for a paper in a second-tier journal but grant writing can easily go nowhere because the acceptance rate might be just 10%. Solely focusing on writing grant proposals or chasing money is not a wise use of time for junior scholars.

Once he was more established, though, Wang made it a priority to attain large grants that allowed him to establish large-scale, longitudinal data sets from which he and his graduate students could work productively.

Declining invitations was another strategy Wang employed to be productive early in his career. Wang said, "I needed to learn to say 'no' to people and stay true to the goals I wanted to accomplish." One example involved Wang turning down opportunities to collaborate. He said:

> Early on, I focused on my own work rather than getting lost exploring different collaborations with different people. I was highly cautious about what collaborations I accepted or pursued, only choosing those I found promising and doable. In general, I chose to avoid multiple collaborations during my pre-tenure years to raise productivity.

Wang also turned down several invitations to become associate or co-editor for various journals early in his career because "those positions are difficult and time consuming." He said, "I didn't want to become an editor until I was a full professor."

Another strategy involves Wang establishing and guiding a productive research team. Early in his career at Pittsburg, Wang's dean established a motivation center and appointed Wang as director. By directing this center, Wang is well positioned to seek grants, partner with local communities and schools, conduct research, and fund staff and student positions. A lab manager is central in handling day-to-day activities, leaving Wang to focus primarily on grant acquisition, research, and student mentoring. Wang meets bi-weekly with individual students and postdoctoral fellows as they pursue independent projects under his supervision, and he meets monthly with all students working on the team projects he originates. Because of these collaborative processes, about 70% of Wang's publications include student authors.

Finally, Wang has trained himself to have a thick skin in the face of rejection. Wang said, "All academics must get used to rejection, and young scholars must realize that rejection is something all scholars must live with and learn from no matter how senior." He jokingly added that young scholars would better understand that no scholars are immune from rejection "if we all published a CV of rejections."

Sabina Neugebauer

Early Curiosity and an Equity Lens Neugebauer's introduction to psychological inquiry began early in her home through her parents' interests and her maternal grandparents' untold war stories. Her father, trained as a historian, is an academic who studies public health issues such as post-traumatic stress disorder. Neugebauer recalls that her father developed visual assessments and would often show them to her, holding up pictures and gauging her reactions to the feelings conveyed by the images. Her mother is a therapist. Neugebauer said:

> I grew up surrounded by ideas about how to explore and measure what's happening in the world. I was also encouraged to be curious about my environment and surroundings. Our family games often involved honing observation skills. On a train, a family member might raise the question, "Did you notice anything unusual about the person sitting across from us?" Another time, we might speculate if a relative was acting differently than usual and what this might mean. I was inducted into this inquisitive way of thinking about the world: You have to observe carefully and see patterns. . . . I grew up in a space where there were stories to be told from everyday experiences that often went unexamined.

Neugebauer' research on bolstering the language and literacy development of traditionally underserved student populations is also rooted in family experience. Neugebauer's maternal grandparents were World War II refugees who arrived in the USA without any resources or English language skills. One of the reasons she pursued a doctorate was because education was so valued by her grandparents who were unable to fulfill their own ambitions after the War. Neugebauer said:

> I chose Harvard because my grandfather was still alive at the time, and there was just nothing more gratifying for an immigrant than to have their grandchild go to Harvard. To see me attend a university they had revered meant that they had survived and succeeded.

Cognizant of the role structural barriers played in her grandparents' experience in the USA, Neugebauer emphasized that she felt a discomfort in solely highlighting the personal characteristics that contribute to early career scholars' success. She further emphasized that a focus solely on individual factors ignores structural inequities in the academy. Neugebauer explained that once she was at a research-rich institution, she was set up for success, in that "Being around these eminent scholars made me feel worthy to reach out to other people and seek collaborations." She elaborated that attending prestigious institutions provides multiplicative benefits: a brand name associated with prestige, prominent scholars as advisers, a wealth of infrastructure for innovative projects, and essential financial resources. Neugebauer explained that she benefited from these advantages but felt concern that institutional privileges furthered inequities and likely prevented more diversification of the academy, something she found "troubling, problematic, and reflective of broader systematic inequities." She described the idea of an early career scholar award as potentially problematic:

> In order to get this award, you have to be nominated by someone who previously received it. This means a past award winner had to be familiar with your work. Early in one's career, professional visibility is most common through an eminent adviser or institution, with comparatively fewer opportunities for the same level of exposure for scholars without these structural advantages.

Postdoctoral Fellowship Neugebauer's curiosity and ability to get "hooked on solving problems of interest" received a jumpstart when she was offered the Institute of Education Sciences (IES) postdoctoral fellowship at the University of Connecticut after completing her doctoral degree. Neugebauer said that "most postdoc fellowships tie a scholar to another scholar's research agenda. You're a resource for an existing project and not able to explore your own intellectual ideas." Such was not the case with the IES postdoctoral fellowship. Rather, Neugebauer was free to follow her own interests while receiving "mentoring and guidance from eminent scholars such as Michael Coyne, Sandra Chafouleas, and George Sugai," which allowed her to "observe from beginning to end how productive scholars carry out the life cycle of a project, to see how an idea comes to be, and how that project is brought to fruition." Neugebauer said, "So while I was concentrating on my own work, I also had this really wonderful opportunity to watch these eminent scholars engage in that process."

Additionally, Neugebauer used her time during the IES postdoctoral fellowship to establish a partnership with Coyne, which enabled her to develop and mine large data sets that she used to publish several articles early on as a faculty member and "for several years following the postdoc." Neugebauer said:

> From a time efficiency standpoint, my postdoc really set me up for success so that I could spend the time I had as a new faculty member in a school of education, with heavy service and teaching demands, mining that data and turning it into papers, as opposed to the more onerous process of data collection.

Interestingly, Neugebauer's time as an IES postdoctoral fellow almost never occurred. When Neugebauer was on the job market after finishing her doctoral studies, her decision came down to accepting a faculty position or the 2-year position with the IES. Neugebauer wanted to "rush toward getting tenure" and felt compelled to accept the faculty position. Her advisor, Catherine Snow, encouraged Neugebauer to accept the IES postdoctoral fellowship—well aware of the advantages this opportunity would bring to Neugebauer. In the end, Neugebauer embraced Snow's guidance and accepted the postdoctoral fellowship.

Supportive Professional Network Neugebauer attributed much of her success to her close-knit professional network. Neugebauer said:

> If you look at my CV, you can see that in all of the places I've been, there were people who I was drawn to because of a joint research passion and commitment to underserved populations. I reached out to them and said, "You're doing this, here's how I think we could make a joint contribution together."

Beyond her synergistic collaborations with Coyne, Neugebauer has pursued similar collaborations at the various universities where she has worked. And Neugebauer relies on those relationships she has built across her career to develop new projects and to obtain intellectual and professional guidance. For example, when Neugebauer has an important professional decision to make, she still reaches out to Sandra Chafouleas, whom she met during her postdoctoral fellowship. And, although she has not worked at Loyola University Chicago for several years, Neugebauer remains in close contact with faculty there and is presently discussing a book project with some of them. Neugebauer expressed feeling a deep connection toward her colleagues. She said:

> I care deeply about all of them. When I take on a partnership, I believe you must care about the project, the collaborative relationship, and the person. So, it's only natural to me that those relationships would continue after I leave an institution.

Neugebauer also reaches out beyond her university to pursue new collaborations. She said:

> I really enjoy working with other people. I really enjoy rich intellectual collaborations where we are co-constructing knowledge together. So I reach out to other scholars I don't know personally who are doing work in related disciplines and who are also committed to serving the language and literacy development of traditionally underserved student populations, someone I see presenting at a conference or someone whose article I read and loved. I see and admire their work and explore what could be a wonderful opportunity.

Spearheading projects and cultivating a strong bond with a large professional network has afforded Neugebauer the opportunity to call on and collaborate with a variety of knowledgeable and talented colleagues. The result, she said, "is the meeting of different minds, different lenses focused on exploring a problem and contributing meaningfully to theory and practice."

It is important to note that Neugebauer's primary collaborators have been colleagues rather than students. During Neugebauer's early career, she had limited access and few formal collaborations with graduate students because of her then department's structure and her primarily undergraduate teaching responsibilities. In fact, although Neugebauer has mentored over 25 masters students, she only now has her first doctoral advisee. Neugebauer has been resourceful, though, in finding ways to "integrate students in some capacity." One way involved transforming work study students slated to do clerical work into paid research assistants. She also created an informal lab at Temple University meant to give graduate students research experience. She meets monthly with students in this unfunded lab and helps them further their professional development by working on their own projects and sometimes joining Neugebauer on hers. Finally, she has also secured some graduate student assistance through her grant funding. All told, Neugebauer's reliance on professional collaborators, rather than student collaborators, is evidence that a productive scholar's primary work partners can be colleagues rather than students.

Writing Groups One constant in Neugebauer's academic career has been membership in informal writing groups, an idea she adopted from her Harvard advisor Catherine Snow who had her graduate students form a writing group called Snow Cats. Neugebauer said, "I have always had a writing group, [and being part of these groups] plays an enormous role in my professional development and productivity." Neugebauer is presently a member of two female academic writing groups—one comprises female qualitative researchers who all share a commitment to social justice research in education and engage Neugebauer's experimental work and make her "explain ideas that could otherwise be taken for granted by someone using similar experimental methods." The other group contains pre-tenure female scholars, where Neugebauer can discuss "cutting-edge methods" that new faculty members bring with them fresh from their graduate training.

Each group meets once a month. Members are required to submit their writing beforehand for review. Feedback is given to members about 1 week before the meeting, giving members time to "absorb the feedback and think of any questions to ask the reviewers." Feedback focuses on all aspects of the manuscript—argumentation, design, and analysis are all fair game. At the meeting, about 30 min are devoted to discussing each member's writing, with 5 min for a personal check-in on other academic successes or struggles. Neugebauer described

her experiences with writing groups as "transformative—an incredible process that fortifies you for submitting your work to journals and for addressing the difficult comments you get during the review process. It helps you build the tough skin needed in the academy."

Work Routine For Neugebauer, curiosity and passion make work a pleasure. She said:

> Uncovering patterns and making meaning of them has always been something invigorating and truly pleasurable. I get really curious about things and hooked on solving them. I become laser focused. I love what I do and become immersed in it. . . . All my projects have sent me down roads connected by the same kernel of curiosity and the same passion for promoting educational equity.

During her pre-tenure years, Neugebauer typically worked from 7:00 a.m. until 5:00 p.m. on weekdays plus additional time on weekends. This work schedule changed when her daughter was born about the time Neugebauer earned tenure. From that point forward, Neugebauer has spent "a huge chunk of the early morning hours spending quality time with my daughter" but still works about 7 h most weekdays. Evenings are spent with family. Once her daughter is asleep, Neugebauer typically spends some evening time handling correspondence and logistical matters. She works sparingly on weekends. Her husband is a tenure-track Latin American historian and has a heavy teaching load. She explains that their different institutional responsibilities, ranks, and demands have contributed to their taking on different parental roles and loads. She describes her husband as a supportive partner and father as well as the household chef. Neugebauer, meanwhile, sees a connection between raising her daughter and her work in early childhood and vocabulary development and playfully calls raising her daughter a "passionate project."

Within her workdays, Neugebauer preserves the morning hours for "tough intellectual work" and pushes "everything else to the afternoon." She typically has "many projects going on in different phases within the lifecycle of a project" but focuses on specified tasks each day based on planning goals established at the start of each week. Her work habits are "regimented and efficient." For example, Neugebauer sets and follows proscribed rules about taking breaks. If she plans on working on a task until 10:30 and is done at 10:25, she can "take a break and visit the *New York Times* homepage but is back to work at 10:30." She said, "I'm a New Yorker, so I'm very time conscious." Neugebauer also offers an explanation for maintaining project momentum. She said:

> Sometimes you need to remain really close to your writing to make a convincing argument. You just can't leave a paragraph until you finish it. You have to tie a knot in things before leaving them to adequately capture your ideas and be able to retrace your pattern of thinking when you return.

On the other hand, Neugebauer recognizes the value of distance and perspective saying, "Sometimes I intentionally back away from my written work for two or three days or even a week to avoid paralysis and to improve the work's arguments or conceptualization." Neugebauer emphasized that her work habits are "not just about productivity but about getting myself to do my best work."

Rebecca Collie

A Roundabout Beginning Collie was raised in an environment where her parents "worked hard and set a good example that hard work pays off" and where her teachers "encouraged

students to extend themselves academically." Collie carried these teachings to the University of Melbourne where she majored in engineering, but engineering was not a good fit, and she dropped out of college. A few years later, Collie returned and majored in education because she "wanted to make a difference in kids' lives." Upon graduation, Collie became a teacher for 3 years, and that experience inspired her to attend graduate school and conduct research that helps students and teachers thrive at school. Collie said, "I honestly think that this zigzag path helped me find my way. Going in another direction first helped me find and really appreciate my passion."

Mentors Collie attributes much of her early career success to the mentors who taught her the "hidden curriculum in academia," the insider knowledge that helped her avoid dead-ends and saved her "years-worth of wasted time." Collie recalled one example where her advisor, Jennifer Shapka, counseled her on how to handle a "revise and resubmit" decision:

> My advisor said, "Once you have submitted the manuscript, you have only done about 50% of the work. When you get it back, you have to do the other half. If you get a revise and resubmit, that's the editor saying they are willing to pursue this with you. So don't give up. Don't get disheartened by the massive number of comments. Just work through them one by one. Eventually, you'll realize you have handled them all." Knowing that was important for me before I submitted my first manuscript, because when I first got a revise and resubmit decision with a long list of comments, it was not a shock. It was just part of a normal process.

More insider knowledge followed after Collie obtained her doctorate and secured a 3-year postdoctoral position at the University of New South Wales, working with her postdoctoral advisor, Andrew Martin, who offered untold advice about research, writing, and academia. Collie said:

> If you start out as an assistant professor, you have to navigate the hidden curriculum in academia on your own. You might wonder, "Do I do it this way or that way? I guess I have to try this way." Then if it doesn't work, you have to go back and do it the other way. But at the time [starting as a postdoctoral fellow], I could just go across the hallway, knock on his door, and say, "Hey, Andrew, do you have any advice about how I should approach this?" Or "should I use this theory?" There were countless times where I asked Andrew questions about how things worked in publishing or how to best navigate a reviewer's comment. Having the ability to ask questions and have them answered quickly was fantastic.

For example, while in her postdoctoral position, Collie saw an announcement for a prestigious university research fellowship but was unsure whether she was strong enough to apply. Martin told Collie her chances were favorable and strongly counseled her to apply. As a result, Collie was awarded the prestigious fellowship, which has proven instrumental in her productivity.

In addition to guiding her through the hidden curriculum in academia, Collie's mentors also shaped her writing. For example, Nancy Perry, a faculty member on Collie's dissertation committee, taught her how to structure a paper and provided her with writing frameworks. Collie was especially grateful for Perry's advice on framing a manuscript's discussion section by addressing these four questions: What did you find? Why is it important? How does it contribute? And why might it have occurred? These framing questions continue to guide Collie in writing comprehensive discussions.

Finally, Collie's mentors helped her navigate forks in the road and pushed her to take the harder path. For example, while in graduate school, she received a "revise and resubmit" decision from a top journal, but she was disheartened by the daunting comments. She was unsure whether she should expend the time and effort to revise and resubmit. Nevertheless, her advisor urged her to take the harder path, saying, "When you get a chance with this journal, you have to revise and resubmit." She did, and not only was the manuscript published in a top journal, but its publication likely played a role in Collie attaining her postdoctoral position. Another time, Collie was invited to write a review paper, and she initially considered submitting one germane to her primary research area of teachers' motivation and well-being. Her postdoctoral mentor, Andrew Martin, though, encouraged her to use this opportunity to extend herself and to explore a new topic of interest. As a result, Collie took the opportunity to traverse a new research direction aimed at students' social-emotional competence, a topic that ultimately became her second research branch. Looking back, Collie said, "[Taking the harder path can be] like a rolling snowball. The decision to take the harder path seems to lead to more diverse opportunities to extend one's self and grow."

A Research-Focused Position Collie's early career success and productivity have also benefited from having a 4-year university research fellowship, and more recently a 3-year national research fellowship, which allow her more time for research. This university fellowship comes with several privileges. First, it provides Collie with travel funds, which allowed her to visit Professor Lars Eric Malmberg at the University of Oxford and Professor Frédéric Guay at Laval University as a visiting research fellow. These visits helped Collie establish new collaborations with renowned researchers and taught her a great deal about how to approach research.

Second, the university research fellowship reduces Collie's teaching requirement, thereby providing more time to collaborate with students and colleagues on research projects. Collie includes her Ph.D. advisees on several projects. Collie conducts 1-h weekly or bi-weekly meetings with each advisee to discuss collaborative projects and students' independent research projects. Collie considers her Ph.D. students important collaborators and credits them for pushing her "to learn more about statistics and to implement more robust ways of doing analyses." Collie also expressed gratitude for her collegial collaborators, saying, "I can't speak highly enough of my collaborators. They've been fantastic in helping me be productive. I learn so much from them."

Finally, the two research fellowships mean that Collie's administrative service is research-oriented. Collie spends about 10–15 h weekly on service activities that complement her research or that focus on supporting research development at her institution. For example, serving as an associate editor for the *Journal of Educational Psychology* and conducting manuscript reviews for various journals provide Collie with guaranteed time to read new literature. She said, "It's truly a privilege to be an associate editor and to serve on several editorial boards. I learn a lot. It helps introduce me to new theories, findings, and statistical approaches. Examples of outstanding writing also improve my writing." In addition to serving the research community, Collie uses her time to serve educators, students, and schools, which she does with her invited talks and applied articles for a general readership. For example, Collie creates 800-word summaries of her journal articles and publishes them in a free online magazine for practitioners. Collie's research-focused position also presents some challenges. She said:

> I do have to be organized and self-disciplined. There are higher expectations for publishing and grants in a research-focused position, and it can be daunting having a day without other types of academic tasks. Some colleagues have said, "It's a bit scary having a day open and not having any structured time." But this works for me. I thrive on the autonomy that this research-focused position offers.

Motivation and Management Collie's motivation and time- and life-management strategies help her control and maximize her unstructured time. In terms of motivation, Collie's desire to help students, teachers, and schools drives her to conduct beneficial educational research. That desire stems from her 3-year experience as an elementary school teacher prior to her graduate studies. That classroom experience was pivotal, as it shaped Collie's research interests and provided a meaningful context for her research. Collie's unyielding desire to improve education remains the driving force that helps her push through difficult times and get things accomplished. She said, "I truly value and love what I do. Therefore, it is not difficult to work hard and get things done. And I'm fortunate to be in a role and to have collaborative partnerships that help make this happen."

Effective time- and life-management strategies also help Collie shape her work plan to boost productivity. Being a mother of two young children, Collie has a finite number of work hours to get things accomplished. Knowing this, Collie remains keenly focused while at work. She said:

> When I'm at work, I have to work, and I just get on with it. There can be no procrastination, no wasted time, because as soon as my children get home from school or daycare, I need to be a mom.

Collie, though, has the full support of her husband when it comes to handling household responsibilities. Collie said, "I couldn't do what I do without his support. I couldn't be as productive. I just couldn't. He does half the drop-offs for the kids and cooks half the meals."

Collie normally works from 8:30 a.m. until 5:00 p.m., taking only 20 min for lunch. During her work hours, Collie focuses primarily on research and writing. She uses a to-do list application that helps her organize and prioritize her multiple research projects and tasks, as well as set due dates and reminders. Collie reviews the list every morning to decide how best to allocate her time.

Collie deems sleep and leisure time as essential elements for maximizing work production. She sleeps 8 h most nights and takes evenings and weekends off as much as possible. She does schedule evening and weekend work during busy periods, but she finds that organizing her work week to allow time off gives her distance from her work. This distance allows her to return to work with renewed vigor, fresh eyes, and new insights.

Collie admitted that switching off from work sometimes makes it difficult to switch back on. Therefore, Collie employs what are called "parking on the hill" strategies (Gardiner & Kearns, 2021) to regain momentum. For example, knowing that it can be difficult to restart a task on Monday morning, Collie tries to complete difficult tasks on Thursday or Friday and save Monday morning for less cognitively taxing work. She also creates outlines or rough drafts before finishing for the day so she can return to writing more readily the next workday. Collie also employs strategies that counter her tendency to procrastinate when facing complex tasks such as writing a literature review. Collie bargains with her "inner procrastinator" in an

attempt to offset her initial resistance. For example, she might say, "I'll just write for 15 min and will stop if I am struggling." She finds that once she gets started, she writes much longer.

Writing Practice and Practices Collie emphasized the critical role practice plays in improving her writing and, consequently, in her early career success. "Simply put," she said, "it is hours and hours of writing practice that have helped me improve." Collie especially found writing literature reviews and discussions complex and challenging but receptive to practice:

> The first literature review I wrote was like getting blood from a stone. It was hard. But the more I do it, the easier and better it gets. Initially, when I was looking at the map of my manuscript, it was a little fuzzy. I did not know where I was going or how to get there. As I learned and practiced, things became less fuzzy. Now when I write a literature review, I have a good idea of where I am going and how to get there.

Collie regards writing as a "tremendously complex process" and finds the editing and polishing practice critical to the health of a manuscript. Collie said, "People tend to assume that writers get it right the first time, but that is not the case. It's just editing, editing, and editing." This perspective helps Collie to view multiple rounds of editing as a necessary practice. She said, "Knowing that every writer needs editing is important, because I don't view myself as a failure for needing to edit many, many times."

Although arduous and cognitively taxing, Collie enjoys editing and polishing a manuscript to achieve clarity. Once she has produced a reasonable draft, Collie steps away from the manuscript for a week or so in order to return to it with fresh eyes, which allows her to identify any remaining sore spots and make additional edits. Collie actually budgets the "stepping away" time into her writing timeline. She clarified that it is good to step away while polishing, but not good to step away and interrupt momentum when creating the initial draft.

Doug Lombardi

Previous Career Experiences Lombardi described himself as "an early career researcher, but not an early career person." Before pursuing a doctoral degree in educational psychology, Lombardi worked as a researcher at a major federal laboratory and as a high school science teacher. These previous work experiences prepared him well for a career in educational psychology. Lombardi said:

> I was an engineer doing scientific research at a major federal lab in science, and I was a classroom teacher. So this notion of scientific research and education just merged in a wonderful way. Those experiences led me to the study of educational psychology, which was the perfect home.

Through these previous career experiences, Lombardi discovered what was most meaningful and rewarding to him and planned his next career move strategically:

> The reason I wanted a Ph.D. was because I wanted to be a principal investigator able to secure large federal grants. I had been working on the Phoenix Mars mission with Peter Smith who was the principal investigator of a 450-million-dollar grant from NASA. I was the Education Public Outreach Manager on the project, and for four years I had a million dollar a year budget to do education and public outreach. I thought, "I want to

> get this type of grant money to do this kind of research, these kinds of awesome things." I understood that I'd have to have a Ph.D. to get such grants.

Since obtaining his doctorate in educational psychology, Lombardi has secured several large grants to support his educational research, including multi-million-dollar grants from the National Science Foundation and from the US Department of Education. Regarding grant support, Lombardi said, "I really haven't searched much for monetary reward. What I've searched for is meaning reward. My educational psychology platform [and grant money] allow me to pursue my science education interests," interests that arose from his previous science education work.

All-Consuming Passion Lombardi loves being an educational psychologist, and his passion for work is all-consuming. Lombardi said, "I work all the time. But is that a bad thing? I don't think so. It's energizing. It's wonderful. I love it. I love what I do!" Instead of setting a work schedule, like many people do in order to remain on task, Lombardi schedules his off time. He said, "I really like what I do. I really enjoy it. . . . I don't take a lot of time disengaging from what I do. . . . I have to schedule my off time. If I want to disengage, I schedule that." For example, he and his wife schedule a "date day" once every week in the summer and once every month during the semester to disengage from work.

Lombardi's lifestyle and work setup allow him to "work all the time." His wife, Janelle Bailey, is also a professor in science education and one of Lombardi's "most important" collaborators. Although their scheduled date days are occasional, their professional interactions are nearly perpetual. The couple takes a 3-mile walk every morning and often discuss research. Moreover, their home office desks are in the same room and adjacent, allowing Lombardi to easily discuss ideas with Bailey throughout the day and to receive instant feedback. Lombardi said:

> I talk to her about research questions and bat ideas around with her when we do our morning walks around the neighborhood. At home, I just lean over and ask her a question, and we'll go off [talking about our ideas].

In addition to being a collaborator, Bailey is also his confidant. Lombardi said:

> Janelle often pulls me back from the edge of the abyss. . . . Every kind of weird thing that I wanted to do or bridge that I wanted to burn, she said, "Don't do it! Don't do that! Just keep going, keep plugging away."

Being older has also allowed Lombardi more work time and flexibility. "I may be different from other early career researchers in that I'm a little bit older, my progeny are older, they're in college, so I haven't had to worry as much about family issues." Moreover, Lombardi does not see retirement as an option for abandoning the work he loves, saying, "I'll probably die in this position."

A Mentor-Guided Research Approach Lombardi's early career success is due, in part, to his scientific approach. This approach has led to his being recognized for early career accomplishments by four professional societies (AERA Division C, APA Division 15, NARST—A global organization for improving science teaching through research, and the Society of Text and Discourse). Lombardi credits this widespread appeal to his integrated approach of combining contextual research with theory building beyond those contexts. He said:

> There are people that do excellent work in important contexts and situations in educational psychology. And there are people who do theory building in their work. But there are few who do and integrate both. . . . [My doing so] is my most important contribution.

As a former high school science teacher, Lombardi focuses on important educational topics such as climate change and information weaponization situated in classroom contexts. With respect to theory building, Lombardi seeks explanations and mechanisms that can be applied beyond the topics and classroom context he studies. In particular, he developed a systematic model explaining the formation of epistemic judgments (Lombardi et al., 2016) and a theory explaining science learning engagement (Sinatra et al., 2015).

Lombardi credits several mentors for shaping his holistic research approach. His eventual doctoral advisor, Gale Sinatra, saw potential in him early on and encouraged him to pursue his climate change interests. Lombardi said:

> I took a class from Gale, and she showed a lot of interest in me. She said, "You should do this, you should study climate change." That's when I started working with her, that's when I chose to study educational psychology, that's when it all clicked.

Sinatra also instilled in Lombardi the importance of asking and pursuing meaningful research questions. Her mentoring and guidance were especially pivotal when Lombardi sometimes doubted his research ideas. He said:

> After Gale and I published a study on plausibility judgments in conceptual change, I said to Gale, "I don't think this work has legs at all. I don't think it's going anywhere." And she said, "Are you crazy? You have to do this." So she had that sense of vision, that sense of meaning, that sense of idea, that helped me see the way.

Lombardi also credits two other faculty mentors, Gregg Schraw and Michael Nussbaum, for helping him become a theory builder. It was Schraw who pointed out to Lombardi that he might have a theoretical model emerging from his dissertation work. Although Lombardi was skeptical at first, Schraw helped him work through some of the particulars. Lombardi said, "I developed a theoretical model because of Schraw's insights and theory-driven approach." Nussbaum too helped shepherd the theory-building approach as Lombardi's co-advisor after Sinatra moved to the University of Southern California. Together, they published a theoretical model of plausibility judgments in conceptual change (Lombardi et al., 2016).

Lombardi continues to credit those he works with today. Lombardi said, "When I talk about my work, I need to talk about 'we.' By 'we,' I mean my research team, the people I work with, my mentors and collaborators. It really typifies a lot of the research that I do."

Project-Led Routine Lombardi does not follow a daily routine. Instead, he plans and works in terms of projects. Lombardi defines projects broadly:

> A project can be working on a grant proposal, revising a manuscript, conducting data collection, preparing a conference proposal, things like that. I think in terms of project completion, so I can't tell you what my normal days are like.

This project-led work routine is not always well received by colleagues. One colleague playfully chided him, "You can't tell our graduate students that you just work by projects. You have to tell them to set aside two hours every morning to write." Speaking of writing, Lombardi does not have a set-aside-time routine for writing either:

> What do you mean by writing? A lot of my writing is done when I'm taking a shower, washing my hair, or brushing my teeth. A lot of writing is done on my walks with Janelle, because I think about this stuff all the time.

Lombardi, though, does follow a general writing routine, which was suggested by his mentor Nussbaum: "Write early, then think about it. Let it incubate, percolate, and then come back to it."

Although Lombardi does not follow a daily routine, he uses several ongoing to-do lists to help him stay on top of the many tasks he juggles. He has separate to-do lists for research, grants, editorial work, and service duties. Each morning, he examines these lists and decides how best to allocate time. Lombardi also looks for "efficiencies" to help him preserve and maximize time. He said, "That's the engineer in me." He mainly does this by integrating research, teaching, and service activities. For example, he said, "As a result of my research on information weaponization, I developed a freshman seminar course on that topic. As I'm doing research on information weaponization, I'm teaching about it." And, because Lombardi's research depends largely on teacher involvement, he served on the boards of the Pennsylvania State Science Teachers Association and the National Earth Science Teachers Association, which allowed him to network with and involve many teachers in his work.

Academic Lineage Lombardi's academic lineage traces back to several renowned educational psychologists, which Lombardi proudly named. Gale Sinatra is his academic parent, Mike Royer is his academic grandfather, and Dick Anderson is his academic great grandfather. Lombardi learns about their latest ideas when "family members" socialize and converse at annual AERA conventions. More importantly, though, Lombardi embodies and is inspired by his ancestors' field-altering work. He said:

> The research that I do today was influenced by Dick Anderson and all the legendary people who were his ancestors, people like Edwin Boring and Wilhelm Wundt. . . . When I talk about mental representations in my theoretical or empirical work, there's a lot of Dick Anderson in there. And when you think about my investigations of higher order thinking processes, there's a lot of Mike Royer in there. What I do today is influenced by Anderson, Royer, and Sinatra. That's my direct line. But there are also the other associated folks, my aunts and uncles and cousins, who inspire, shape, and direct my career.

Erika Patall

An Early Passion for Psychology and Education Patall's father helped instill an early interest in psychology and educational policy. Patall's father was a community college psychology professor who directed the department learning center. During her teenage years, Patall was paid to review the quizzes created by the learning center and confirm the accuracy of quiz questions. Patall said, "I went through hundreds of questions for each chapter of an introductory psychology class. This raised an early interest in psychology." Furthermore, early conversations with her father shaped Patall's desire to affect educational practice and policy. Patall recalled her father routinely discussing educational challenges, like issues related to race, culture, and the achievement gap. Patall said those conversations "certainly made those issues

of equity and policy come to the forefront of my mind, which is why I pursued psychological research able to inform educational practice and policy."

By example, Patall's father also influenced Patall to prioritize life outside academia. Although Patall's father was an academic, he had diverse interests and talents, and he led a balanced lifestyle. Patall recalled:

> His career as a psychologist was definitely not his whole life. He was a jazz musician, had a real estate business with my mother, and had a lot of free time to pursue other interests. I wanted to be like that—to have a life of balance. I didn't have aspirations to become a serious Research 1 academic.

But that was the direction she followed, due, in part, to two other factors: influential mentors and a drive to succeed.

Influential Mentors Patall's father was her first scholarly mentor, but other mentors followed and narrowed her career and life paths. Patall's undergraduate advisors at McGill University in Canada helped cultivate her research interest and capabilities. At McGill, Patall completed an honors thesis during both her junior and senior years. Patall said, "I had two advisors who really allowed me to manage every aspect of a project, from the idea stage, to the analysis, to writing the manuscript." Patall described her relationships with these undergraduate advisors as akin to "the relationship you see with graduate students and their advisors." Ultimately, both of Patall's undergraduate theses were published—early indicators of the productive researcher she was to become.

Patall arrived at Duke University to work with Harris Cooper and pursue a doctorate in social psychology because of a chance occurrence. While Patall was working as a research assistant at the University of South Florida, a colleague there who had attended Duke University "just wouldn't shut up about how awesome Duke was." Patall investigated and applied to Duke because Cooper "was so deeply into informing educational practice"—the same passion she had developed during all those early conversations with her father. Patall arrived at Duke University interested in student motivation but unsure of what aspect of motivation she would investigate. Cooper changed that. He met with Patall shortly after she arrived at Duke and laid out his vision for the future of motivational research. Patall said:

> [Cooper] was like, "Pick your identity today." Then he laid out five topics that he thought were important directions motivation research would go and said, "I think you can make one of these broad areas your thing. Get started finding a topic."

Encouraged to choose something right away, Patall, ironically, chose to investigate the influence that choice has on a learner's intrinsic motivation—a topic she still explores today.

After homing in on her newfound research agenda, Cooper trained Patall in how to conduct a meta-analysis on her new topic. This training had a profound impact on Patall's eventual productivity and national reputation. In fact, Patall credits much of her success to her meta-analysis work. Patall said, "Let me be honest: just because I've won these early career awards doesn't necessarily mean that I've produced the most. I don't think that's true. I think I've produced work that people have somehow noticed." Patall explained that meta-analyses "get noticed, get cited a lot, and will almost always be published." This early foray into meta-analyses introduced Patall to the research method for which she is best known and most cited.

Cooper was also influential in convincing Patall to pursue the opportunities that came her way after graduate school. Patall and her husband were comfortable living in the area around

Duke University. Her husband had a successful real estate career, and Patall was considering limiting her job search to local universities. Cooper resisted and encouraged Patall to apply for jobs across the country—about 60 in total—and was adamant that she should pursue any offers that came from prominent universities. Ultimately, Patall followed this advice and accepted the prestigious assistant professor offer from the University of Texas at Austin. If Patall had not followed Cooper's advice to pursue opportunities outside her geographic area, then perhaps she never would have become the prominent researcher she is today.

A Drive to Succeed Patall has a uniquely strong drive to finish tasks, which often compels her to work long hours while foregoing breaks and sometimes sacrificing time with family. In fact, Patall occasionally rises around 4:00 a.m. if she feels stressed by upcoming deadlines. Patall said:

> If you were to ask my family what encapsulates a large portion of my personality, they would say that I work really, really hard and really long on anything that seems important to me. My husband, who I've known since fourth grade, says that I work harder than anyone he's ever known.

Although Patall experiences a sense of satisfaction stemming from a job-well-done, she admitted that much of her motivation to work hard is derived from feeling guilty when tasks are left incomplete. Patall said:

> It's a little bit crazy, but I cannot just stop halfway through a task because I'll feel guilty about stopping or I won't be able to sleep if I didn't get to a logical stopping point. I feel bad if I don't get things done.

Patall also "feels sad" about her extreme work focus and said:

> It's not a good thing because I strive for balance. I strive to stop working by 5:00 p.m. and to not work on weekends, yet I'll get to 5:00 p.m. or I'll get to the weekend, and I work because things are not done. . . . I strive to have normal work hours, but the reality is that I work 10–12 h on weekdays and another four to eight hours on weekends, which I feel is ridiculous.

Another motivating factor contributing to Patall's workload is her perception of the field's work-hard culture. Patall said:

> In some ways, I'm just trying to keep up with other people in my field, do what I think my colleagues are doing, and survive in a culture where a ton of work is expected. . . . I also feel like I have to compensate for not being as smart as some of my colleagues who have amazing ideas that they turn into research gold. I'm not that person. I have to work really hard to keep up.

Patall leads a task-oriented lifestyle that helps her finish tasks, remain productive, and stave off some of those negative emotions. At the beginning of each week, she charts out the projects she will work on each day and any upcoming deadlines. At the start of each day, Patall focuses on easier tasks that can be completed quickly, such as cleaning out her email inbox and addressing small administrative tasks. Then, attention is turned toward research as she spends the rest of the day completing tasks on her research to-do list. Workdays often extend from 8:00 a.m. until early evening, and lunch break is just 15 min. Evenings are spent with her

husband and two young children. Once the family is asleep, though, Patall often returns to her work until between 10:00 p.m. and midnight before going to bed.

Part of being a productive scholar means that Patall prioritizes her research over other academic activities. She said:

> You can't be a jack of all trades. To be a successful researcher, you must prioritize research over all else. You have to accept that you'll be less good at other things. I don't ever want to be bad at anything, especially teaching, but once I meet a threshold of good enough, I accept that.

Family support also helps Patall be productive. Patall credits her husband, now a museum director in Los Angeles where the family resides, for supporting her heavy work schedule. She said, "He lets me work. He does more of the regular daily tasks such as getting breakfast going in the morning, getting the kids ready for school, and handling the children's drop-offs while I'll try to prepare for my day." Patall's mother, who lives in Florida, also helps the family with household responsibilities from time to time. Patall said, "She'll come to town and help with the kids if I need help or if I need to travel."

Collaborations with Students Patall infrequently collaborates with colleagues and instead works almost exclusively with students, some of whom are not her advisees. Patall said, "I don't have a lot of collaborations with colleagues. I feel like other scholars work with a different group of colleagues for every project, but for me, almost everything is done with students." Patall's student collaborators are a mixture of her advisees and other students she calls "floaters"—students she does not advise but whose interests align with hers. Patall said that she borrowed the floaters idea from her previous position at the University of Texas at Austin, where "they encouraged students to work with multiple faculty and become involved in lots of projects."

Patall involves students in multiple ongoing projects. For each project, one graduate student is designated as the project leader. Patall said, "I like expectations to be clear from the get-go about what people's roles are and what kind of credit each is going to get." Bi-weekly meetings with project leaders, project teams, and individual students keep Patall updated and involved in all project aspects.

Discussion

Results reveal a variety of factors that help explain the early career success of the six scholars investigated in the present study. In this section, we examine common factors across the early scholars and relate them to what was found about more seasoned scholars in previous research when appropriate (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020).

Family Background

The talent literature is replete with eventual talent stars being born into talent-rich homes. Such were the cases for Mozart and Picasso whose fathers were already immersed in their new-born sons' respective music and art domains as performers and instructors (see Kiewra, 2019).

Among the more seasoned educational psychologists studied previously, Barry Zimmerman was raised in a home where his father was a teacher. Zimmerman said, "I have been fascinated by the topic of learning as long as I can remember. My father was a teacher [who] taught me strategies for learning long before I encountered them in class" (Patterson-Hazley & Kiewra, 2013, p. 28).

In the present study, two early career scholars were introduced in the home to psychological principles and practices by academic parents with psychology links. Neugebauer's father developed psychological assessments, and her mother was a therapist. Patall's father was a psychology professor. Although an early home introduction to one's eventual talent domain is certainly common, it not a necessity (see Kiewra, 2019). In the present study, neither of Fiorella's parents completed college. He said, "I didn't really have any kind of family background that would point me in this direction. I just kind of happened upon things by accident." Similarly, Collie's path to education and eventually educational research was diverted by her first majoring in engineering, finding it dissatisfying, and dropping out of college.

Family values also influenced the scholars. Fiorella, Neugebauer, Patall, Wang, and Collie all mentioned that their families valued education and hard work, which influenced their eventual work ethic. For example, Wang's parents and grandparents helped instill a strong work ethic and a Christian help-others perspective that led Wang to become a teacher and eventually a psychologist bent on helping children from disadvantaged backgrounds. The takeaway message is that one's family background might start one along a path, but one can certainly access the path later. Motivational speaker Zig Ziglar said, "It's not where you start but where you finish that counts" (Ziglar, n.d.).

Teaching Experience

In three cases, K–12 teaching experience was an important catalyst for studying educational psychology. Wang credits his 5-year experience teaching indigenous youth in a remote mountain area in Taiwan for his decision to attend graduate school, study psychology, and investigate how to build learning environments that help children thrive. Wang said, "I left teaching and attended graduate school in order to become a professor and leverage psychological science to address real-world issues like those I saw each day in the classroom." Lombardi, meanwhile, was an engineer and a high school science teacher in his previous careers. These experiences led him to study educational psychology and conduct science education research on important topics such as climate change and information weaponization. Collie's desire to help students, teachers, and schools stems from her 3-year experience teaching elementary school. That classroom experience shaped Collie's research interests on teacher motivation and student social-emotional competency, provided a meaningful context for eventual research, and was the driving force to make sure her research findings reach teachers and students.

The path from teacher to educational psychologist was also one trodden by German educational psychologist Heinz Mandl (Flanigan et al., 2018). Mandl pursued a teaching diploma after observing a class on progressive teaching methods taught by Professor Schiefele. After teaching for a few years, Mandl returned to the university and pursued his doctorate with Schiefele as his advisor.

Mentors

All six scholars addressed the important influences mentors had on their early career success. Mentors offered career-altering assistance. Fiorella called his mentor, Richard Mayer, "the single biggest influence on my professional life." Mayer taught Fiorella how to approach research systematically, how to uncover general principles, how to impose one's own structure on the literature, and how to write a coherent and flowing story. In addition, Mayer introduced Fiorella to the domain of multimedia learning and to professional opportunities such as book author collaborator. Wang's doctoral advisor, Robert Selman, pushed him to "think like a theorist" and encouraged him to develop a researcher identity. Wang's other doctoral advisor, John Willett, a renowned statistician, taught him advanced statistical methods, which allowed Wang to conduct complex quantitative research such as longitudinal data analysis. Wang's postdoctoral advisor, Jacquelynne Eccles, guided him in how to think like a principal investigator and in how to write proposals for multimillion-dollar grants. For Lombardi, mentor Gale Sinatra was instrumental in his pursuing a doctorate in educational psychology and in pursuing answers to meaningful research questions.

Mentors challenged and directed the developing scholars. Neugebauer credits her advisor, Catherine Snow, for encouraging her to accept an IES postdoctoral fellowship and for setting the foundation for a career-long habit of participating in transformative writing groups. Neugebauer also credits her IES mentors for showing her how "productive scholars carry out the lifecycle of a project." Collie's mentors were also instrumental in encouraging her to pursue the harder path when two paths beckoned. This advice led Collie to explore new topics and develop a new research branch. The most direct mentor influence likely came from Patall's mentor, Harris Cooper, who navigated her through several career-altering moments. Early in Patall's program, Cooper laid out various directions for motivation research and encouraged Patall to choose one. She chose to explore the effect of choice on intrinsic motivation and still explores that topic today. Cooper also advised Patall to conduct a meta-analysis on her newfound topic. It was the first of several meta-analyses Patall conducted as the backbone for her work. Finally, Cooper convinced Patall to broaden her job search beyond local positions of convenience to the best national jobs available.

These mentor stories are in line with those reported by more established scholars (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020) and confirmed the indispensable role mentors play in the training of all productive educational psychologists.

Collaborators

Early career scholars generally asserted that their productivity was due, in part, to their collaborations with other scholars and students. Table 1 confirms that assertion, showing that the early scholars, on average, collaborated on about 96% of their publications.

Although Neugebauer had the most single author publications among the six scholars (Table 1), she spoke most passionately about collaboration: "I really enjoy the rich intellectual collaborations where we are co-constructing knowledge together. So, I reach out to other scholars." Neugebauer collaborates with colleagues at her present and past universities and with colleagues elsewhere whose work she admires and aligns with her commitment to social justice. She said, "I see and admire their work and explore what could be a wonderful opportunity." Neugebauer indicated that she has published minimally with doctoral student collaborators

because of her limited access to doctoral students at institutions geared toward undergraduate education. Similarly, Lombardi credited "we"—his many collaborators—for his research success. Fiorella, meanwhile, continues to collaborate with his graduate school advisor, Richard Mayer. He does so even though the prevailing practice among American scholars is to separate from your advisor and to prove you can stand on your own, a practice not shared by German scholars who believe that continued work with one's advisor is an effective and fruitful way to operate (Flanigan et al., 2018). Apparently so, as Heinz Mandl published more than 200 works with protégés Hans Gruber, Alexander Renkl, and Frank Fischer at Ludwig Maximilian University of Munich, with many of those works coming after the trio either graduated (Fischer) or left for professorships (Gruber and Renkl). Fiorella is of similar mind. He said, "[Rich and I] work really well together. I love working with Rich and have no plans to stop." Similarly, Collie continues to collaborate with her postdoctoral advisor, Andrew Martin, as is also common practice in Australia. In addition, Collie builds new collaborations with her Ph.D. students as well as renowned scholars outside her university. Collie said, "I can't speak highly enough of my mentors and collaborators. They've been fantastic in helping me be productive. I learn so much from them." Although Wang collaborates on 99% of his published work, he cautioned young scholars about the pitfalls of exploring too many new collaborations early in one's career. Regarding his own experience, Wang said, "I was highly cautious about what collaborations I accepted or pursued. . . . In general, I chose to avoid multiple collaborations during my pre-tenure years to raise productivity." Patall, meanwhile, collaborates more with students than with colleagues. She said, "I don't have a lot of collaborations with colleagues. I feel like other scholars work with a different group of colleagues for every project, but for me, almost everything is done with students."

Overall, we noticed that these early career scholars were only beginning to build the kind of rich apprenticeship programs with graduate students seen in previous studies investigating more seasoned scholars, such as those of Richard Anderson and Michael Pressley (Kiewra & Creswell, 2000), Patricia Alexander (Patterson-Hazley & Kiewra, 2013), Heinz Mandl (Flanigan et al., 2018), and Jacquelynne Eccles (Prinz et al., 2020). Perhaps the low faculty-student collaborations witnessed here are linked to factors largely outside one's control, such as time in the academy, an institution's research rank, or inequality in how doctoral students get allocated to pre-tenured and tenured faculty.

Collegial and Family Support

Some of the early scholars rely on the council of colleagues to aid productivity. Neugebauer said that her two female writing groups "play an enormous role in my professional development and productivity." The groups help her enhance her writing in terms of methodological rigor, idea clarity, and more. Neugebauer called the group experience "transformative." Wang has belonged to a writing group, a person-of-color peer group, and a Christian fellowship group. Wang credits the writing group for making him "a good professional writer" and the other groups for their emotional support that helped him "cope with stress and anxiety." Among the well-established scholars studied previously (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020), only Carol Dweck mentioned the importance of group support. Regarding her graduate school colleagues, Dweck said, "My peer group was amazing. We mentored each other completely. We talked research all the time. That was incredibly valuable" (Prinz et al., 2020, p. 13).

The early career scholars rely on the support of family members, as was true of the more seasoned scholars studied previously (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020). Three of the early career scholars have spouses who are also in the academy (Fiorella, Lombardi, and Neugebauer). Fiorella and his wife share life chores like cleaning and childcare equally, allowing each other the time to be productive. Lombardi and his wife take daily walks and share office space. She is Lombardi's closest collaborator and confident. Neugebauer credits her husband with being a supportive partner and father and the household chef. Wang, Collie, and Patall also credit their supportive partners for contributing to their early career success. Wang's wife quit her job as a nurse and became a full-time parent once the couple had children, which helped Wang to be productive. Collie and her husband split the childcare and house chores equally. Patall leans heavily on her husband for childcare and household support.

Family support was especially important as well for female scholars studied previously (Prinz et al., 2020). Carol Dweck, Mareike Kunter, and Tamara van Gog all reported that their partners are highly supportive of their careers and share household chores. Kunter said, "My husband is very supportive. I couldn't handle both the children and my work without the support he brings into the family" (Prinz et al., 2020, p. 19).

Institutional Support

The early career scholars have benefited from the support provided by their university, post-doctoral institutions, and grant-funding agencies. Neugebauer indicated that attending Harvard University for her graduate studies exposed her to "eminent scholars" and an "intellectual epicenter." Wang, also a Harvard graduate, deemed his time at Harvard as motivating and inspirational. Eminent Harvard scholars, like Howard Gardner and Robert Selman, helped Wang see himself as competent and believe he had the potential to one day become an eminent psychologist like his Harvard professors. Lombardi voiced a similar sentiment about his graduate training at the University of Nevada, Las Vegas. There he was mentored my Gale Sinatra whose legendary academic lineage, which includes Mike Royer and Richard Anderson, became his own and afforded him direct access to his ancestor's ideas and influence. Of course, Richard Anderson has his own impressive lineage that traces back to John B. Carroll, B. F. Skinner, Edwin Boring, and Wilhelm Wundt (Kiewra & Creswell, 2000).

Fiorella, Wang, and Collie credit their academic institutions for their support. The University of Georgia is highly supportive of Fiorella's research, providing him with a manageable course load, reducing service obligations, and nominating him for awards. Fiorella's advisor, Richard Mayer, also credited his university for his success, "I had good luck landing at University of California, Santa Barbara . . . . It's been a great environment . . . and has certainly had an incredibly positive influence on my life" (Patterson-Hazley & Kiewra, 2013, p. 29). At the University of Pittsburg, Wang's dean established a motivation center and appointed Wang director. That center positions Wang to seek grants, partner with schools, and fund staff and student positions. Collie, meanwhile, holds a 4-year research fellowship offered by her university that has been central to her productivity. Similarly, established scholar Richard Anderson was well supported by the Center for Reading at the University of Illinois, which he directed (Kiewra & Creswell, 2000).

Three of the scholars, Wang, Neugebauer, and Collie, especially credit post-doctoral experiences for their early and sustained productivity. The postdoctoral experiences were instrumental in two aspects. First, for Wang and Neugebauer, postdoctoral fellowships gave

them access to large data sets. Instead of expending time and effort collecting their own data, they used available data sets to publish influential articles. As Neugebauer said, "From a time efficiency standpoint, my postdoc really set me up for success." Second, the trio stressed the benefit of being mentored by eminent postdoctoral advisors. Neuberger learned "how productive scholars carry out the life cycle of a project." Collie valued having her postdoctoral advisor, Andrew Martin, readily available to guide her. Collie said, "There were countless times where I asked Andrew questions . . . . Having the ability to ask questions and have them answered quickly was fantastic." Wang credits Jacquelynne Eccles for teaching him to write and secure large grants.

Among the more seasoned scholars investigated previously, we found only one reported postdoctoral experience, and that was for Mareike Kunter at the Max Plank Institute in Berlin. Kunter said, "It was a really unique atmosphere there. Everyone worked very hard, was very dedicated, very interested in the work" (Prinz et al., 2020, p. 15). Two other seasoned scholars, Alexander Renkl and Hans Gruber, completed required habilitations, which are similar to postdocs in the European system, under the advisement of Heinz Mandl (Flanigan et al., 2018).

Work Routines

Three of the early scholars are or were tireless workers. Lombardi admits that he "works all the time [because] I love what I do . . . . A lot of my writing is done while taking a shower . . . or on walks with Janelle because I think about this stuff all the time." Patall is much the same way. Although she strives for a healthy work-life balance, she is consumed with her work, sometimes starting work at 4:00 a.m. and routinely working 10–12 h a day, plus 4–8 h on weekends. She calls her work commitment "a little bit crazy." Wang said that for the first 7 years of his career, he "worked like a dog," logging about 60 h weekly. Realizing that his work habits were unsustainable, he has since cut his work hours in half. These extreme work schedules fit well with those of the German scholars who worked up to 70 h weekly (Flanigan et al., 2018) and with that of Patricia Alexander, who said, "I really do not do leisure . . . . I'm a workaholic" (Patterson-Hazley & Kiewra, 2013, p. 31).

Collie, Fiorella, and Neugebauer, meanwhile, work more normal hours and take evenings and weekends off as much as possible. Collie stresses the importance of getting a full night's sleep, so she is fresh each workday, and Fiorella takes time from his workdays to exercise after lunch.

The early scholars also work smart. Fiorella, Wang, and Neugebauer preserve morning hours for research activities, when they are most alert, and push more mundane activities, like meetings and communication, until the afternoon. Fiorella, who adopted this front-loading approach from his advisor, Rich Mayer (Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013), said, "I try to work on the most important task, such as writing a manuscript, for the first two or three hours. If I do that, it's already a productive day."

Patall takes the opposite approach to her workday routine. She focuses on the easier tasks first, such as email communication, in order to clear the deck for the more demanding tasks that follow on her daily research to-do list. Collie, meanwhile, is keenly focused on her scholarly work throughout the day so that she can be child-focused when her children get home. Collie also employs "parking on the hill" strategies (Gardiner & Kearns, 2021) to easily regain momentum after being separated from her work. For example, she tries to complete difficult tasks on Thursdays or Fridays so that she need not restart difficult tasks on Mondays.

The early scholars are meticulous planners. Just like Patall, both Collie and Lombardi use to-do lists to organize and prioritize projects and allocate time. Collie uses a to-do list application that also sets due dates and reminders. She reviews the application each morning. Lombardi uses several to-do lists, including ones for research, grants, editorial work, and service. Each morning he examines these lists looking for "efficiencies" that help him preserve and maximize time. Similarly, Wang sets goals, lays out a time plan for accomplishing them, and then adheres to that plan. Fiorella too makes weekly and daily plans and prioritizes their completion. Among the more seasoned scholars investigated, Dale Schunk and Barry Zimmerman were especially planful (Patterson-Hazley & Kiewra, 2013), not surprising given that both are self-regulation experts.

Scholars also mentioned the need to say "no" to competing tasks that can pull them off track. Fiorella finds that making too many commitments, even small ones, distracts him. Wang said, "I needed to learn to say 'no' to people and stay true to the goals I wanted to accomplish." Wang turned down research collaboration opportunities and associate editorship invitations early in his career because "[editorial] positions are difficult and time consuming."

Writing Strategies

The early career scholars understand that disseminating their scholarly ideas depends on perfecting the written word. No easy task, because, as Collie said, writing is a "tremendously complex process." To be successful, Fiorella said that he must be a "stickler for writing" and work hard to "tell a coherent and flowing story" that is "clear and concise." Consequently, the early career scholars work hard at writing and employ several strategies to perfect their writing. Richard Anderson said much the same about the importance of writing and working hard to perfect it, "I work very hard at my writing. . . . I work at the clarity of making the argument stand out" (Kiewra & Creswell, 2000, p. 151).

Collie emphasized the critical role practice plays in improving her writing. "Simply put," she said, "it is hours and hours of writing practice that have helped me improve." Collie admitted that writing her first literature review was like "getting blood from a stone." But with practice, it got easier and better. Similarly, Fiorella stressed the importance of sustained practice. He said, "It's really important to establish a writing habit, doing it at the same time and place day after day, where it's just what you do, and it feels like no big deal."

The early career scholars value and incorporate the writing feedback they receive from colleagues and reviewers. Wang said, "Receiving feedback is sometimes painful, but you just need to get over it because no one is a perfect writer and feedback is what makes you better." Neugebauer too depends on the critical feedback she receives from her writing group colleagues, recognizing that their criticism "fortifies you for submitting your work to journals and for addressing the difficult comments you get during the review process." Seasoned scholar Michael Pressley said much the same, "I always spend time with the reviews and try to figure out what they are telling me. Every one of those points is always telling me something, and [I] try to react and respond to it" (Kiewra & Creswell, 2000, p. 152).

The early career scholars recognize that there are no good writers, only good revisers. They repeatedly edit and polish their work. Collie captured this best when she said, "People tend to assume that writers get it right the first time, but that is not the case. It's just editing, editing, and editing." Michael Pressley reported that that he once tracked his work on a manuscript and found that he completed 40 revisions after writing the first draft (Kiewra & Creswell, 2000).

Sometimes not-writing is a strategy. Both Collie and Neugebauer step away from their writing for a time in order to gain new perspectives and then return to it with fresh eyes. Lombardi does much the same, saying, "Write early, then think about it. Let it incubate, percolate, and then come back to it." Collie, Neugebauer, and Wang, however, all emphasize maintaining momentum when writing and seeing the initial draft through to completion before stepping away. Wang said, "When I put [an uncompleted project] aside for a few days, it's really difficult for me to find the thread and pick back up."

Finally, the early career scholars emphasize that good writing has a meaningful purpose and structure. Fiorella, for example, makes sure that he imposes his "own structure on the literature" when composing review articles and that his empirical work communicates "general principles and themes, rather than details." Collie, meanwhile, frames her articles' discussion sections around these four questions: What did you find? Why is it important? How does it contribute? And why might it have occurred? Similarly, seasoned scholar Barry Zimmerman, before writing, lays out his writing ideas in a matrix containing research questions, psychological dimensions underlying those questions, self-regulation attributes associated with each dimension, and self-regulation dimensions designed to influence each attribute. After writing, Zimmerman poses and answers a series of evaluative questions for each manuscript section (Patterson-Hazley & Kiewra, 2013).

Framing Failure

Howard Gardner (1993), who investigated eminently creative people, found that one of their virtues was the ability to frame failure as a necessary means to achieving success. The early career scholars in the present study also made clear that failure is unavoidable and necessary for success. Wang said, "All academics must get used to rejection, and young scholars must realize that rejection is something all scholars must live with and learn from no matter how senior." Fiorella experienced his share of setbacks on the way to becoming an award-winning early career scholar. He was not accepted to graduate school following college, and following graduate school, he applied for about 20 jobs but had just one offer. Neugebauer capitalizes on the critical feedback received from her writing group colleagues, which helps her "build the tough skin needed in the academy." In a similar vein, Collie has on occasion chosen the harder path, even though setbacks are more likely. It is the harder path that affords greater opportunity and builds character. Collie also cautions scholars to understand that they are not likely to succeed at writing something worthwhile on their first attempt. Collie said, "Knowing that every writer needs editing is important, because I don't view myself as a failure for needing to edit many, many times." Seasoned scholar Patricia Alexander certainly knows a lot about overcoming setbacks having been diagnosed with a presumably terminal illness in 1979. Instead of accepting her fate, Alexander raced against the illness and time earning her Ph.D. in just 2 years and living every day since as if it was her last (Patterson-Hazley & Kiewra, 2013).

Aim for Quality

Highly productive educational psychologist Patricia Alexander advised emerging scholars not to aim at becoming a prolific scholar (Patterson-Hazley & Kiewra, 2013). Alexander said:

> Don't aim to be a prolific scholar; aim to be the best you can be. Trying to be prolific might be detrimental because it can lead you down a path of producing without

> meaning, where the numbers take precedence over the influence. Aspire to true scholarship whether that leads to 500 publications or 50 publications. Be sure that each publication represents your best thinking, is influential, and impacts others (p. 39).

Here are a few ways that early career scholars in the present study embodied that advice. Fiorella's research is focused and systematic and intent on understanding and communicating "the big picture" and "finding key themes and principles." Wang emphasized that his priority is "quality over quantity" and to "do groundbreaking work that moves the field forward." Neugebauer also prioritized doing "my best work" over "productivity." Collie's "harder path" decision choices are indicative of pursuing quality over quantity. Meanwhile, Collie's unyielding desire to improve education and her journal article summaries for practitioners are testaments to her commitment to producing and disseminating impactful research.

Conclusion

This investigation of the factors that helped early career scholars become productive revealed many important factors but no single pathway to success. For example, an early career scholar might be raised by academic parents, or not; might have previously been an educator, or not; might have had a postdoctoral experience, or not; might be in a writing group, or not; might work extreme hours, or not; might be married to another academic, or not… Still, there are clearly common factors associated with early career success, such as: influential mentors; collaborations with colleagues and students; support from institutions, colleagues, and family; dedicated and effective work routines; an emphasis on writing processes and outcomes; willingness to embrace and learn from failure; and a passion for and commitment to producing important and impactful work.

Although the present study and previous ones (Flanigan et al., 2018; Kiewra & Creswell, 2000; Patterson-Hazley & Kiewra, 2013; Prinz et al., 2020) reveal factors associated with scholarly productivity in educational psychology, the studies are ambiguous as to why some scholars are in position to experience and exploit such factors while others are not. We agree with early career award scholar Neugebauer who posited that structural factors, particularly related to institutional supports, pave the way to success and support cumulative benefits.

The idea of cumulative benefits is evident in the talent development literature (see Bloom, 1985; Gladwell, 2008; Kiewra, 2019) and might work like this:

> Two five-year-olds play for the same youth hockey team, one was born in January and the other in December. The older child is naturally bigger, stronger, and more coordinated. Consequently, the older child plays better, gets more ice time, and receives greater attention from coaches than the younger one. The older one's modest success leads to an all-star team selection, affording more practice time and enhanced coaching. This advantage leads to further clinics and camp invitations for elite players and to year-round hockey. What began as a small and arbitrary advantage (being months older) leads to more and more advantages until the older child is eventually skating with the Montreal Canadians.

Merton (1968) called this cascade of increasing advantages, wherein the rich get richer, the Matthew Effect, from the Biblical Book of Matthew: "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath" (*King James* Bible, 2021, Matthew 25:29). Educational research (Alon &

Tienda, 2007; Liu, 2011) supports the perspective that academia is not a simple meritocracy; broader societal factors influence individual opportunities at every educational level.

In the present study, the early career award winning scholars enjoyed and capitalized on advantages not necessarily available to all. Many of these advantages were structural and tied to institutional supports. That is, all the early career scholars attended elite graduate schools where they were guided by prominent door-opening mentors. These advisors supported or guided them in securing competitive research-based postdoctoral positions and/or academic positions at other resource-rich institutions that housed productive colleagues and students. In addition, the early career scholars received generous grants that funded research, reduced teaching responsibilities, and ignited collaborations with leading scholars. Their resulting productivity and visibility led to leadership positions in the academy, like journal editor, and, of course, early career awards.

It is evident from this study that institutional supports and structures pave the way for early career success. We believe that these structural factors have implications for how early scholars can strategize as they transverse the current academic landscape, how mentors can support their students in the current academic job market, and how institutions and professional gatekeepers can offer strong and equitable support throughout the academy.

What placed these early career scholars on the path of accumulating advantages is difficult to say. Some perhaps had social or cultural resources at the start, perhaps having parents in the academy or academically oriented families. Others, though, lacked this early advantage, and some veered off course, by dropping out of college or choosing other professions. Evidently, advantages can be had whether one is led to the path early or stumbles upon it later. What then produces the advantages?

The scholars we interviewed are exceptional because they were able to capitalize on structural supports. They did so, we believe, because of their will (motivation) and skill (strategies) (Zusho et al., 2003). All of the early career scholars spoke emotionally about their passion for their work and their motivation to make impactful contributions. They have grit (Duckworth, 2016). And, all of them spoke in calculated ways about the work strategies they employ to maximize productivity. Perhaps it is this will and skill combination that eventually brought these scholars to the path and helped them accumulate advantages.

In a follow-up study, we plan to turn our attention to successful scholars from historically underrepresented populations, who might not have had access to structural advantages. We seek to understand systematic inequities and obstacles they might have experienced and how they overcame them.

Finally, from the present investigation, we offer all readers, all budding scholars, some final path proceeding advice.

1. Try to access and seek support from resource-rich institutions.
2. Seek helpful and influential mentors at or beyond your institution. Take full advantage of all they have to offer (including secondary data sets).
3. Collaborate with colleagues and students. Many hands make light work and allow you to work on multiple projects.
4. Seek groups and colleagues who can support you, particularly writing groups.
5. Strongly consider attaining a postdoctoral position rather than rushing toward a tenure-leading position.
6. Pursue grants, but perhaps not too early in your career.
7. Work hard and work smart. Find your ideal rhythms and routines.

8. Set goals and make to-do lists that guide your work.
9. Say "no" to most invitations and requests that deter you from pursuing your goals.
10. Emphasize writing. Practice it, seek feedback, and perfect it.
11. Frame failure. Setbacks pinpoint weaknesses and chart a course for growth.
12. Don't aim to be a prolific scholar; aim to be the best and most influential scholar you can be.

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Availability of Data and Materials The data and materials used in the present study are available from the first author upon reasonable request.

Code Availability Not applicable.

Declarations

Consent to Participate Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

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