

# The Psychological Science Agenda



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## APA Co-Sponsors Congressional Briefing on Women and STEM Careers

by Karen Studwell

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As Congress looks for ways to increase the American science, technology, engineering and mathematics (STEM) workforce, additional attention is also being paid to the underrepresentation of women in STEM careers. On July 16, the Congressional Caucus on Women's Issues and the Congressional STEM Education Caucus partnered with APA and other organizations to sponsor a briefing to discuss how science can inform policies that seek to increase the role of women in STEM education and careers.

Marcia Linn, Professor of Psychology at UC-Berkeley, presented her research on using technology to improve science education and how this would help to improve achievement not only for girls, but for all children. She also pointed out that as the achievement gap has been eliminated between boys and girls in math, there are likely other factors, such as balancing family responsibilities that create additional obstacles for women who want to maintain a career in research.

Also on the panel was Col. Pamela Ann Melroy, a National Aeronautics and Space Administration (NASA) astronaut who served as a pilot on two space shuttle flights and as mission commander on STS-120 Discovery in 2007. She shared her personal experience of pursuing a career in

astrophysics and highlighted how her success was built on her supportive parents, professional mentors, personal ambition as well as organizations like NASA that have achieved a critical mass of women scientists.

Rep. Cathy McMorris-Rodgers (R-WA), Co-Chair of the Congressional Caucus for Women's Issues, opened the briefing and was joined by Rep. Vern Ehlers (R-MI), Co-Chair of the STEM Education Caucus, who welcomed the speakers and reiterated their support for expanding opportunities for women and other young people to pursue science careers. ■



Marcia Linn discusses her research on science education.

## SCIENCE BRIEFS

# Do Psychosocial Factors Contribute to Socioeconomic Health Disparities?

## Applications of the Reserve Capacity Model

by Linda C. Gallo



Linda Gallo received her PhD in Clinical Psychology from the University of Utah in 1998. After completing an NIH postdoctoral fellowship in Cardiovascular Behavioral Medicine at the University of Pittsburgh, she joined the faculty of San Diego State University and the SDSU/UCSD Joint Doctoral Program in Clinical Psychology, where she is currently Associate Professor and Co-Director of the Center for Behavioral and Community Health Studies. Her research examines socioeconomic and ethnic disparities in health, with a special focus on the roles that psychosocial factors have in these disparities. She is the recipient of early career awards from Division 38 (Health Psychology) of the American Psychological Association (2004), the Society of Behavioral Medicine (2005), and the American Psychological Association (2008).

Early in the 20th century, W.E.B. Dubois described differences in health between African Americans and Caucasians, concluding that they did not reflect disparate physical vulnerabilities, but were a reflection of social forces. More than a century later, health disparities persist, despite overall improvements in longevity and health. In 2000, the government called for the elimination of health disparities in the national health agenda “Healthy People 2010” (U.S. Department of Health and Human Services, 2000). Given mixed progress to date, this goal is likely to be re-instated for Healthy People 2020 ([www.healthypeople.gov/HP2020/](http://www.healthypeople.gov/HP2020/)). A clear understanding of the processes that create and maintain health disparities and what we can do to address them remains elusive.

The web of causation underlying health disparities is multi-faceted and complex, including factors such as differences in health care access and quality, health behaviors, biological factors, and gene-environment interactions (Adler & Rehkopf, 2008). In recent years, researchers

have also turned their attention to psychosocial factors in health disparities. Constructs such as stress, negative emotions, and social isolation relate to major health outcomes including cardiovascular disease (CVD) and all cause mortality (Krantz & McCeney, 2002). In addition, these factors vary by socioeconomic status (SES) and in some cases, ethnicity, so that individuals with low SES or minority ethnicity show relatively high psychosocial risk (Gallo & Matthews, 2003; Myers, 2008). Psychologists can help achieve the critical public health goal of addressing health disparities, via research that seeks to unravel the psychosocial pathways underlying health disparities, in order to inform related prevention and intervention efforts.

### The Reserve Capacity Model

Gallo and Matthews developed the “Reserve Capacity Model” as a framework through which to examine psychosocial factors in SES-driven health disparities, using concepts from the aging and stress literatures (Gallo & Matthews, 2003). The model begins

with the premise that stressful versus positive experiences and environments are unequally distributed according to SES. Individuals in disadvantaged circumstances endure more frequent exposure to risk, threat, conflict, ambiguity, daily hassles, and major life events (Gallo, Bogart, & Vranceanu, 2005; Hatch & Dohrenwend, 2007; Matthews, Raikonen, Everson, Flory, Marco, Owens et al., 2000; Myers & Hwang, 2004; Stansfeld, Head, & Marmot, 1998; Turner & Turner, 2005). Moreover, social status may shape appraisals in a way that further increases stress burden. For example, prior research suggests that individuals with low SES (Chen, Langer, Raphaelson, & Matthews, 2004; Chen & Matthews, 2001) and those previously exposed to racial discrimination (Broudy, Brondolo, Coakley, Brady, Cassells, Tobin et al., 2007) formulate negative interpretations of even ambiguous social interactions, and that individuals with low SES view their social worlds as relatively hostile and unfriendly (Gallo, Smith, & Cox, 2006).

Over time, the wear and tear from repeated physiological stress responses, combined with unhealthy behavioral coping strategies, take their toll, increasing vulnerability to disease (McEwen, 1998; Myers & Hwang, 2004) and possibly accelerating the biological aging process (Epel, Lin, Wilhelm, Wolkowitz, Cawthon, Adler et al., 2006). In addition, stress may shape health indirectly through associations with emotional and attitudinal factors, which themselves affect health via bio-behavioral mechanisms (Cohen & Pressman, 2006; Everson-Rose & Lewis, 2005). Some research also suggests that persons with low social status experience enhanced emotional (Kessler & Cleary, 1980; McLeod & Kessler, 1990) and physiological (Lepore, Revenson, Weinberger, Weston, Frisina, Robertson et al., 2006; Williams, Marchuk, Siegler, Barefoot, Helms, Brummett et al., 2008) reactivity to stress, increasing the potential deleterious consequences.

The Reserve Capacity Model posits that this enhanced vulnerability reflects inadequate resource reserves that could otherwise attenuate negative appraisals or facilitate adaptive coping. We have been particularly interested in interpersonal (e.g., supportive social relationships) and intrapersonal resources (e.g., control perceptions; optimism) that may be scarce in individuals with low SES or in ethnic minorities. For example, persons with low SES or minority ethnicity may be exposed to discrimination, segregation, and unsafe neighborhoods, which could discourage trust and limit opportunities for supportive social interaction (Gehlert, Sohmer, Sacks, Mininger, McClintock, & Olopade, 2008). A lack of education may create a reduced sense of control and poor self-esteem through failure experiences wrought by less-developed communication and problem-solving skills (Mirowsky & Ross, 1998). Similarly, jobs held by individuals with low social status are often low in control and support. Given research showing that psychosocial

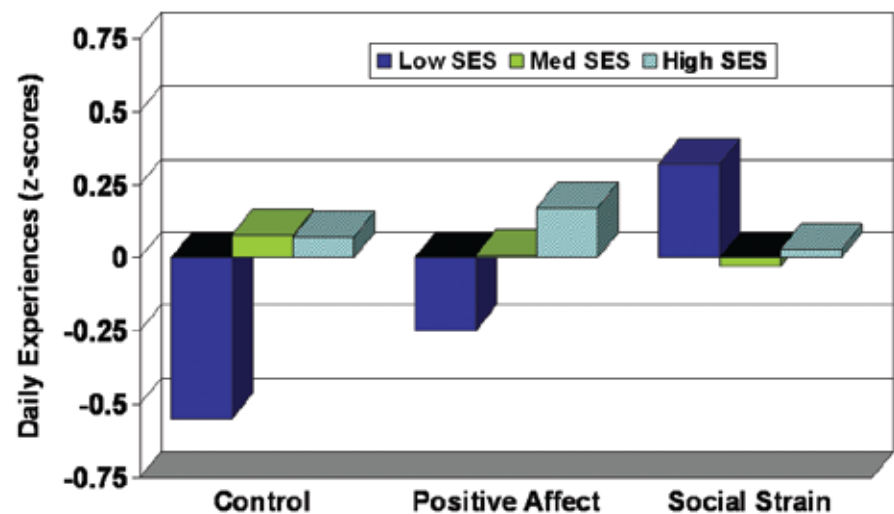


Figure 1. SES and daily experiences and emotions.

resources relate directly to physical and mental health (Cohen, Gottlieb, & Underwood, 2001; Singer & Ryff, 1999; Taylor & Seeman, 1999), they may serve as mediators of health disparities as well as moderating stress responses.

### Research Examining Tenets of the Reserve Capacity Model

In the first study designed to test components of the Reserve Capacity Model, we used ecological momentary assessment to monitor daily experiences of middle-aged women (N=108; 94% white) (Gallo et al., 2005). As shown in Figure 1, women with lower SES reported less control and positive affect, and more social conflict in their daily lives relative to those with higher SES. SES also showed an inverse linear association with aggregate resilient resources, which in turn predicted less control, positive affect, and more conflict and negative affect in everyday life. In part, resources helped explain associations between SES and daily experiences, although SES also had direct effects. On the other hand, the hypothesis that low SES would elicit excess emotional reactivity to stress was not well-supported, and SES was unrelated to ongoing negative affect in daily life. Overall, these results suggest that SES may foster a heightened burden of certain types

of negative daily experiences due to direct effects and indirect effects through reserve capacity.

Another report from this study examined associations among SES, job characteristics, and ambulatory blood pressure (Gallo, Bogart, Vranceanu, & Walt, 2004) – an indicator that is strongly predictive of CVD (Conen & Bamberg, 2008; Verdecchia, 2000). In combination, occupational status and job characteristics accounted for 18% of the inter-individual variability in ambulatory systolic blood pressure. Interaction effects showed that women in low status jobs were more reactive to circumstances of high job demands; they also demonstrated greater physiological benefits from high control. As shown in Figure 2, regression equation estimates suggested that with low demands or high job control, women in low status jobs would evidence ambulatory blood pressure levels roughly equivalent to those of women in higher status jobs. Other studies have shown that some of the excess CVD risk associated with low SES can be attributed to perceptions of control at work (Bosma, Van Jaarsveld, Tuinstra, Sanderman, Ranchor, van Eijk et al., 2005; Marmot, Bosma, Hemingway, Brunner, & Stansfeld, 1997). Thus, efforts to build psychosocial resources, such as perceptions of control, could help attenuate the negative

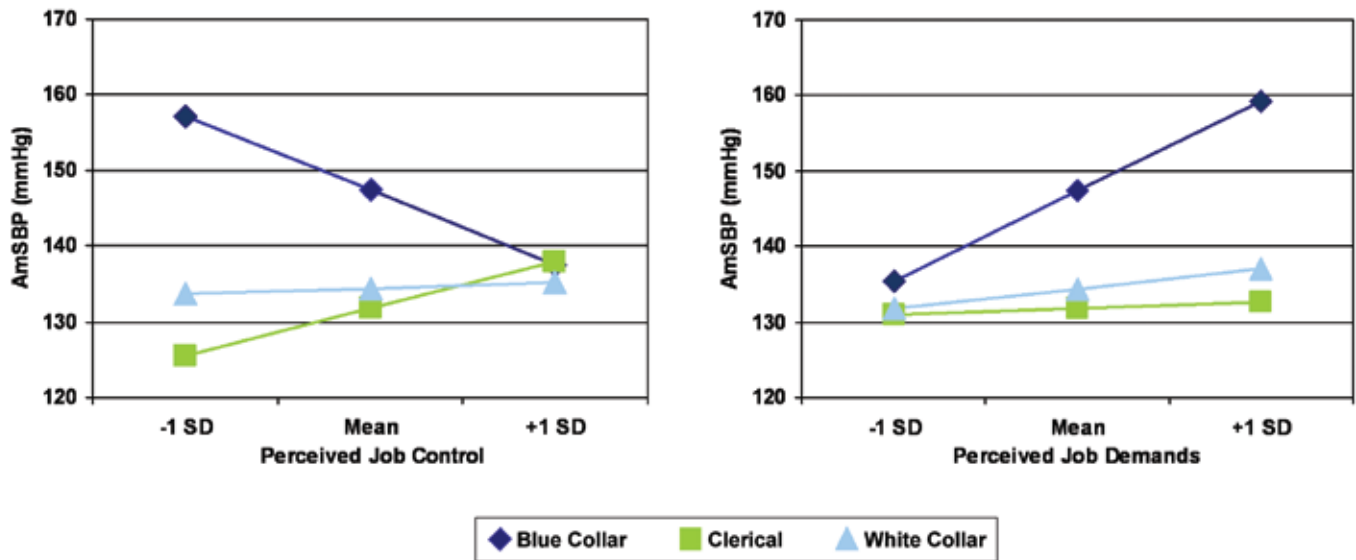


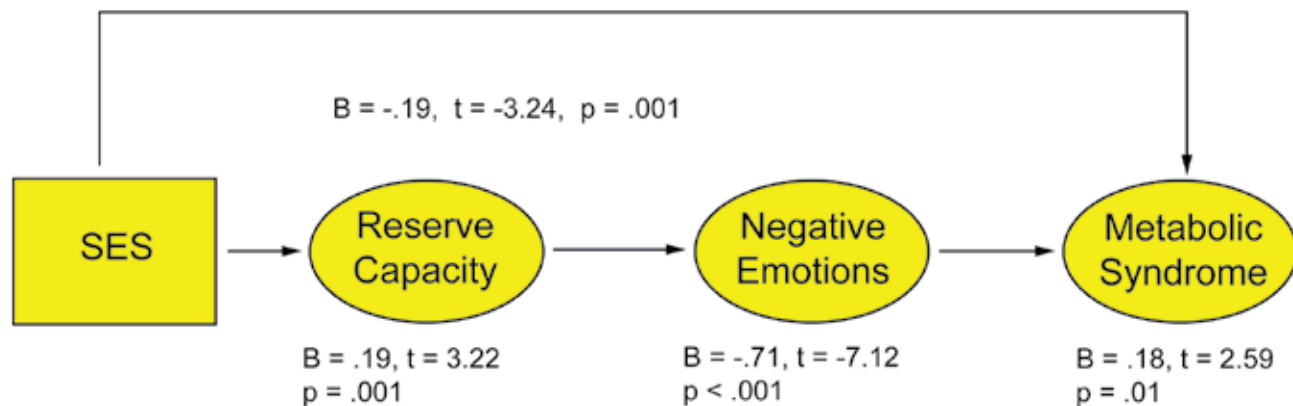
Figure 2. Occupational status, job characteristics, and ambulatory systolic blood pressure (AmSBP). (Adapted from Gallo et al., 2004).

health impact of low status work environments.

Two other studies used the Reserve Capacity Model to examine the contributions of psychosocial factors to associations between SES and the metabolic syndrome – a constellation of risk factors that is associated with negative health outcomes such as CVD and all cause mortality (e.g., Gami, Witt, Howard, Erwin, Gami, Somers et al., 2007; Räikkönen, Kajantie, Rautanen, & Eriksson, 2007). In a study of 401 middle-aged women from the Healthy Women Study (Matthews, Meilahn, Kuller,

Kelsey, Caggiula, & Wing, 1989), SES showed an inverse, linear association with incident metabolic syndrome risk assessed across a 12 year follow-up period. As depicted in Figure 3, structural equation models revealed a direct effect of SES, and also, indirect pathways from low SES to low reserve capacity, to high negative emotions, to metabolic syndrome risk (Matthews, Räikkönen, Gallo, & Kuller, 2008). Contrary to predictions, SES, reserve capacity resources, and emotions did not interact with stress to predict the metabolic syndrome. Finally, a study performed in middle-aged Latinas recruited from a community

health clinic near the San Diego/Mexico border identified a significant, inverse relationship between SES and most components of the metabolic syndrome (Gallo, Espinosa de los Monteros, Ferent, Urbina, & Talavera, 2007). Women with lower SES also reported lower levels of psychosocial resources, and in part, SES related indirectly to abdominal obesity (a central underlying determinant of the metabolic syndrome) through associations with reserve capacity. These studies suggest that a deficit in resilient resources, and a concomitant impact on emotional state, may link SES with risk for the



Model fit: Chi-square (59) = 111.729,  $p < .0001$ ;  $\chi^2/df$  – ratio = 1.894; CFI = .956; RMSEA = .047

Figure 3. Structural equation model of the associations among educational attainment, reserve capacity, negative emotions, and metabolic syndrome latent factors during the 12 year follow-up period. (Adapted from Matthews et al., Health Psychology, in press).

metabolic syndrome, most likely via physiological stress responses and health behaviors.

### Future Directions

Our research adds to the literature concerning the roles of psychosocial factors in health disparities, and demonstrates the potential utility of the Reserve Capacity Model as an integrative theoretical framework. However, additional research is clearly needed, and a number of unanswered questions remain.

First, to date, relatively little research has directly addressed the contribution of psychosocial processes in connecting SES with health, particularly in relation to objective physical health outcomes. Thus, additional research is required to develop a more precise understanding of the specific roles and relationships among the psychosocial components encompassed by the Reserve Capacity Model. For example, initial evidence (Gallo et al., 2005; Matthews et al., 2008) suggests that resources may play a more direct role than originally theorized, whereas their moderating influence might be less salient than anticipated. In addition, to date our efforts to test various tenets of the Reserve Capacity model have not indicated a clear role of stress or stress reactivity (Gallo et al., 2005; Matthews et al., 2008). Although stress is implicated as a primary culprit in psychosocial explanations for health disparities, a close look at the literature reveals a complex association. One study found that individuals with low SES evidenced fewer, but more severe, hassles in daily life when compared to those with high SES (Grzywacz, Almeida, Neupert, & Etner, 2004). Another study revealed the importance of nuanced contextual factors, such as stressor domain, severity, timing, or perceived risk (Almeida, Neupert, Banks, & Serido, 2005). Further, over time, some individuals may become habituated to disadvantaged status (Nguyen & Peschard, 2003), and others may be resilient to stress, which would alter stress appraisals or

consequences. Additional research is needed to better understand how stress contributes to health disparities, and to determine factors underlying resilience versus vulnerability. Likewise, given limited (Gallo & Matthews, 2003) and inconsistent (Thurston, Kubzansky, Kawachi, & Berkman, 2006) evidence, further research is needed to test the mediating roles of negative emotions in connecting SES with health.

In the studies performed to date, we have conceptualized reserve capacity as an aggregate “bank” of interpersonal and intrapersonal resources, consistent with the view that overall resource reserves are most relevant to understanding peoples’ stress responses, rather than any specific deficit or advantage (Hobfoll, 2001). However, in considering possible avenues for intervention (Gehlert et al., 2008), it may be helpful to examine the relative importance of specific protective factors. A number of studies suggest that social support and perceived control can guard against the negative emotional and physical consequences of low social status (Chen, 2007; Lachman & Weaver, 1998; Marmot et al., 1997; Singer & Ryff, 1999; Turner & Noh, 1983), and both are potentially amenable to intervention. For example, existing school-based intervention programs focused on problem solving or communication skills for at-risk children could also foster perceptions of control. Community-based interventions designed to build collective efficacy and increase neighborhood safety could reduce social isolation. Given the close inter-relationships among resources (Hobfoll, 1998), interventions focused on any given pathway are likely to have a broad-based impact. Because associations between SES and psychosocial resources and risks are rooted early in the life course (Chen, 2004; Repetti, Taylor, & Seeman, 2002), prevention and intervention efforts would optimally target young, at-risk children and their families. To the extent that reserve capacity can be maintained, individuals with low social status

might experience fewer negative health outcomes across the lifespan.

Future research is also needed to examine how culture and ethnicity interact with other constructs in the Reserve Capacity Model to influence health and disease. Although intended to guide research on socioeconomic health disparities, concepts in the model can potentially contribute to understanding disparities due to ethnicity/race or other demographic characteristics (Broudy et al., 2007; Gallo, Penedo, Espinosa de los Monteros, & Arguelles, 2008; Myers, 2008). In addition, the combined associations between minority ethnicity and SES and intermediate psychosocial processes and subsequent health outcomes must be carefully considered. Given added stressors such as discrimination, acculturation, or immigration, low SES may be especially “toxic” in individuals with minority ethnicity (Myers, 2008; Williams, 1999). In support of this assertion, African Americans experience more stress and negative health outcomes at any given level of SES relative to non-Hispanic whites (Williams, 1999; Williams & Rucker, 1996). On the other hand, the repeatedly observed inverse association between SES and health is sometimes flattened, or even reversed, in specific ethnic minority (e.g., Hispanic) and immigrant populations (Chen, Martin, & Matthews, 2006; Kimbro, Bzostek, Goldman, & Rodriguez, 2008). Migration patterns or recording errors may contribute to these findings, but certain groups may also benefit from culturally-driven resources (community or family support; better health behaviors) that could augment reserve capacity and alter the implications of low SES (Gallo et al., 2008).

### Conclusions

The existence of unjust differences in health is clearly at odds with deeply held American values of fairness and equality. Should they persist, health disparities will have an amplified economic and social impact in the

coming decades, as our population diversifies. Thus, for reasons of social justice as well as economic well-being, continued efforts to understand and eliminate health disparities are critical. Psychosocial risk and resilient factors represent one strand in the web of causation underlying health disparities that could be amenable to change through individual, community, work, or school-based intervention approaches. However, before effective interventions can be designed, additional research is needed to understand the precise roles that psychosocial variables have in health disparities. Our research program is one of many that seeks to contribute to this effort via a theory-based approach to examining the chain of events that leads from social disadvantage, to intermediate psychosocial risk and resilient factors, to bio-behavioral pathways, and ultimately, to health. ■

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## Summer-Research Grants Program Announced



SOMAS-URM: Support of Mentors and their Students in the Neurosciences from Underrepresented Minority Groups

The SOMAS Program is pleased to announce the 2009 SOMAS-URM summer fellowship program designed to support junior faculty (untenured/pre-tenure assistant professors, typically within 5 years of having completed Ph.D. and postdoctoral training) in the neurosciences seeking to launch research programs with undergraduate student collaborators. Faculty from predominantly undergraduate institutions will be eligible for awards of up to

\$8,000 to cover a supply budget, summer student housing, faculty and student stipends, and travel expenses to the joint Annual Meetings of the Society for Neuroscience and Faculty for Undergraduate Neuroscience. Selections will be made based on the justifications for and the quality of the proposed research experience for the undergraduate. Preference will be given to faculty from underrepresented minority groups (URM), to faculty from institutions serving women and/or minority groups, or to faculty who have identified URM students as research collaborators. Special consideration will be given to faculty members with little experience in grant-writing and who are just beginning their research programs.

**Application deadline is December 1, 2008**, with awards made in early February for the 2009 summer research effort. Up to four awards will be made for the 2009 program. For more information, go to [www.somasprogram.org](http://www.somasprogram.org).

# EXECUTIVE DIRECTOR'S COLUMN

STEVEN BRECKLER, EXECUTIVE DIRECTOR FOR SCIENCE

## Public Education

One of my enduring interests is public education, and the importance of communicating the value of psychological science both for solving everyday problems and for addressing the grand challenges of society.

In the last issue of *Psychological Science Agenda*, I used the upcoming presidential election as one context for pressing the need for effective public education (Gearing Up - [www.apa.org/science/psa/jul08\\_edcol.html](http://www.apa.org/science/psa/jul08_edcol.html)). Candidates need to know that psychological science has important insight to offer when it comes to challenges such as disparities in healthcare, global climate change, and vitality for an aging population.

I've noted before that scientists often show discomfort when it comes to communicating with public audiences (*Psychological Science in the Public Eye* - [www.apa.org/science/psa/apr05edcolumn.html](http://www.apa.org/science/psa/apr05edcolumn.html)). Nurturing a simple, positive, credible public image can be a real challenge for scientists who like to qualify their results and insist on explaining every subtle nuance in their data. Yet, it is the simple message that gets heard and remembered.

Over the past several years, APA has been working to create materials that help educate the public about psychological science.

One resource is *PsychologyMatters* ([psychologymatters.apa.org/](http://psychologymatters.apa.org/)), a web-based compendium of psychological research that demonstrates the application and value of psychological science in our everyday lives. The



website provides accessible articles in 19 content areas, including driving safety, education, parenting, and violence prevention.

Another resource comes from the Decade of Behavior ([www.decadeofbehavior.org/](http://www.decadeofbehavior.org/)), a multidisciplinary initiative to focus the talents, energy, and creativity of the behavioral and social sciences on meeting many of society's most significant challenges. The five major themes of the Decade of Behavior initiative are improving health, increasing safety, improving education, increasing prosperity, and promoting democracy.

One activity under the Decade of Behavior umbrella has been the development of the *Behavior Matters* ([www.decadeofbehavior.org/specialpublications.cfm](http://www.decadeofbehavior.org/specialpublications.cfm)) booklet series. One booklet focuses on how psychology research improves lives. Another focuses specifically on health-related behaviors, and highlights how research in the social and behavioral sciences can be used to improve the health of individuals and the nation.

Just last month, the APA Science Directorate published two new booklets ([www.apa.org/science/GCBooklets.html](http://www.apa.org/science/GCBooklets.html)) as part of Alan Kazdin's presidential initiative focusing on the grand challenges of society. One booklet discusses how psychologists are researching ways to improve the quality of life for people over the age of 85. The other describes how psychologists are studying ways to address global climate change.

All of these educational materials can be used to demonstrate and discuss the many ways in which psychological science helps to solve everyday problems, and ultimately contribute to the solution of societal challenges. They can be distributed and highlighted for diverse audiences: students, parents, teachers, voters, lawmakers, politicians, and many others.

The more we can develop materials like these, the better able we are to accomplish our public education goals. Of course, producing the materials is only part of the challenge. Another is dissemination – getting them out there and recognized as a resource. Each of us can play a role in this regard.

Indeed, APA's is not the only effort in public education about psychological science. The most powerful case can be made when we collect together all that has been done and then work hard, collectively, to make it known. To help move in this direction, please share with us materials and resources that you know about. We'll do our best spread the word. ■

## From the Science Student Council



The Science Student Council is a group of nine graduate students who spend a couple of weekends a year with the Science staff, advising on programs and activities that would benefit graduate students in psychological science. In this column, the students will present useful information that other graduate students need to know! Visit the Science Student Council page ([www.apa.org/science/apasscweb.html](http://www.apa.org/science/apasscweb.html)) to learn more about the activities of the SSC.

Back row - Suzanne Dean, Felix Thoemmes, Abby Adler, Gloria Luong, and Stanley King  
Front row - Camilla Hileman, Jennifer Brielmaier, Lisa Jaremka, and Marc Berman (chair)

## How to Get Your Research Groove Back

By Gloria Luong

Summer isn't just a great time to relax on the beach, go on road trips, or throw barbecue get-togethers – it's also a wonderful opportunity to complete research projects and write empirical papers (believe it or not!). During the summer, graduate students typically take fewer classes (if any) and may have fewer teaching obligations, which frees up time for research projects that have been put off all year long. Once the fall term comes around, however, many graduate students may find their productivity levels are less than desired. The start of the academic year brings many challenges and demands on graduate students' schedules: completing reading assignments for courses, writing term papers, teaching undergraduate courses, and managing lab operations. How can we, as grad students, juggle our research projects and papers on top of all of these responsibilities? It's simple! Just follow these easy steps and you'll be back to your hard-working productive self!

### Set manageable goals.

What do you want to accomplish this academic year? Do you want to run that last study of your dissertation? Or maybe you want to finish writing up your Master's thesis? Whatever your research goals may be, make sure that they are *manageable*. If your goals are

“doable,” then (theoretically) you can do them! Try to set a few major goals for the academic year (e.g., advance to candidacy, finish writing dissertation) and make a list of things you'll need to do to accomplish these goals. For example, if you want to start running a study, you'll need to complete IRB forms and get approval, hire research assistants, run pilot tests, recruit your sample, etc. Then each week, work on completing your subgoals (e.g., fill out and submit IRB forms) until you've completed your major goals!

### Set aside time to complete your goals.

As graduate students, we have all kinds of obligations (e.g., grading undergraduate course papers, emailing) that may distract us from completing research projects. Despite it all, keep your eyes on the prize! Set aside time each day of the week to work on your research projects and papers and stay committed to your schedule. If it becomes a routine schedule, you will be more likely to stick to it!

### Track your progress.

Write down your goals and record your goal progress. Did you complete the IRB forms for your study this week? Great job! It can be very motivating just to see that you are

making progress toward your goals. For the extrinsically motivated, you can even reward yourself with dinner out on the town or a movie with friends (or whatever motivates you). If you don't complete your goals for the week, it may also be equally motivating to know you need to work harder next week. Tracking your progress may allow you to identify why you aren't being as productive as you'd like to be and how you can tackle those issues.

### Seek social support.

Find other grad students or colleagues who can hold you accountable for your goals. If you are not making good progress toward your goals, they may be able to offer helpful suggestions on how to move forward with your work. When you do complete your goals, you have a group of friends who can celebrate with you!

These tips may be a good starting point for getting research work done when the academic term begins. For a fun and helpful guide on how to complete these steps, check out Paul Silvia's (2007) *How to write a lot: A practical guide to productive academic writing*. So what are you waiting for? Start setting goals and get your groove back! ■

# APA Summer Programs for Undergraduates Continue to Meet a Need

by Amy Pitta

APA undergraduate summer programs are designed to give promising undergraduate students an opportunity to experience advanced psychological methods through seminars and laboratory activities. These programs are a fun way for students to equip themselves with the skills essential to enter and succeed in graduate school, while meeting students from across the country with the same interests.

## Summer Science Fellowships

The APA Science Directorate introduced a new program this summer -- the Summer Science Fellowships (SSF). An offshoot of the successful Summer Science Institute, SSF immersed advanced undergraduate students in the science of psychology by exposing them to the excitement and promise of the best of psychological science. The principal objective was to help prepare them for the rigors of graduate study in psychological science.

The SSF program gave students an opportunity to explore the intellectual, personal, and social processes of scientific inquiry and to experience cutting-edge psychological research through hands-on laboratory activities. SSF offered promising students the opportunity to equip themselves with the skills essential to success in graduate school, and gave students who plan to pursue advanced degrees in psychological science the opportunity to be mentored by nationally-known faculty.

Twelve talented students were placed in psychology laboratories at George Mason University, George Washington University, the University of Maryland, and The Johns Hopkins University. For six weeks, (June 23 – August 2), these students were mentored by some of the most outstanding researchers in the Washington, DC area. During the intensive, expenses-paid summer program, the twelve Summer Science Fellows had the opportunity to work closely with faculty, graduate students, and postdocs, all while receiving one-on-one guidance from an SSF mentor.

This year's 12 outstanding fellows were chosen from a pool of nearly 500 applicants. Their names, universities, SSF mentors (*in italics*), and university placements (*in italics*) are listed below.

**Kimberly Alexander**  
Stony Brook University  
*George Howe, PhD*  
*George Washington University*

**Joel Chan**  
University of the Ozarks  
*Greg Trafton, PhD*  
*George Mason University*

**Shelby Cooley**  
Scripps College  
*Melanie Killen, PhD*  
*University of Maryland*

**Adam Emfield**  
Idaho State University  
*James Thompson, PhD*  
*George Mason University*

**Laura Flynn**  
Skidmore College  
*George Howe, PhD*  
*George Washington University*

**Stefanie Holman**  
University of Alabama, Montgomery  
*Nathan Fox, PhD*  
*University of Maryland*



Summer Science Fellow Joel Chan is outfitted for a study on procedural memory by Raj Ratwani, of George Mason University.

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**Jessica Kang**  
University of Washington  
*Amanda Woodward, PhD*  
*University of Maryland*

**Drew Solyst**  
St. Mary's College of Maryland  
*Adam Winsler, PhD*  
*George Mason University*

**Kathleen Vieira**  
University of Florida  
*Amanda Woodward, PhD*  
*University of Maryland*

**Benjamin Majors**  
Washington College  
*Amy Shelton, PhD*  
*Johns Hopkins University*

**Oth Tran**  
University of Virginia  
*Amy Shelton, PhD*  
*Johns Hopkins University*

**Vincent Woolfolk**  
University of North Carolina, Greensboro  
*Eden King, PhD*  
*George Mason University*

For complete details about the program, please visit [www.apa.org/science/ssf.html](http://www.apa.org/science/ssf.html).

## Advanced Statistical Training in Psychology

The Advanced Statistical Training in Psychology (ASTP) is an intensive, 9-day, seminar on statistics and research methods in a dynamic setting that emphasizes hands-on computer skills. Students are mentally stimulated with lectures, SPSS activities, hands-on activities, and discussions of graduate school. After a full day of t-tests, multiple regression, linear correlation, ANOVA, and repeated measures design, students have the opportunity to participate in blackjack workshops, juggling workshops, Charades, and other fun.

The ASTP targets rising seniors who are from traditionally under-represented groups in psychology. The definition of underrepresented groups for this program is broad, including students who are members of ethnic minority groups, first generation college students, and students who have had to overcome other kinds of social or economic barriers on the road to academic excellence.



ASTP students Tanisha Stewart and Jose Cantt learn about multiple regression from instructor Mauricio Carvalho.

For more information, please visit [www.apa.org/science/astp.html](http://www.apa.org/science/astp.html).

For 2008, 17 talented students were selected for the program, which was held on the University of Maryland campus, July 12-20. Instructors for ASTP were Dr. Brett Pelham, Dr. Keith Maddox, and Dr. Mauricio Carvalho.

This year's ASTP students, along with their home universities, are listed below.

**Arnold Bae**  
California State University, Northridge

**Rita Ludwig**  
New York University

**Andrew Stewart**  
Colorado State University

**Jose Cantt**  
Barry University

**Felicia Mualim**  
University of California, Los Angeles

**Tanisha Stewart**  
American International College

**Kit Cho**  
City College of New York

**Martina Michlickova**  
Baruch College

**Jennifer Stoltzfus**  
Millersville University

**Lawrence Cho**  
University of California, Riverside

**Olamide Oduyingbo**  
Quinnipiac University

**Roy Taggug**  
University of California, Irvine

**Collin Christensen**  
Southwest Baptist University

**DeMarcus Pegues**  
University of Tennessee at Chattanooga

**Naomi (Rachel) Walker**  
Texas Women's University ■

**Sohee Kim**  
Lehigh University

**Harlee Pratt**  
SUNY Cortland

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*Psychological Science Agenda* is published monthly by APA's Science Directorate. Dedicated to promoting and serving scientific psychology, *Psychological Science Agenda* provides news about national scientific policy developments, examines policy issues affecting and affected by the behavioral research community, and highlights the advocacy efforts of the Science Directorate on behalf of research and academic psychologists. *Psychological Science Agenda* also features news of APA's governance and program initiatives relating to scientific and academic psychology, and provides valuable, timely information about funding opportunities for research psychologists.

*Psychological Science Agenda* is distributed free to 30,000 psychologists, members of Congress and their staffs, key officials in federal agencies that fund behavioral research and use its findings, institutional libraries, and science writers in the national media.

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