

11<sup>th</sup> Anniversary Meeting of the  
**Society for the Science of  
Motivation**

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**Program Abstracts**



## Presidential Address

### What reigns supreme? Value, control, or truth?

E. Tory Higgins, Columbia University

Since the Ancient Greeks and their hedonic (sweet) principle, we know that motivation is about maximizing pleasure and minimizing pain. We know that the best way to motivate people...and other animals...is through “carrots” (pleasure) and “sticks” (pain). We know that people perform a cost (pain)-benefit (pleasure) analysis in order to make decisions. What reigns supreme? Obviously, value. But hold on. We know that adding a pleasant reward for doing an activity can undermine interest in doing that activity again. We know that people will engage in painful activities just to manage to make something happen and experience personal agency. People want power over what happens. What reigns supreme? It must be control. Not so fast. When you choose a goal because you think it’s valuable, there is the question, “But is it *really* valuable? Is it the *right* choice?” Similarly, when you choose a means to make something happen, how do you know that it will *really* make it happen or that it is the *right* choice? We need to separate reality from fantasy. We need to separate what is true and what is false, what is right and what is wrong. And what we experience as being real and as being right are the truths that we share with others. Indeed, people are willing to suffer and even die for their shared realities. What reigns supreme? Arguably truth in general, and shared reality in particular. In my talk I will discuss how our motivation to create shared realities with others makes us strong...and tears us apart.

## Keynote Address

### **Moving from principles to practice (and back): Lessons learned designing and delivering interventions to promote healthy behavior**

Alexander J. Rothman, University of Minnesota

How can we optimize the design and delivery of interventions to promote healthy behavior? (Social) psychological principles have the potential to specify the factors that guide people's behavior and delineate the conditions under which they operate. Looking across several programs of research, I examine how we have pursued linkages between theory and interventions; reflect on the disconnect between what our theories (currently) offer and our interventions need; and consider what can be done to cultivate and capitalize on the opportunities afforded by advances in psychological science.

## Symposia

(numbered by order of presentation)

### **Symposium 1: Goal pursuit is interpersonal: On the use of social means to goal pursuit**

Edward Orehek, University of Pittsburgh  
Maxim Milyavsky, Ono Academic College

Goal pursuit is often carried out in concert with helpful others. A friend may provide encouragement for one's weight loss, a coach may provide helpful advice, and a parent may drive her son to soccer practice. In relationships characterized by high interdependence, each person is helpful toward many of the other person's goals. The aim of the present symposium is to explore new research and perspectives on how and whether people facilitate one another's goal pursuit, investigate the consequences of high interdependence, and examine when social means are substitutable with personal means. Together, these talks provide new theoretical perspectives and exciting new research on the interpersonal nature of goal pursuit.

#### ➤ **A People-As-Means perspective on motivation, behavior patterns, and performance**

Edward Orehek, University of Pittsburgh

People serve as means to one another's goals when they become part of the way they are initiated, maintained, and carried out (Orehek & Forest, 2016; Orehek, Forest, & Barbaro, in press). A partner can be instrumental to goal pursuit by encouraging the person to pursue the goal, reminding the person of actions to be taken, taking on some of the workload, or pursuing the goal together with the person. When a person has an instrumental partner, goal pursuit should become more enjoyable, more important, and the person should have higher expectations of success. Because of this, the person should be more likely to attain goals for which a partner is instrumental. In this talk, I will present data in support of this model, including results from a study using a representative sample of 1556 parent-adolescent dyads examining (un)healthy eating and physical activity (Orehek & Ferrer, under review), a prospective study of undergraduate academic performance ( $N = 268$ ), and an experimental study of married partners (un)healthy eating ( $N = 274$ ; Orehek & Lemay, in prep.).

#### ➤ **Compatibility and coordination in dyads and teams**

Gráinne Fitzsimons, Duke University

According to Transactive Goal Dynamics theory (Fitzsimons, Finkel, & vanDellen, 2015), relationship partners' compatibility is a central predictor of goal outcomes. Compatibility is conceptualized in the theory as "goal coordination," a set of mechanisms reflecting how well partners' goals fit together in everyday life. Those in relationships that (a) create a pool of shared resources from interdependence and (b) efficiently draw on that shared resource should experience the greatest goal success. In this presentation, I review two studies that seek to test these ideas in dyads and teams. In Study 1, a dyadic experience sampling study ( $N = 120$  romantic couples), we explore self-report measures of coordination and density and

daily reports of goal progress. In Study 2, a longitudinal study of five-person student teams ( $N = 450$ ), we explore self-report measures of coordination and density and goal outcomes as measured by grades and job acceptances.

➤ **With friends like these, who needs money? Feeling socially supported weakens the desire for money**

Kathleen D. Vohs, University of Minnesota  
Jannine D. Lasaleta, Grenoble Ecole de Management  
Siyuan Guo, Sun Yat-Sen University  
Xinyue Zhou, Sun Yat-Sen University  
Nicholas Michalak, University of Michigan  
Lan Nguyen Chaplin, University of Illinois-Chicago

Money is used to extract benefits from society, benefits that also can be extracted through interpersonal relationships. We introduced and tested the substitutability hypothesis, which states that money and social support as interchangeable psychological resources. Four experiments tested the prediction that perceiving that one is socially supported decreases the desire for money. Participants who recalled how many friends they have made, versus facts learned, ranked financial success and business skills as less central life values (Experiment 1). Chinese participants who recalled instances of social support versus social rejection reported that money is less important (Experiment 2), and American participants listed fewer items they would trade for a large sum of money (Experiment 3). The effect was replicated in a children's sample using a behavioral measure (Experiment 4). Mediation evidence confirmed that children and adults care less about money when feeling strongly socially supported (Experiments 3-4).

➤ **On the substitutability of personal and social means**

Maxim Milyavsky, Ono Academic College  
Arie W. Kruglanski, University of Maryland  
Marina Chernikova, University of Maryland  
Michele J. Gelfand, University of Maryland

In this theoretical paper, we use the principle of substitutability of means to explain motivational shifts that follow an abundance or deficit of personal or social means. In particular, we propose that the perceived effectiveness of personal means such as physical strength, competence, money, power and status should negatively predict people's need for social means such as other individuals, groups, social institutions and quasi-social agents, which in turn can be manifested in their perception of, dependence on and commitment to others. According to the very same principle, the perceived effectiveness of social means should negatively predict people's need for their personal means, which can be manifested in their exertion of physical and mental effort, creativity, sense of control, self-oriented motivations, and core self-evaluations. We cite evidence from multiple lines of research to support our theory and propose new and exciting directions of research.

## **Symposium 2: Taking self-regulation outside of the lab: Individual differences and processes**

Marie Hennecke, University of Zurich

Marina Milyavskaya, Carleton University

This symposium highlights recent work on the role of individual differences in self-regulation and self-regulation processes as they unfold during people's goal pursuits in their day-to-day lives. Hennecke focuses on how self-regulatory traits predict and are explained by the self-regulatory strategies that people spontaneously use to regulate their persistence during aversive or challenging goal-related activities. De Ridder describes a successful intervention that increased self-control by teaching participants to identify and resolve self-regulation dilemmas in their daily lives. Milyavskaya examines the association between the big five personality traits and momentary experiences of desires and self-control across two experience sampling studies. Finally, Heckhausen "zooms out" on how individual differences interact with societal and social context to predict developmental outcomes over the life course. Featuring a variety of methodologies including experience sampling, interventions, and longitudinal follow-ups, this symposium highlights how individual differences, including trait self-control and the Big Five, intersect with self-regulation processes.

### **Doing despite disliking: Self-regulatory traits predict the deployment of effective self-regulatory strategies in daily life**

Marie Hennecke, University of Zurich

Thomas Czikmanti, University of Zurich

Veronika Brandstätter, University of Zurich

Goals sometimes require the execution of aversive or challenging goal-directed activities. We investigated the self-regulatory strategies people spontaneously use in their everyday lives to regulate their persistence during such activities. In an experience sampling study (N = 264, 1940 reports of aversive/challenging activities), we investigated predictors of strategy use and effectiveness (self-regulatory traits, types of activities and demands). Results suggest that the popularity of strategies varied across activities and demands. In addition, people higher in self-regulatory traits were more likely to focus on the positive consequences of a given activity, set goals, and regulate emotions. Their tendency to focus on positive consequences accounted for their higher momentary self-regulatory success, suggesting a process by which self-regulatory traits get "outside the skin." By integrating a trait- and a process-approach, these findings promote a more comprehensive understanding of self-regulatory success and failure during people's daily attempts to regulate their persistence during aversive activities.

### **Just do it: Smart self-regulation in daily life**

Denise de Ridder, Utrecht University

Anouk van der Weiden, Utrecht University

Marleen Gillebaart, Utrecht University

Jeroen Benjamins, Utrecht University

Trait self-control has been shown to be a powerful predictor of self-regulation success. However, most approaches for improving self-regulation success so far have focused on making people less sensitive to ego depletion (as a measure of state self-control). In view of

the generally disappointing results of such training programs, the present research investigated how the capacity for self-control (trait self-control) can be improved. A hundred community residents participated in an experience sampling study over the course of 12 weeks, engaging in daily tasks of identification and resolution of a self-chosen self-regulation dilemma (referring to health, interpersonal, financial or ecological behaviors) and assessing greater capacity for self-control as the main outcome. We found that repeated engagement in self-regulation tasks significantly improved trait self-control and was also associated with increased employment of smart self-regulation strategies that do not rely on effortful inhibition of impulses, especially in participants with low initial trait self-control.

**Personality and self-regulation: Examining the association between trait Big 5 and in-the-moment desire and self-control**

Marina Milyavskaya, Carleton University

Various personality traits, including conscientiousness and agreeableness, have been linked to better self-control. But how does this translate into self-regulation in everyday life? In the present research, we examine the role of the big-5 personality traits in daily experiences of desires and self-control in two large experience sampling studies (Study 1,  $N = 159$  participants, 3615 observations; Study 2,  $N = 197$  participants, 6846 observations). We examined the relation between each big-5 trait and desire prevalence, average desire strength, average resistance, and the proportion of desires that the participant enacted. Across both studies, results suggest that there is a small positive correlation between both extraversion and agreeableness with desire strength ( $r_s = .18$  and  $.20$  respectively), and a small negative correlation ( $r = -.15$ ) between conscientiousness and resistance. No other relations were found. Implications for trait measures in understanding momentary self-control will be discussed.

**Agency in life-course regulation: When do individual differences make a difference?**

Jutta Heckhausen, University of California

Individual agency in selecting and pursuing life goals is not universally effective throughout the life course. During transitions individuals can have a greater effect on their future path in life, and which transitions are particularly responsive to individual influence varies across different societies. According to the motivational theory of lifespan development, developmental regulation is organized in phases of goal selection, goal engagement, goal disengagement and re-engagement with adjusted or new goals. Different societal educational and employment conditions set up structures of opportunity and constraints that are age- and social-class graded. Individual differences in ambitiousness of goal selection, persistence in goal striving and flexibility for goal adjustment or even disengagement, can have advantageous or disadvantageous consequences depending on societal institutions and social structure. Exemplar empirical evidence for society-differential effects of individual differences in motivation and self-regulation will be presented.

**Symposium 3: The self-regulation of motivation and interventions that enable it**

Patricia Chen, National University of Singapore

Mankind has achieved extraordinary feats of motivation—breaking the 4-minute mile, completing PhDs, and summiting Mt. Everest. Meanwhile, people also fall short of seemingly simpler goals because they cannot control their impulses, motivate themselves to invest effort, or persevere under difficulty. Motivation, it seems, comes more easily to some than to others—or does it? We discuss how factors beyond dispositional differences, such as self-regulatory strategies and mindsets, explain how effectively people regulate their motivation during goal pursuit. Four speakers share the latest findings on how people regulate (1) potentially self-threatening feelings during goal-setting, (2) fluctuations of interest and confusion during problem-solving, (3) motivation when the opportunities needed to pursue one's goals are not available, and (4) their levels of passion towards their pursuits over time. Our talks share important psychological factors that enable people to regulate their motivation to achieve their goals, and recommend interventions that promote effective self-regulation.

**Goal-setting and self-affirmation: interventions to reduce defensiveness, and increase goal-setting**

Omid Fotuhi, University of Pittsburgh

Sara Wilkerson, St. Olaf College

Kevin Binning, University of Pittsburgh

Geoffrey Cohen, Stanford University

Informed by Self-Affirmation Theory, we examine whether setting goals—which involves contrasting one's current self to that of desired, yet unactualized, future self—might discourage people from wanting to set goals because of the induced psychological threat. Important psychological correlates of effective goal-setting and interventions mitigating threat will be discussed.

**Feelings of interest and confusion during self-regulation of learning: Moderation by gender and Utility Value**

Danielle Geerling, University of Utah

Jonathan Butner, University of Utah

Carol Sansone, University of Utah

We utilized dynamical systems modeling to examine coupling between feelings of confusion and interest over time, as students in an online computer science course were actively regulating their course experiences. Further, we tested whether these linked patterns of confusion and interest changed as a function of undergraduates' gender and provision of a Utility Value (UV) intervention. Male and female students assessed their current feelings of confusion and interest via pop-up questionnaires that displayed immediately after students had engaged with key class exercises or examples. Results indicated that male and female students differed not only in the typical levels of confusion they reported during coursework, but also in the associations between their levels of confusion and interest over time; the

provision of a UV intervention affected these associations as well. Implications for students' self-regulation of interest and motivation in coursework over time will be discussed.

**Implicit theories of opportunity: When opportunity fails to knock, keep waiting or build a door?**

Paul A. O'Keefe, Yale-NUS College  
Fiona Lee, Stanford University  
Carol S. Dweck, Stanford University

Across six studies ( $N = 797$ ), we examined mindsets about opportunities to achieve one's goals—whether people believe that opportunities are limited and constrained (fixed theory) or can be found and created (growth theory). Whether measured or manipulated, implicit theories of opportunity led to different expectations for success (for the self and others) with regard to ambitious, long-term goals. A fixed theory led to expectations for success when opportunities were abundant, but not scarce. Because opportunities are thought to be limited, a fixed theory led to the adoption of passive strategies for goal pursuit, such as relying on luck. By contrast, a growth theory led to expectations for success regardless of available resources because of the adoption of active strategies, such as hard work and persistence. Further analyses confirmed that these strategies for goal pursuit mediated the relation between theories of opportunity and expectations for success.

**Controlling your passions: Mindsets influence the strategies people use to regulate their passion during goal pursuit**

Patricia Chen, National University of Singapore  
Yuching Lin, University of Virginia  
J. Frank Yates, University of Michigan

“Pursue your passion” is a prescription that has unforeseen downsides when passion runs low. How do people manage times of low passion towards their endeavors and learn to better regulate their motivation in these trying moments? Three studies ( $N = 1,389$ ) examined one important antecedent behind people's self-regulatory strategies: mindsets about passion. In situations of low passion, college students' mindset that passion is developed over time motivated them to adopt behavioral strategies associated with cultivating passion (e.g., recognizing the subject's real-world relevance and gaining practical experience in it)—and to prescribe these strategies for others. The more strongly students endorsed this “Develop” mindset, the wider their repertoire of self-regulatory strategies used, and in turn, the larger their self-reported changes in passion towards their college majors over time. Invoking this mindset in students caused greater intentions to use such self-regulatory strategies and lowered students' likelihood of dropping classes in the subject.

#### **Symposium 4: What drives risk perception and risk-taking behavior?**

Lucas Keller, University of Konstanz

Peter M. Gollwitzer, New York University

Two theoretical models of how people perceive and take risks as well as two sets of applied studies of risk perception and risk-taking behavior will be presented. Sandeep Mishra will provide an integrated conceptual model of decision-making under risk: the relative state model. Paschal Sheeran will tackle the question of when risk perceptions actually predict motivation to take protective action against health risks by introducing the TRIRISK model. Greta Wagner will apply alcohol myopia theory on risky decision-making and show that salient probability cues are processed differently after having drunk alcohol versus having drunk a placebo drink. Finally, Peter Gollwitzer will present studies showing that being in a certain action phase and mindset in regard to an unrelated goal pursuit affects both illusory optimism and financial risk taking. Taken together, this symposium sheds light on risk-taking behavior from an action control perspective emphasizing the role of context variables.

#### **The relative state model: Integrating need-based and ability-based pathways to risk-taking**

Sandeep Mishra, University of Regina

Who takes risks, and why? Does risk-taking in one context predict risk-taking in other contexts? We seek to resolve these questions by considering two (non-independent) pathways to risk: need-based and ability-based. The need-based pathway suggests that people engage in risk-taking when they cannot reach desired or goal states with low-risk options (consistent with risk-sensitivity theory). The ability-based pathway suggests that people engage in risk-taking when they possess abilities or traits that increase the expected value of the risky behavior itself and/or have signalling value. We provide an integrated conceptual model of decision-making under risk—the relative state model—explicating how situational and embodied factors influence the estimated costs and benefits of risk-taking in different contexts. This model may help to reconcile longstanding disagreements regarding the etiology of risk-taking, including the domain-general versus specificity of risk, or differential engagement in antisocial and non-antisocial risk-taking.

#### **When does risk perception predict protection motivation? A person-by-situation analysis**

Paschal Sheeran, University of North Carolina at Chapel Hill

Rebecca A. Ferrer, National Cancer Institute

William M. P. Klein, National Cancer Institute

Aya Avishai, University of North Carolina at Chapel Hill

Katelyn Jones, University of North Carolina at Chapel Hill

The present research (a) adopted the TRIRISK model of risk perception, and (b) took a person-by-situation approach in order to test when perception predicts protection motivation. Features of the health threat (perceived severity) and individual differences (e.g., emotion reappraisal) were assessed as moderators of the relationship between protection motivation and deliberative, affective, and experiential risk perceptions in a within-subjects design. Multi-level modeling of 2968 observations (32 health threats across 94 participants) showed interactions among the TRIRISK components and moderation both by person-level and situational factors. For instance, affective risk perception better predicted protection

motivation when deliberative risk perception was high, when the threat was less severe, and among participants who engage less in emotional reappraisal. These findings support the TRIRISK model and offer new insights into when risk perceptions predict protection motivation.

### **Alcohol Myopia and Risk-Taking in Gambling**

Greta Wagner, University of Hamburg

Timur Sevincer, University of Hamburg

Gabriele Oettingen, New York University

We employed alcohol myopia theory, stating that intoxicated people's behavior is disproportionately guided by salient cues, to investigate whether acute alcohol consumption can reduce (rather than enhance) risky gambling. Participants consumed either alcohol or a placebo. We then presented them with 25 lottery pairs. Each pair consisted of two lottery tickets, one ticket offered a higher gain with a lower chance of winning (risky option); the other offered a lower gain with a higher chance (non-risky option). We made low chances of winning salient (vs. not) by explicitly displaying the low chances in large, red letters on the tickets. When the low chances were salient, intoxicated (vs. sober) participants chose the risky option less often. Attention allocation towards the salient low chances, measured by eye-tracking, was a mechanism for the observed effect of alcohol on reduced risk-taking. Findings have applied implications for reducing risky gambling under the influence of alcohol.

### **The influence of mindsets on risk perception and risk-taking behavior**

Peter M. Gollwitzer, New York University

Lucas Keller, University of Konstanz

In two experiments, we investigated the downstream consequences of activating deliberative versus implemental mindsets on risk perception and risk-taking behavior, respectively. In a first experiment, we observed that participants who planned the implementation of a goal (i.e., are in an implemental mindset) exhibit more illusory optimism about experiencing negative life events compared to participants who thought about the pros and cons of pursuing a goal (i.e., are in a deliberative mindset). Perceived controllability of the negative life events was revealed as an important moderator. A second experiment further augments these findings by demonstrating that participants in a deliberative mindset show less risk-taking behavior than participants in an implemental mindset using a behavioral risk measure, the Balloon Analogue Risk Task. Implications for research on mindset-dependent effects on risk perception and risk-taking behavior are discussed.

## **Symposium 5: The “why” and “how” of extreme behavior**

Catalina Kopetz, Wayne State University

Arie Kruglanski, University of Maryland

People are willing to sacrifice their health, freedom, money, and even life by engaging in extreme behaviors such as crime and terrorism, extreme sports, substance use and risky sexual behavior, but also in behaviors that seemingly serve good causes such as living in trees for years to prevent them from being cut and used in the lumber industry. This symposium examines the motivational processes underlying extreme behaviors. Throughout the symposium we argue that 1) extreme behaviors may be enacted when they are perceived to serve people’s goals such as identity, significance, and belonging; 2) such goals reduce the saliency and importance of other goals (e.g. health or safety) relaxing their constraints and permitting otherwise unlikely behavior to emerge; 3) awareness of the potential negative consequences of extreme behaviors may increase (rather than decrease) their likelihood by enhancing the perceived instrumentality of the behaviors to the goal that they serve.

### **Identity uncertainty can motivate extreme intergroup behavior**

Michael A. Hogg, Claremont Graduate University

According to uncertainty-identity theory (Hogg, 2012) feelings of self-uncertainty motivate people to identify with social groups, in particular highly entitative groups that provide a distinctive and clear identity. This identity preference under uncertainty can make intolerant and xenophobic groups with autocratic leadership attractive (Hogg, 2014). However not every member of such groups goes to extremes. Today I describe an experiment exploring conditions under which people may go to aggressive and antisocial extremes on behalf of their group (Goldman & Hogg, 2016). Fraternity and sorority members ( $N = 218$ ) were primed to feel they were peripheral/central members of the group, and that it was easy/difficult to secure greater acceptance through extreme intergroup behavior. As predicted, peripheral members who believed it was easy to be accepted were most likely to intend to engage in antisocial and aggressive intergroup behaviors. This effect was stronger among males than females. Implications for radicalization are discussed.

### **The quest for personal significance model as a framework for driving nature and biodiversity protection actions**

Erica Molinaro, University of Sapienza

Arie Kruglanski, University of Maryland

Marino Bonaiuto, University of Sapienza

We investigate the role of Quest for Personal Significance (QPS, Kruglanski et al., 2009) in extreme benevolent behaviors (i.e., difficult pro-environmental behaviors). The literature suggests that QPS may prompt behaviors in accordance with the ideology (violent/benevolent) to which one is exposed. In 4 studies, we explored these notions in relation to benevolent ideologies, (i.e., pro-environmental). In Study 1 ( $N = 40$ ), we found that QPS predicts high commitment to the main mission of different groups, regardless of the ideology that each group adheres to. In Study 2 ( $N = 183$ ) and Study 3 ( $N = 131$ ) we assessed the extent to which QPS predicts the tendency to enact extreme (rather than moderate or easy) pro-environmental behaviors and explored potential mechanisms. Finally, in Study 4 ( $N$

= 85) we tested the causal relation between QPS and the intention to enact extreme pro-environmental behaviors.

**Violent extremism and the psychology of deviance**

Marina Chernikova, University of Maryland

Arie W. Kruglanski, University of Maryland

Katarzyna Jasko, Jagiellonian University

David Webber, Virginia Commonwealth University

We present a theory of deviance of which violent extremism is a special case. Deviance is defined as “Divergence from the accepted social norms of behavior.” (The Free Dictionary). According to this definition deviance encompasses a broad array of “extreme” behaviors including pro anti and neutral social behaviors of various types (e.g., extreme sports, diets, “fatal” sexual attractions, crime and terrorism). We postulate that deviance results from a motivational imbalance in which a given need or concern comes to trump others, thus relaxing their constraints and permitting otherwise unlikely (i.e. deviant) behavior to emerge. We apply this theory to the phenomenon of violent extremism and present data on violent extremists collected via different methods (surveys, experiments, analysis of open source data) in different world locations where extremism poses a threat (Sri Lanka, Philippines, Indonesia, Germany, and the U.S.).

**It’s risky, therefore I do it; Counterfinality as a source of perceived instrumentality of extreme behavior as means to goals**

Catalina E. Kopetz, Wayne State University

Jacqueline I. Woerner, Yale University

Wesley Starnes, Wayne State University

Joseph Dedvukaj, Wayne State University

Why do people choose extreme behaviors as opposed to finding alternative means to fulfill their goals? I propose that extreme behaviors may be perceived as particularly instrumental to certain goals because of their potential negative consequences. This possibility is suggested by the principle of counterfinality whereby, a means is perceived as particularly instrumental to one’s goals to the extent to which it is detrimental to alternative goals. In line with this notion, we show that: 1) extreme behavior is more likely when its negative consequences are salient; 2) people who are more concerned with finding the “best” means to fulfill their goals (i.e. people high in a regulatory mode characterized by assessment) are more likely to engage in extreme behavior to fulfill relevant goals; 3) accessibility of relevant goals increases the likelihood of engagement in extreme behaviors by increasing their perceived riskiness and therefore their perceived instrumentality.

## **Symposium 6: Applying motivation science to benefit society**

E. Tory Higgins, Columbia University

Andrew J. Elliot, Andrew J. Elliot

This symposium is designed to showcase how mechanisms and principles that have been identified and investigated by motivation scientists can benefit society across different life domains. Barry Gerhart will discuss how employee compensation, including pay for performance, is effective in organizations because the way it is practiced in the workplace is different from how monetary incentives have been studied in the laboratory. Chris Hulleman will describe research showing how even brief interventions can improve college students' perceptions of value in what they are learning in the classroom. Arie Kruglanski will describe how violent terrorists can be deradicalized by satisfying their need to matter via non-violent means and creating new social networks that refute the narrative that violence is necessary to matter. Michael Sayette will discuss how the urge to smoke a cigarette can be reduced by prior exposure to a pleasant olfactory cue. Finally, Tim Strauman will describe how knowing that depression relates to promotion system failure and hypoactivation in left prefrontal cortex (PFC), whereas generalized anxiety relates to prevention system failure and hyperactivation in right PFC, can be used to target transcranial magnetic stimulation and improve treatment outcomes.

### **Motivation in work organizations**

Barry Gerhart, University of Wisconsin-Madison

Motivating employees to choose desired effort levels and desired goals continues to be a challenge for work organizations. Work motivation can be influenced by both monetary and non-monetary rewards and organizations vary in how much they emphasize each. However, monetary rewards (i.e., employee compensation), including pay for performance (PFP), almost always play a prominent role in the workplace, at least in organizations that operate and survive in competitive product markets. Yet, there seems to be significant skepticism regarding the effectiveness of PFP in some academic research areas (and in the popular press). I provide possible explanations for this apparent disconnect between what some research seems to say (i.e., that PFP does not work or even does harm) and what organizations do in practice (i.e., use PFP). I also present theory and research that paints a more positive picture of PFP effects in organizations. In addition, I identify some of the major differences between studying motivation and/or PFP in the laboratory and in work organizations, including how PFP is defined and practiced (individual incentive plans, which are typically studied in the laboratory, are rare in organizations relative to plans that use performance ratings and unit/organization outcomes), the way employees are assigned (not randomly) to organizations, the way that PFP unfolds over long (not short) periods of time in work organizations (e.g., via promotion to higher paying job levels based on performance), and the fact that PFP tends to be used more (not less) in higher level jobs that have more autonomy. I suggest some possible avenues for future research on motivation for those interested in having a greater impact on the use and design of motivation and PFP practices in work organizations.

### **Pathways with purpose: Fostering post-secondary students' value for school**

Chris Hulleman, University of Virginia

Value for learning is an important predictor of student persistence and achievement. However, not all students are able to see the value in their coursework and how it connects to their larger life goals. For example, based on responses from first-year students in Tennessee, a lack of value for learning is one obstacle preventing post-secondary students from persisting and being successful through their first year of college. With nearly 40% of post-secondary students dropping out of college after their first semester, helping students find value and purpose in learning could be a key driver to facilitating student success. A growing body of research suggests that students' perceptions of value for learning can be altered through brief interventions. Value interventions are particularly effective among populations most at-risk for dropping out of school, such as low achieving, first-generation, and underrepresented minority students because they provide a reason for students to care about learning. Given their high impact and low cost, researchers have begun to scale up interventions targeting students' perceptions of value for learning. Most of these interventions are designed to be one-shot, one-size-fits-all activities. However, research suggests that value interventions are most effective when they are customized to the individual, learning content, and context. If our goal is to foster sustained feelings of value, we must understand how to customize interventions across contexts and foster perceptions of value that remain with students through school and into the workplace. Building from prior randomized control trials in K-12, community college, and university settings, we describe our project to develop, test, and scale-up value interventions for first-year college students across two state-wide higher-education systems consisting of over 40 institutions and 400,000 students. The value interventions involve a series of brief activities designed to prime students' value in school and sustain that perception of value throughout their academic studies and into a career.

### **Deradicalizing violent extremists: The case of the Liberation Tigers of Tamil Eelam (LTTE)**

Arie W. Kruglanski, University of Maryland

The phenomenon of radicalization into violent extremism includes three fundamental ingredients: (1) Individual need for mattering and significance, (2) cultural narrative, justifying violence as means to the goal of significance, and (3) the social networking dynamic that solders the means-ends relation between violence and significance. De-radicalization entails a reversal of this process: (1) Satisfying the need for mattering via non-violent means, (2) refuting the violence justifying narrative, and (3) creating social networks that support that refutation. We recently carried out research within this framework on detained members of the Liberation Tigers of Tamil Eelam, a terrorist organization that operated in Sri Lanka for 30 years (1979-2009). In this presentation I recount the story of this research and its results.

### **Use of olfactory cues to attenuate cigarette cravings**

Michael A. Sayette, University of Pittsburgh

Cigarette craving plays a central role in smoking, which remains the leading preventable cause of death in the US. During moments of temptation the appeal of smoking rises, learned coping skills or "quit-smoking" messages may be ignored, and the habit persists. Unfortunately, research has struggled to develop treatments for craving relief. One approach showing promise is the strategic use of olfactory cues (OCs) to reduce cravings. This presentation

reports on two studies examining the possibility that exposure to OCs can reduce motivation to smoke. Following an initial assessment of self-reported urge, nicotine-deprived smokers evaluated the pleasantness of a series of OCs. Facial expressions during OC presentations were coded using Ekman and Friesen's Facial Action Coding System. Following OC administration, participants were exposed to smoking cues, a manipulation designed to increase urge to smoke. Next, participants were administered either their (a) most pleasant OC, (b) a control OC, or (c) their least pleasant OC (study 1) or a tobacco-related OC (study 2), and reported their urge to smoke. Results indicated that exposure to a pleasant OC reduces reported urge to smoke, relative to the control and tobacco OCs. Though the mechanisms underlying the observed urge-reducing effect of olfactory stimuli are not altogether clear, results provide support for the viability of olfactory stimuli as an approach to craving reduction and highlight the utility of conducting interdisciplinary research spanning emotion, cognition, and olfaction to understand and modify smoking motivation.

### **Multimodal therapy for depression: A regulatory focus perspective**

Timothy J. Strauman, Duke University

The standard technique for using repetitive transcranial magnetic stimulation (rTMS) for major depressive disorder (MDD) is associated with limited efficacy to date, due to the lack of a coherent underlying model of dysfunction – that is, the lack of a specific target. We have proposed such a model based on regulatory focus theory, which postulates two brain/behavior systems (promotion and prevention) for goal pursuit. Individual differences in the functioning of these systems predicts vulnerability to MDD and comorbid generalized anxiety disorder (GAD). Priming promotion vs. prevention goals in MDD and GAD induces discriminable patterns of brain activation: MDD is associated with promotion system failure, anhedonic/dysphoric symptoms, and hypoactivation in left prefrontal cortex (PFC), whereas GAD is associated with prevention system failure, hypervigilant/agitated symptoms, and hyperactivation in right PFC. These left and right PFC locations can be directly targeted in an individualized manner using rTMS. Furthermore, individually targeted rTMS can be integrated with cognitive interventions activating the promotion and prevention systems, allowing the neuroplasticity induced by TMS to alter those systems therapeutically. We present new data suggesting how targeted engagement of cortical systems involved in self-regulation using the combination of psychological intervention and rTMS offers the possibility of truly individualized treatment for depression.

## Individual Papers

(alphabetical by surname of presenter)

### **The use of a reflection diary to improve resilience, wellbeing and motivational persistence on the workforce.**

Kate R. Isherwood, Bangor University

Gareth Harvey, Bangor University

Andy Goodman, Bangor University

John A. Parkinson, Bangor University

Rising figures for individuals suffering from mental health disorders at work, has led to the development of cost-effective initiatives, targeted at individuals with the greatest need. Emerging evidence in Positive Psychology, supports that workplace resilience (defined as: “the ability to stay well, recover from and overcome challenge”) contributes to employees’ psychological health. Current research focussed on the ability of light-touch interventions to promote resilience and motivation in the workforce. Given evidence for the efficacy of diary interventions to promote wellbeing, research implemented two diaries, which identified potential challenges to goal achievement. Diaries also focused on negative (study 1) and positive (study 2) affective components to perceived barriers. Results indicated that negative framing has adverse consequences on wellbeing, whereas positive framing led to short-term gains. Findings add to research which aims to: (a) define resilience, (b) develop interventions to promote workplace health.

### **The motivational benefits of pre-goal positive feedback**

Nils B. Jostmann, University of Amsterdam

“Well done!” Positive feedback is a popular instrument to motivate people for the next performance. Compared to receiving negative or even no feedback, however, positive feedback actually often dampens motivation (Fishbach et al., 2010; Kluger & DeNisi, 1996). To better understand such “coasting” (Carver, 2003), the present research examines the position of the feedback in the course of performance. In two experimental studies using multiple trials of a computation task, feedback was either provided directly after the previous task (post-goal), or delayed until after participants had activated an intention for the next task (pre-goal). In line with the idea that pre-goal positive affect has higher motivational intensity than post-goal positive affect (Gable & Harmon-Jones, 2011), pre-goal positive feedback removed the coasting effect. The motivational benefits of pre-goal positive feedback could not be explained by the feedback’s timing, and occurred independent from participants’ explicit preferences.

### **Cultural variability in the link between academic motivation and achievement**

Alice Kathmandu, Stanford University

Geoffrey Cohen, Stanford University

What motivates students to achieve? And how would achievement fuel students’ motivation? Answers to these questions vary by sociocultural contexts. Previous studies suggest that in societies that emphasize individualism, students’ motivation and behavior might be more

self-consistent. Using a large-scale sample, we investigated the link between intrinsic motivation to learn science and science achievement among half-million 15-year-old students worldwide. The motivation-achievement link was stronger for more individualistic societies and weaker for more collectivistic ones, a finding robust to various controls. A behavioral experiment ( $N = 281$ ) confirmed this pattern: American parents perceived an intrinsically motivated (vs. non-motivated) student to learn more and perform better, while Chinese parents were less sensitive to such distinction.

**Physical action as psychological procedure: Cleaning behavior changes goal priming effects and restores the threatened self**

Spike W. S. Lee, University of Toronto

Ping Dong, Northwestern University

Kobe M. T. Millet, Vrije Universiteit Amsterdam

Amir Grinstein, Northeastern University

We propose a perspective on physical actions as psychological procedures, with consequences for goal processes and self-restoration. As a case example, physical cleansing functions as a grounded procedure of psychological separation between past and present. Accordingly, simply wiping one's hands (vs. not) decreases the mental accessibility (Experiment 1), behavioral expression (Experiment 2), and judged importance (Experiments 3–4) of previously primed goals (e.g., achievement, saving, fitness). But if a goal is primed after cleansing, its importance gets amplified instead (Experiment 3). Based on the logic of moderation-of-process, another manipulation that psychologically separates a primed goal from the present self produces the same effects, but the effects vanish once people wipe their hands clean (Experiment 4), indicating that cleansing functions as a grounded procedure of psychological separation. Applying this procedure across domains renders cleansing effective for restoring the self after various threats, be it physical (Experiment 5) or social (Experiment 6).

**The stigma of perceived irrelevance: A motivational, affordance-based theory of social invisibility**

Rebecca Neel, University of Iowa

Bethany Lassetter, University of Iowa

Older adults, Black women, immigrants, poor people, and others sometimes experience *social invisibility* – that is, stigmatization that manifests not as negative prejudice and discrimination, but as indifference and inattention. We propose a motivational, affordance-management theory to understand invisibility. Specifically, we argue that this particular form of stigmatization emerges from the perception that another person neither helps nor hurts one's ability to achieve goals. We thus distinguish among phenomena commonly subsumed under "stigmatization:" *Invisibility* of those perceived to be goal-irrelevant, and *threat-based stigmatization* of those perceived to impede goal pursuit. Invisibility and threat-based stigmatization are theorized to differ in origin, manifestation, and strategies for management. Furthermore, rather than applying only and obligatorily to particular target groups, invisibility dynamically emerges from perceiver goals, target cues, and situational features. Nonetheless, some perceivers, targets, situations, and goals are especially likely to produce invisibility. New empirical findings support this theory's utility for understanding stigmatization.

**Metamotivational understanding of the role of high-level and low-level construal in self-regulation**

Tina Nguyen, The Ohio State University  
Jessica Carnevale, Purchase State College  
Abigail Scholer, University of Waterloo  
David Miele, Boston College  
Kentaro Fujita, The Ohio State University

While self-regulation research typically examines how people regulate their thoughts, feelings, and behavior, emerging work in motivation science suggests exploring people's knowledge of regulating motivation may reveal when and why people succeed vs. fail at self-regulation. Adopting this metamotivational approach (Scholer & Miele, 2016), we examine whether people understand the role of high-level construal (i.e., a motivational orientation toward abstract features) and low-level construal (i.e., a motivational orientation toward concrete features) in self-regulation. Across five experiments, participants provided usefulness and preferences ratings for construal level inductions for tasks that research suggests benefits from high-level vs. low-level construal (vs. neither; control condition). Results revealed that participants recognized the usefulness of high-level vs. low-level construal in high-level vs. low-level tasks (vs. neither) and preferred the most optimal construal level induction for a given task. People thus appear to understand the role of construal level in self-regulation. Implications and future directions are discussed.

**Strategically-directed effort: Self-reflective resource use promotes better academic outcomes**

Desmond C. Ong, Stanford University  
Patricia Chen, Stanford University and the National University of Singapore  
Omar Chavez, University of Texas at Austin  
Brenda Gunderson, University of Michigan

Improving learning is not just about providing more resources, but also about how effectively learners use them. We hypothesized that students would perform better academically if they used their learning resources (e.g., lecture, past exam questions, instructor office hours) in a more self-reflective manner. We tested a self-guided "Strategic Resource Use" intervention, which students self-administered online, among two cohorts of a college statistics class (Study 1:  $N = 171$ ; Study 2,  $N = 190$ ). Before each exam, students randomized to the treatment condition strategized about which resources they would use for studying, why each resource would be useful, and how they would use their resources effectively. Across both experiments, students in the treatment condition reported practicing more self-reflection, and in turn, recounted using their resources more effectively when studying. Consequently, treatment students outperformed controls by an average of one third of a letter grade in the class.

**Implementation intentions efficiently reduce stereotype activation and application**

Heather Rees, University of California  
Andrew Rivers, University of California  
Jeffrey Sherman, University of California

Implementation intentions (if-then action plans) are thought to facilitate efficient goal pursuit. However, claims about their efficiency rely on implicit measures that do not solely reflect automatic processes. To better assess the efficiency of implementation intentions, we conducted four studies that manipulated cognitive resources (e.g., digit-span, restricted response-window) on an implicit stereotyping measure and then examined the impact of implementation intentions to think “safe” (vs. “quick”) in response to Black faces. Additionally, we examined whether intentions reduced bias via relatively automatic (stereotype-activation) versus less automatic (stereotype-application) processes. “Safe” (vs. quick) intentions decreased stereotyping,  $F(1, 207) = 25.06, p < .001, \eta^2_p = .20$ . A process model revealed that intentions reduced both stereotype activation and stereotype application. Furthermore, restricting cognitive resources did not reduce the effectiveness of implementation intentions. Our findings provide compelling evidence that implementation intentions operate highly efficiently, and influence both relatively automatic and less automatic processes.

### **Feeling good, rather than bad, about progress motivates further action**

Thomas L. Webb, University of Sheffield

James P. Reynolds, University of Cambridge

Yael Benn, Manchester Metropolitan University

Betty P.I. Chang, Université Libre de Bruxelles

Paschal Sheeran, University of North Carolina

Theory and pragmatic considerations suggest that people should take action when they feel bad about their progress because such feelings indicate that action is needed. However, the impact of progress-related affect on goal striving has rarely been investigated. Study 1 ( $N = 744$ ) examined the correlation between measures of progress-related affect and intentions to take action. While engaging in health behaviors had the expected affective consequences (e.g. people felt bad when they were not eating healthily, exercising regularly or limiting their alcohol consumption), it was feeling good rather than bad about progress that was associated with stronger intentions. Study 2 ( $N = 409$ ) manipulated progress-related affect and examined effects on intentions and behavior. Participants induced to feel good about their eating behavior had marginally stronger intentions to eat healthily than participants led to feel bad. Taken together, the findings suggest that feeling good, rather than bad, about progress is motivating.

### **The role of positive psychology in physical wellbeing**

Rhiannon A. Willmot, Bangor University

Andy Goodman, Bangor University

John A. Parkinson, Bangor University

Behaviourally determined health conditions are responsible for 70% of world deaths, and drastically reduce life duration and quality. Evidence suggests information-based health campaigns are ineffective, as they overestimate cognitive self-regulatory capacity. Consequentially, choice architecture interventions which bypass the need for conscious engagement have gained traction. However, such initiatives are restricted only to environments that policy makers can manipulate. In order to facilitate both trans-contextual

and automatic health behaviour, the present research builds upon seminal work on cognitive bias modification and recent investigation of an association between purpose in life and physical activity. The use of a brief diary intervention significantly increased participants sense of meaning in life and autonomous motivation for health behaviour at post-test and follow-up in the experimental condition only. Findings suggest more enduring forms of motivation and implicit cueing of adaptive behaviour can result from interventions which target psychological mechanisms indirectly associated with physical health.

## Posters

(alphabetical by surname of presenter)

### **The role of culture in moral motivation: An SDT approach**

Chayce Baldwin, Brigham Young University

Joseph Moore, Brigham Young University

Culture plays an integral role in shaping the self, and consequently, the development of motivation (Markus & Kitayama, 2010). Self-Determination Theory (SDT; Ryan & Deci, 2000) provides a framework of motivation that has been used to explain the origins of motivation in myriad domains, but has little research examining the role of culture in shaping motivation. Two longitudinal samples were used to assess the effect of culture on motivations for substance use and moral behavior in adolescents. One sample ( $N = 180$ ) draws from a highly religious population with strong moral norms and rules; the other sample ( $N = 500$ ) was collected from a more general American population. In both types of motivation, the religious sample had significantly more identified motivation ( $t = 6.3, d = .57; t = 3.3, d = .30$ ), but also more introjected motivation ( $t = 2.4, d = .22; t = 3.8, d = .34$ ). Interestingly, the two groups had significantly different factor structures across both domains ( $\chi^2 = 155$ ). Subsequent latent growth models confirmed these results.

### **Mindfulness matters: The influence of mindfulness and goal self-concordance on academic motivation in college students**

Gabrielle Beaupré, Université du Québec à Montréal

Ariane Sophie Marion-Jetten, Université du Québec à Montréal

Geneviève Taylor, Université du Québec à Montréal

Previous research has shown that higher levels of dispositional mindfulness, a non-judgmental awareness of sensations, thoughts and emotions (Kabat-Zinn, 2009), are positively associated with autonomous motivation (acting in accordance with interests, Brown et al., 2007) and self-concordant goals (Brown & Ryan, 2003). However, few studies have examined dispositional mindfulness as a predictor of academic motivation over time. A longitudinal study assessed college students' dispositional mindfulness, personal goals, goal-specific motivation (autonomous and controlled) and academic motivation. Results show that self-concordant goals at T2 mediated the relationship between dispositional mindfulness at T1 and autonomous academic motivation at T2 ( $n = 136$ ). A second mediation analysis showed controlled goal motivation at T2 mediated the relation between mindfulness at T1 and controlled academic motivation at T3 ( $n = 59$ ). Thus, mindfulness appears to act through personal goals to impact academic motivation. Understanding mindfulness' processes is important to better tailor future intervention promoting mindfulness to improve academic success.

### **The ability to pursue hedonic goals—A necessary counterbalance to the concept of trait self-control?**

Katharina Bernecker, Knowledge Media Research Center, Germany

Daniela Becker, Knowledge Media Research Center, Germany

Research on trait self-control gathered substantial evidence that the ability to forego short-term, hedonic goals in favor of long-term, personal goals is adaptive. However, the field has so far overlooked the fact that personal goals can also undermine hedonic goal pursuit (e.g., people experience intrusive thoughts about work when trying to relax). We developed a self-report scale to assess people's ability to pursue hedonic goals and tested its validity. In three correlational studies (N1 = 590, N2 = 394, N3 = 246) the scale showed a consistent factor structure and no significant overlap with trait self-control. Further, in a laboratory study (N = 198) the ability to pursue hedonic goals negatively predicted the number of intrusive thoughts during a 10-min relaxation phase and positively predicted life satisfaction. These findings call for a more balanced view on hedonic goals and the need to study how well people succeed in pursuing them.

**Task difficulty moderates the implicit achievement motive's impact on effort-related cardiovascular reactivity**

Kerstin Brinkmann, University of Geneva

Florence Mazères, University of Geneva

Michael Richter, John Moores University

According to an integration of the achievement motive literature (e.g., McClelland et al., 1953) and motivational intensity theory (Brehm & Self, 1989), the strength of the implicit achievement motive (nAch) should determine the level of maximally justified effort in an achievement task. Task difficulty, on the other hand, should determine actual effort intensity as long as effort mobilization is possible and justified. In the present study, 36 low nAch students and 32 high nAch students worked either on an easy or on a difficulty version of a mental arithmetic task with nAch arousing features. Effort mobilization during task performance was operationalized by participants' cardiovascular response, especially pre-ejection period (Wright, 1996). Results confirmed the interactive effect of nAch strength and task difficulty on effort mobilization: High nAch students had stronger PEP reactivity while working on the difficult task. However, PEP reactivity was low for the easy task, independent of nAch strength.

**Self-regulatory factors for distracted phone usage**

Julia L. Briskin, Wayne State University

Tim Bogg, Wayne State University

Catalina Kopetz, Wayne State University

The goal of the present study was to test competing models of distracted mobile phone usage across social (eating with others), academic (being in class), and driving contexts. Specifically, we compared the sociocognitive connection model (which emphasizes the goal of connecting with others), with the cybernetic self-regulatory model of personality (which emphasizes the role of personality traits for regulating one's goal pursuit) for predicting mobile phone usage. College students (N = 628) reported on the Big Five personality traits, phone-related norms, phone accessibility, phone usage habits, and mobile phone behaviors across three different contexts. Results showed that the sociocognitive model represented the data well across all three contexts; of particular interest, personality traits and phone-related norms predicted phone usage via phone accessibility and phone habits. These findings suggest that beliefs about normative phone use are important predictors of distracted messaging behavior.

**Attentional breadth moderates the effect of context valence on product liking**

Oliver B. Büttner, University of Duisburg-Essen, Germany

Benjamin G. Serfas, University of Duisburg-Essen, Germany

Daria Euler, University of Duisburg-Essen, Germany

Research on evaluative conditioning in advertising has demonstrated that the context in which a product appears influences consumers' attitude and behavior. We wanted to examine whether such context effects appear also in retail settings. Moreover, previous research has demonstrated that consumers' breadth of visual attention may range from narrow to broad, and influences visual exploration of the store environment. Hence, we expected that attentional breadth moderates the context effect. In an eye-tracking experiment, we manipulated attentional breadth (broad vs. narrow) and presented products in attractive and unattractive contexts. The results support our hypotheses. Participants indicated that they liked products more when they were presented in an attractive compared to an unattractive context. Furthermore, this effect was more pronounced for participants in the broad (vs. narrow) attention condition. Finally, a mediation analysis with eye-tracking data provides process evidence and suggests that the effect is driven by visual attention.

**How top managers' regulatory focus style influence organizational decision making and unethical behaviors?**

Do-Hyung (Jacob) Cha, Seoul National University

This study examines whether and how top managers' regulatory focus style affect organizational behaviors and outcomes. I used computerized content analysis to measure managers' regulatory focus style of U.S. S&P 500 firms in 1994-2006. I find that a significant difference in investment, financial, and organizational practices of companies can be explained by managers' regulatory focus style. Moreover, prevention focus managers are more likely to be found in "value" firms, less sensitive to pay-for-performance, conservative in financial reporting ("accounting conservatism"), and hoard cash holdings. Contrastingly, promotion focus managers are more likely to be found in "glamour" firms, engage more frequently in acquisitions, target larger firms in M&A, and pay higher M&A premiums. They are proactive in strategic alliances, and especially so when they are in competitive industries. Lastly, prevention focus managers are more likely to cross ethical boundaries, e.g., earnings manipulation, when the status quo is threatened and under 'near-miss' contexts.

**An integrative model of academic and career goal progress with undergraduate students**

Melodie Chamandy, University of Ottawa

Patrick Gaudreau, University of Ottawa

Our rapport with time can enable us to perceive the instrumentality of our current behavior for future outcomes (Eccles & Wigfield, 2002). Indeed, when time is perceived as open-ended, we prioritize and invest resources in the pursuit of goals that benefit our future, such as education and work (Carstensen, 2006). However, no research has incorporated these mechanisms into an integrative model to predict coping and progress during the simultaneous pursuit of academic and career goals. We propose a dual-domain model of goal pursuit that examines the mediating role of task and disengagement coping in the relationship

between future time perspective (FTP) and goal progress. Results from structural equation modeling ( $N = 90$ ) revealed that students with higher FTP progressed more in the pursuit of their academic ( $\beta = .37$ ) and career ( $\beta = .29$ ) goals. Results are discussed in light of our dual model and its implication for student success.

### **Changing calendar format evokes goal motivation**

Mariya Davydenko, Carleton University  
Johanna Peetz, Carleton University

The way a calendar is formatted may influence how individuals approach goals and perceive events. Individuals tend to be more motivated on Mondays to pursue their goals, likely because Mondays seem like the beginning of a new time period. We examined whether calendars can be formatted to evoke a similar effect on goal motivation. We recruited participants on a Sunday ( $N = 360$ ) and instructed them to select the current date on a calendar where the first day was either Sunday or Monday. Participants who saw Sunday (vs. Monday) as the first day of the week reported greater motivation for three self-nominated goals. The next day, participants reported their progress toward the goals. These participants also reported having made more progress towards achieving the goals from Sunday to Monday. In sum, the motivating effect of perceiving oneself to be at the beginning of a new time period was evoked via calendar formats.

### **An inertia-momentum model of academic motivation**

Eric Deemer, Purdue University  
Michael Lotz, Purdue University  
Pedro Derosa, Louisiana Tech University  
Stacey Duhon, Grambling State University  
Aryn Dotterer, Utah State University

Scholars have long sought to identify the factors that instantiate and sustain motivated behavior. The current study introduces and examines the validity of two psychological constructs relevant to academic motivation – inertia (motivational inactivity) and momentum (motivational velocity). A 9-item questionnaire measuring these motives was developed and administered to a sample of 171 African American undergraduate students in STEM (science, technology, engineering, & mathematics). Results of a confirmatory factor analysis suggested a 2-factor solution fit the data well, while hierarchical regression analyses further indicated that STEM inspiration moderated the relationship between inertia and momentum such that momentum was highest at low levels of inertia and high levels of inspiration. A nomological network of associations with self-regulatory (i.e., academic procrastination) and contextual (i.e., perceived discrimination) factors contributed further to the concurrent validity of the two constructs.

### **Prime warning moderates implicit affects' effect on effort-related cardiac response — Especially in men**

David Framorando, University of Geneva  
Guido H.E. Gendolla, University of Geneva

Based on the IAPE model (Gendolla, 2012, 2015), an experiment investigated the effect of warning participants about the occurrence of affect primes on effort mobilization. Participants worked on a challenging arithmetic task with integrated briefly flashed pictures of happy vs. sad faces. Half of the participants were warned about the occurrence of the primes whereas the other half was not. Additionally, we controlled for the possible role of gender by recruiting equal numbers of women and men. Cardiac pre-ejection period, systolic and diastolic blood pressure, and heart rate were recorded to assess effort-related cardiovascular response. Pre-ejection period reactivity was significantly stronger in the happiness- than in the sadness-prime condition—but only when participants were not warned. Additionally, this effect was only significant among men. Our results suggest that, particularly for men, prime warning is a moderator of implicit affects' effect on effort mobilization.

**Why you love your job has an impact on why you do your job: The relation between career satisfaction and work motivation**

Simon Grenier, Université de Montréal

Anais Thibault Landry, Université du Québec à Montréal

Jacques Forest, Université du Québec à Montréal

Much research has investigated the relation between employees' job satisfaction and motivation in their current workplace. However, little research has focused on employees' overall career satisfaction, and almost no work has looked at how subjective career satisfaction influences employees' general work motivation. The current study, undertaken with more than 800 international workers, presents the results from a full SEM model, exploring how dimensions of subjective career satisfaction predict different types of motivation. Results indicate that specific dimensions of subjective career satisfaction significantly predict employees' extrinsic, introjected, identified, and intrinsic motivation. As such, perceiving recognition, seeing one's work as meaningful, experiencing authenticity, and feeling satisfied in one's workplace, as well as perceiving your work as having a positive impact in your personal life have a unique contribution to employees' motivation. This is a preliminary step in better understanding the impact of different facets of subjective career satisfaction on employees' motivation continuum.

**Associations between satisfaction of need to belong and health in Systemic Lupus Erythematosus**

Laura I. Hazlett, University of Pittsburgh

Tristen K. Inagaki, University of Pittsburgh

Research has revealed bidirectional links between our fundamental need to belong and health-relevant physiological processes. However less is known about how satisfying the need to belong and to feel socially connected relate to health in a population experiencing chronic illness. Based on our findings from healthy participants, we hypothesize that satisfaction of the need to belong will correlate with better physical and mental health (fewer hospitalizations, physical and depressive symptoms). To test our hypotheses, 180 subjects with systemic lupus erythematosus, a chronic autoimmune condition, completed a survey about their social feelings and health. Consistent with our hypotheses, greater satisfaction of the need to belong was associated with better physical and mental health. Further, patients

who reported feeling more validated by their close others reported fewer physical symptoms. Results suggest that satisfaction of social motives, especially within close relationships, affect health even in a population struggling with chronic illness.

**The relationship between physiological arousal and perceived duration: the effect of stimulus valence.**

Jessica Henderson, Liverpool John Moores University

Ruth S. Ogden, Liverpool John Moores University

Michael Richter, Liverpool John Moores University

Francis McGlone, Liverpool John Moores University

Theories of time processing suggest that emotional arousal can distort time perception (Craig, 2002; Gil & Droit-Volet, 2011). It's hypothesised that increases in emotional arousal lengthen perceived duration and decreases in arousal shorten perceived duration. We measured sympathetic nervous system (SNS) and parasympathetic nervous system (PNS) activity as indicators of emotional arousal during a verbal estimation task where participants judged the duration of high and low arousal positive, negative, and neutrally valenced IAPS images. SNS and PNS activity were assessed by pre-ejection period (PEP) and high frequency heart rate variability (HF-HRV). SNS reactivity was predictive of perceived duration for high arousal negatively valenced stimuli. SNS and PNS activity had no impact on perceived duration for all other stimuli. The findings suggest a complex relationship between physiological arousal and perceived duration, which is not accurately explained by current theoretical models explaining the impact of emotional arousal on time perception.

**The importance of individual differences in the need for meaning**

Katarzyna Cantarero, SWPS University of Social Sciences and Humanities, Faculty in Sopot

Wijnand A.P. Van Tilburg, King's College London

Agata Gąsiorowska, SWPS University of Social Sciences and Humanities, Wrocław Faculty of Psychology

Bogdan Wojciszke, SWPS University of Social Sciences and Humanities, Faculty in Sopot

We propose that there are individual differences in the need for meaning and designed a scale to address this issue. In a series of studies ( $N = 1767$ ) we tested the properties of the Need for Meaning Scale (NMS). We showed that the scale is unidimensional, reliable and demonstrates initial cultural equivalence. NMS was positively related to need for closure and need for cognition. It was also positively related to extroversion, conscientiousness, openness, self-esteem, sense of control and negatively to neuroticism. We found that the higher the need for meaning, the less people are prone to execute a repetitive task. When the task is more meaningful, need for meaning predicted searching for meaning, which predicted presence of meaning in the task and this in turn predicted task performance. Our findings are complementary to the previous ones in the meaning research domain and add a valid tool for future studies.

**The positive impact of stereotype threat: Preliminary evidence for the informative role of fear in effort mobilization**

Selma Korlat, University of Sarajevo, Bosnia and Herzegovina, and the University of Geneva, Switzerland

Saša Drače, University of Sarajevo, Bosnia and Herzegovina,

Studies have shown that negative feelings contribute to overestimation of situational demands, which in turn leads to effort mobilization during performance on easy tasks (and conversely on difficult tasks). The aim of present research was to investigate whether this emotion-motivation link can account for the effects of stereotype threat (ST). In Study 1 participants in ST, no-ST and no-ST with fear induction conditions had to resolve a series of easy logical problems. As expected, ST and no-ST-fear groups achieved better performance than the no-ST group. In Study 2 the no-ST-fear condition was replaced by ST condition in which the informative potential of threat related feelings was prevented using the misattribution method. Although participants under ST reported similar elevation in anxiety, only standard ST group performed better than the no-ST group. Taken together, our findings suggest that threat-related feelings could govern motivational processes and account for the effect of stereotype threat.

**People as means to multiple goals: The influence of partner multifinality on relationship evaluation**

Sarah Marie Kwiatek, University of Pittsburgh  
Edward Orehek, University of Pittsburgh

The present research explores the implications of having relationship partners who serve as means to multiple goals (vs. one goal). We test the hypothesis that partners who serve more goals will be evaluated more positively than those who serve fewer goals. This hypothesis was supported experimentally when we randomly assigned participants ( $N = 285$ ) to write about one goal a partner served for them or four goals the partner served for them. As predicted, participants who wrote about four goals (vs. one goal) evaluated their relationship with the partner more favorably on several measures. Such measures included ratings of higher perceived social support, perceived responsiveness, interpersonal closeness, relationship commitment, and relationship satisfaction. In addition, participants reported feeling higher positive affect when in the presence of the partner. The present findings provide experimental evidence for the notion that interpersonal evaluations are based upon partner multifinality.

**Acute effects of lighting color temperature on mental effort: Role of exposure duration**

Ruta Lasauskaite, Psychiatric Hospital of the University of Basel  
Michael Richter, Liverpool John Moores University  
Christian Cajochen, Psychiatric Hospital of the University of Basel

Higher correlated color temperature (CCT) of light contains higher proportion of short-wavelength light and is associated with higher alertness state which should lead to lower perceived task difficulty and thus lower effort. Three studies tested whether higher CCT reduces mental effort. Effort-related changes in beta-adrenergic sympathetic nervous system impact on the heart, indexed by cardiac pre-ejection period (PEP), were measured under four CCT levels. In Study 1, PEP reactivity decreased with increasing CCT in both exposure episode (15 min) and cognitive task requiring vision (5 min). In Study 2, the same linear effect was replicated during light exposure, but not during listening task. In Study 3 without exposure period, lighting conditions were switched in the middle of an 8-min task performance episode.

However, effort-related cardiac response did not significantly change with increasing CCT. In conclusion, light exposure duration may play an important role in light's CCT effects on mobilized effort.

**Obstacles in goal pursuit: The influence of motivation on how individuals set up their environment**

Isabelle Leduc-Cummings, McGill University  
Marina Milyavskaya, Carleton University  
Kaitlyn Werner, Carleton University  
Janna Kline, Rutgers University  
Shana Cole, Rutgers University

Recent research indicates that experiencing fewer obstacles might be a potential mechanism for the relationship between autonomous motivation and goal attainment (Milyavskaya et al., 2015). But how would motivation influence the experience of obstacles? We propose that autonomous motivation may lead people to set up their environment to encounter fewer obstacles ("situation selection"). To investigate this, we examine the effect of motivation on how individuals set up obstacles in their environment. In four studies (total  $N = 1435$ ) containing hypothetical and actual scenarios, participants chose where to situate potential obstacles to their goal. For example, they decided where to build a candy store relative to their house, or were asked to place healthy and unhealthy foods in an actual pantry. Across two goal domains (health, school), autonomous motivation led participants to set up obstacles further away, while controlled motivation led participants to set up obstacles closer to themselves.

**Experienced a failure, but still happy**

Jungmin Lee, University of Rochester

The major premise of the study was that individuals' motivational resources influence their response to the experience of failure to maintain their psychological well-being among 221 college students in the US. Using a serial multiple mediation analysis, the study examined how the interrelationship among motivational resources affects responses to a failure experience. The motivational resources in the study, need satisfaction for competence and relatedness, autonomous motivation, and mastery-oriented goal, significantly predicted positive behavioral response to failure experience, while need frustration for competence, controlled motivation, and mastery-oriented goal associated with negative affective responses to the experience in academic and social. Consequently, the interrelationship among motivational resources significantly associated with responses to a failure in which played as a mediator to maintain psychological well-being. That is, college students with more autonomy supportive and autonomous context tended to constructively respond to their failure experience and maintain their psychological well-being after experiences of failure.

**Examining the unique and combined effects of grit, trait self-control, and conscientiousness in predicting motivation for academic goals: A commonality analysis**

Shelby L. Levine, Carleton University  
Kaitlyn M. Werner, Carleton University  
Rebecca Klimo, Carleton University

Marina Milyavskaya, Carleton University

The purpose of the present research was to examine the predicative ability of both the unique and combined components of grit, trait self-control, and conscientiousness in the context of academic goal pursuit. Participants ( $n = 163$ ) were asked to complete assessments on each of these self-regulatory traits. In addition, participants also identified three goals that they planned to pursue over the next year and rated their motivation for pursuing them; for the purpose of this research only academic goals were retained. Using commonality analysis, we found that the overlapping components of grit, trait self-control, and conscientiousness explained 6% of the variance in academic goal motivation. Very little (each 1% or less) of the variance was attributed to the unique aspects of grit, trait self-control, or conscientiousness. The current study suggests the best potential predictor of autonomous goal motivation is the overlapping component that underlies all three traits.

**Placebo and nocebo influence on cognitive clarity and cardiovascular response to a more or less difficult mental math challenge**

Christopher Mlynski, University of North Texas

Rex A. Wright, University of North Texas

Kimberly Kelly, University of North Texas

In context of a university clinic, undergraduate volunteers first ingested an inert herbal supplement having received instructions indicating that it would either increase cognitive clarity (placebo influence) or reduce cognitive clarity (nocebo influence). They then were presented a math challenge with the opportunity to earn a modest incentive if they attained a low- or high performance standard. Participants reported change in mental clarity consistent with the supplement instructions. Among women, heart rate responses provided evidence that placebo and nocebo influences on cognitive clarity were internalized, affecting effort in the work period. Specifically, the responses rose with difficulty when instructions indicated that the supplement would improve cognitive clarity, but fell with difficulty when instructions indicated that the supplement would reduce cognitive clarity. Findings are discussed in terms of their implications for research on (1) suggestion influence on the perception of bodily states, and (2) ability influence on effort and associated cardiovascular responses.

**Introjection backfires: Bidirectional relationship between autonomous & controlled motivation and adolescent substance use**

Joseph Moore, Brigham Young University

Chayce Baldwin, Brigham Young University

Research in the self-determination theory tradition has emphasized the adaptive effects of autonomous motivation and the maladaptive effects of controlled motivation (Ryan & Connell, 1989; Deci & Ryan, 2000). Though effects of controlled motivation on well-being are often negative, it generally has had little effect on behavior in cross-sectional studies. Specifically, we explore the relationship between motivations for abstinence and longer-term substance use. After following late adolescents ( $N = 500$ ) for five years, results showed that controlled motivation predicted an increase in substance use for three of the four following years ( $\beta$ 's  $> 0.1$ ), while autonomous motivation predicts a decrease each year ( $\beta$ 's  $> 0.2$ ),

controlling for previous substance use. This result highlights the potential maladaptive effects of introjected motivation while making a strong case for temporal precedence of motivation. Practically, this research shows that parents should exercise caution in using controlling influence tactics.

**In defense of pessimism: Harnessing negative emotions to persist on challenging goals**

Brianne Nichols, Bangor University

John A. Parkinson, Bangor University

The disregard of negative emotions as a potential drive rather than obstacle in goal-pursuit may reduce the efficacy of emotion regulation strategies and common therapies aimed at supporting optimal behaviour. The current study investigated the effect of a commonly used emotion regulation strategy (Acceptance) on Defensive Pessimists, a group of individuals who harness their negative emotions to successfully achieve goals. Using a Remote Associates Task of ten difficult items to measure persistence, results supported hypothesis: defensive pessimists who listened to an Acceptance message were quicker to withdraw from the task than controls. Findings support the beneficial role of negative emotions in goal-pursuit: as a motivator of action and as a drive to persist in the face of challenge. Important practical implications involve considering individual differences in for example, emotional preferences, both in the application of therapies (e.g. Acceptance based) and also in the assessment of their effectiveness.

**Passion and moral disengagement: Different pathways to political activism**

Noémie Nociti, New York University Abu Dhabi and Université du Québec à Montréal

Jocelyn J. Bélanger, New York University Abu Dhabi

Pier-Eric Chamberland, Université du Québec à Trois-Rivières

Birga M. Schumpe, New York University Abu Dhabi

Manuel Moyano, University of Córdoba

Stéphane Dandeneau, Université du Québec à Montréal

Robert J. Vallerand, Université du Québec à Montréal

Five studies examined the relationship between motivational imbalance and political activism. Based on the dualistic model of passion (Vallerand, 2015) and recent theorizing on violent extremism (Kruglanski et al., 2017), we predicted that obsessive passion, which facilitates alternative goal suppression, would promote adherence to violent political behaviors. In contrast, we predicted that harmonious passion, which facilitates the integration of multiple goal-pursuits, would promote adherence to peaceful political behaviors. Results show that motivationally imbalanced (i.e. obsessively passionately) participants who were told that violent behaviors are less effective than peaceful behaviors for social change showed an increased support for violent behaviors. These results offer insights into the workings of radicalization and suggests theory-driven methods to reducing political violence.

**Sexually motivated cognition – Investigating the underlying processes**

Anna K. Oostendorp, Technical University of Munich

Hugo M. Kehr, Technical University of Munich

Sexual incentives are pervasive and considered to activate sexual motives. In prior research, participants exposed to sexual incentives show e.g. risk-taking or unethical behavior. Along with other authors, we propose that these effects reflect an increase in impulsivity. Furthermore, we propose that they result from a shift towards low-level construals (see construal level theory; Liberman & Trope, 1998), which can be related to impulsivity. In two studies, we approached both propositions. First, we tested whether exposure to sexual incentives increases impulsivity in a game-like task measuring pre-decisional information sampling. Our results did not show this effect, possibly due to a strong winning goal overriding the sexual motive. Second, we examined whether sexual incentives lead to low construal level in a global/local task (similar to Förster, Epstude, & Özelsel, 2009) which could be confirmed. Theoretical and practical implications of both studies and a course for further research will be discussed.

**Caught up in red tape: Bureaucratic hassles undermine first-generation students' sense of belonging in college**

Stephanie L. Reeves, The Ohio State University  
David S. Yeager, University of Texas at Austin  
Sidney K. D'Mello, University of Notre Dame  
Mary C. Murphy, Indiana University

The present research examines how subtle institutional cues can hamper goal-relevant outcomes for members of stigmatized or underrepresented groups (e.g., first-generation college students). Specifically, we hypothesized that, among first-generation students, bureaucratic hassles would trigger social identity threat, undermining their sense of belonging and achievement in college. In Study 1, students completed a university form online that was manipulated to be frustrating (or not). The frustrating web form reduced self-reported sense of belonging and perceived probability of success among first-generation college students. A multi-session field study conceptually replicated this finding with a different type of bureaucratic challenge – a straightforward or confusing course selection task. Correlational analyses of the same data revealed that experiences of bureaucratic challenges in students' naturalistic settings predicted reduced sense of belonging. Moreover, these perceived bureaucratic challenges influenced the retention rates of students who were more uncertain about their belonging at college.

**Relationship quality as a function of romantic goals**

Jason Roberson, Wayne State University  
Stephanie S. Spielmann, Wayne State University  
Catalina Kopetz, Wayne State University

Romantic partners represent means to multiple romantic goals (e.g., emotional support, intimacy) (Orehek & Forest, 2016). From this perspective, relationship outcomes (satisfaction, quality of alternatives, and dissolution consideration) might be the result of the extent to which partners are perceived to fulfill these goals. Failing to fulfill expected goals or fulfilling goals not expected of them might both be associated with poor relationship outcomes. To test these notions, we recruited 266 participants. They listed the goals they expected of an ideal romantic partner as well as the goals they perceived their current romantic partner to fulfill. When partners failed to fulfill the goals expected of them OR they fulfilled goals they

were not expected to participants reported worse relationship outcomes. These results suggest that partners who fail to match goal expectations, whether they do less or more than expected, are evaluated as worse partners than those who closely match expectations.

### **Distractions can stem from people's reward pursuit**

Dorottya Ruzs, Radboud University

Erik Bijleveld, Radboud University

Michiel Kompier, Radboud University

From the Garden of Eden to the digital age, our world is full of distractions. Even when we really have to work and study, our mind often drifts away both to internal mental content (e.g., goals) and external stimuli (e.g., Facebook notifications). But why do we get distracted so often? In this talk, I present a motivational perspective of distractions. In a series of experiments, participants first learned to associate stimuli (e.g., red letters) with earning money. Then, participants were again exposed to these money-related stimuli, while they were performing a math task. Across experiments, we found that stimuli that were previously associated with rewards (vs. not) disrupted performance more. These results support a motivational perspective, suggesting that being distracted from the task at hand stems from people's attempts to attain valuable outcomes in the environment.

### **Of mice, and men, and trolleys: Hypothetical judgment does not predict real-life behavior on trolley-style moral dilemmas**

Arne Roets, Ghent University

Dries H. Bostyn, Ghent University

Sybrene Sevenhant, Ghent University

Hypothetical dilemmas are commonly used to investigate the motives that drive moral decision making. However, whether people's reasoning on these dilemmas truly motivates decisions they make in real-life is unclear. In the current study, participants had to make the real-life decision to administer an (bogus) electroshock to a single mouse or allow five other mice to receive the shock. Our results indicate that responses to hypothetical dilemmas are not predictive of real-life dilemma behavior, but they are predictive of affective-motivational and cognitive aspects of that behavior. Furthermore, subjects were twice as likely to refrain from shocking the single mouse when confronted with a hypothetical versus the real version of the dilemma. We argue that hypothetical dilemma research, while valuable to understand moral cognition, has little predictive value for understanding what motivates actual behavior, and future studies should investigate actual moral behavior along with the hypothetical scenarios dominating the field.

### **Obsessive consumer behavior: A compensatory response to basic needs deprivation**

Birga M. Schumpe, New York University, Abu Dhabi

Jocelyn J Bélanger, New York University, Abu Dhabi

Claudia F. Nisa, New York University, Abu Dhabi

Benjamin G. Serfas, University of Duisburg-Essen

Why do people engage in obsessive and unhealthy behaviors? We hypothesized that the deprivation of basic needs (i.e., autonomy, competence, and relatedness) creates

motivational imbalance, which is reflected in obsessive passion for certain behaviors. In the realm of consumption, we showed in two studies that needs deprivation predicts obsessive consumer behavior. Unfulfilled needs were predictive of obsessive passion for shopping, which in turn led to compulsive buying and credit card debt. However, when basic needs were fulfilled, people showed harmonious passion for shopping, leading to less compulsive buying and credit card debt.

### **Motivational components in a ring tossing exercise**

Lisa-Marie Schütz, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Anna Oostendorp, Technische Universität München, Germany

Kaspar Schattke, Université du Québec à Montréal

According to the compensatory model of motivation and volition, the interplay of implicit motives, explicit motives, and abilities leads to optimal motivation and better performance. These components can be conceptualised on a proximal level as affective and cognitive preferences as well as subjective abilities. Therefore, we expected that the three components would collectively predict the experience of flow and performance in a ring tossing exercise. We examined the fluency and absorption components of flow and the success rate of  $N = 69$  participants. Using a PROCESS model, we found a direct effect of subjective abilities on performance. This effect was mediated by the fluency component of flow experience. Furthermore, the direct effect also interacted with affective and cognitive preferences. This three-way interaction showed that people who lack abilities will perform better if their affective and cognitive preferences are congruent. The results highlight the applicability of the compensatory model on a proximal level.

### **Downregulation of anger by mental contrasting with implementation intentions (MCII)**

Inge Schweiger Gallo, Universidad Complutense de Madrid

Maik Bieleke, Universität Konstanz

Alonso, M. A., Universidad Complutense de Madrid

Gabriele Oettingen, New York University and Universität Hamburg

Peter M. Gollwitzer, New York University and Universität Konstanz

As anger can lead to aggressive behavior aiming at intentionally hurting somebody, the prevention of its destructive consequences with effective emotion regulation strategies is crucial. We conducted two experiments in which anger was induced by recalling a relevant personal memory. In Experiment 1, participants who adopted the self-regulation strategy of mental contrasting with implementation intentions (MCII) showed significantly less anger-related negative affect after the anger induction than participants in a control condition, with positive affect staying unaffected. Results from a second experiment with three self-regulation conditions – a reappraisal, a MCII, and a MCII + reappraisal condition – suggest that only participants using MCII were effective in down-regulating anger, irrespective of whether it was supplemented by reappraisal or not. The present research thus contributes to emotion regulation research by introducing MCII as an effective strategy that can be tailored to satisfy individual emotion regulatory needs, such as dealing with experienced anger.

### **Can a CEO motivate employee performance by priming an achievement goal?**

Kayla Sergent, Wisconsin School of Business

Alex Stajkovic, Wisconsin School of Business  
Gary P. Latham, Rotman School of Management  
Suzanne Peterson, Thunderbird School of Global Management

Work motivation research is at a crossroads with the discovery of the causal effects of primed goals in addition to those of consciously-set goals. Although psychologists continue to demonstrate positive effects of primed goals on a multitude of outcomes, priming has been criticized for its lack of generalizability beyond tightly-controlled laboratory experiments. Addressing the skepticism, the present study was conducted in a for-profit business organization, where its CEO used goal priming to motivate employee performance. An achievement goal was primed with achievement-related words embedded in an email sent from the CEO to employees. Goal priming intervention by the CEO necessitated little to no cost yet it increased objectively-measured performance effectiveness by 15% and efficiency by 33% over a 5-day work-week.

**Does a sense of agency in human-robot interaction drive performance?**

Idit Shalev, Ariel University and Ben Gurion University  
Tal Oron Gilad, Ariel University and Ben Gurion University

The present research tested the effect of agency and the sense of agency on performance in the context of human-robot interaction. The participants were 60 undergraduates, who conducted the assignment while sitting in a laboratory next to a robotic arm. The participants were randomly assigned to high vs. low agency conditions. After a short training in the cognitive control task, the participants in the high agency condition were asked to determine the sequence of actions carried out by the robotic arm. The participants in the low agency condition received a list of 12 body organs and were asked to number them by their relative location on the body, from high to low. Next, the participants were asked to complete the cognitive control task. Finally, the participants filled out a sense of agency scale. The scale measured the extent to which they felt they were controlling the movement of the robotic arm. Whereas participants under the high agency condition were higher in the scores of the sense of agency scale, their performance was slower as compared to the participants in the low agency group. The findings are discussed in terms of the association between voluntary attention and task interruption.

**The motivation to listen: The impact of listening demand on effort-driven cardiovascular responses.**

Kate Slade, Liverpool John Moores University.  
Stephen Fairclough, Liverpool John Moores University.  
Sophia Kramer, University of Amsterdam.  
Michael Richter, Liverpool John Moores University

Employing evidence on autonomic nervous system activity and motivational intensity theory (MIT), this study investigated physiological correlates of listening effort and fatigue. We examined sympathetic and parasympathetic nervous system responses, including pre-ejection period (PEP) and respiratory sinus arrhythmia (RSA). We predicted that listening effort (reduced parasympathetic (RSA) and increased sympathetic (PEP) activity) would increase with listening demand in possible tasks. We also predicted that increased fatigue

would accompany changes in autonomic activity. Forty adults completed four conditions of a speech in noise task (low vs. moderate vs. high vs. impossible). Consistent with MIT and the principle of energy conservation, planned contrasts revealed that PEP decreased with listening demand over the three possible conditions but not in the impossible task. The data also showed a positive linear effect of listening demand on subjective fatigue. This provides theory-based evidence for an effect of listening demand on sympathetic-driven listening effort and fatigue.

**The effect of counterfactual framing of risk behavior on reported likelihood of engagement**

Wesley Starnes, Wayne State University

Catalina Kopetz, Wayne State University

People engage in risk behavior as a means to different goals. The question is why people would prefer risky behaviors to alternative means to fulfill these goals. We propose that risk behavior may be perceived as particularly instrumental to certain goals because of its potential negative consequences. This possibility is suggested by the principle of counterfactuality whereby, a means' perceived instrumentality to one goal may increase to the extent to which it interferes with alternative goals. We recruited 338 participants and assessed their willingness to engage in risk taking as a function of motivation (i.e. belonging goals) and accessibility of negative consequences. The results showed that participants whose belonging goals were rendered accessible through social exclusion were more willing to engage in risk behaviors, particularly when their negative consequences were emphasized. This effect was mediated by an increase in the perceived instrumentality of risk behavior to belonging goals.

**Contrasting associations between self-conscious emotions and aspects of school motivation deficits between male and female high school students**

Rebecca Sullivan, University of Ottawa

Isabelle Green-Demers, Université du Québec en Outaouais

The aim of this study was to assess gender differences in the relationships between self-conscious emotions (guilt and shame) and four aspects of academic amotivation (lack of ability beliefs, effort beliefs, educational values, and interest in school tasks). Participants (N=676) completed questionnaires during class time, comprising the Test of Self-Conscious Affect for adolescents, and the Academic Amotivation Inventory. Results of multigroup invariance testing of structural equation models for boys and girls revealed that all associations differed significantly across models. Shame displayed higher positive associations between lack of ability beliefs, lack of effort beliefs, and unappealing task characteristics, for females than for males. The negative associations between guilt and all four amotivation sub-dimensions were also higher for females than for males. Thus, overall, both self-conscious emotions contributed more to motivational deficits in girls than in boys. Implications are discussed for future research and applied education programs to address school motivation problems.

**Dreaming big at college graduation: Longitudinal associations between career goal self-concordance and employment outcomes**

Ryan C. Svoboda, Northwestern University

Claudia M. Haase, Northwestern University

The college-to-career transition is an understudied yet important part of education since attaining a career after college is associated with financial stability and well-being. The current 4-wave longitudinal study of 523 German university students making the transition from school-to-work and examines how longitudinal changes in their autonomous and controlling reasons for pursuing their career goal are associated with longitudinal changes in employment outcomes (e.g., career goal progress, career satisfaction, employment status, and income) over one year. At four months after graduation, students' autonomous reasons for their career goal are positively associated with their employment status and income. At one-year after graduation, increases in their autonomous reasons are positively associated with increases in their career goal progress. The current study is one of the first to apply self-concordance theory to the college-to-career transition and underscores the importance of motivation for successful transitions into the workforce.

**How do toxic employees motivate themselves and (how) do they get burned out? – relation among dark triad traits, motivation at work and burnout.**

Michał Szulawski, The Maria Grzegorzewska University

Monika Prusik, The University of Warsaw

In the conducted study we focused on mechanisms of motivation which may explain the relation between the subclinical dark triad character traits (Machiavellianism, narcissism and psychopathy) and the level of burnout people experience at work. From the motivational perspective, the needs associated with dark triad traits, might be satisfied at work environment by selecting different goals or motifs; these, on the other hand, might be related to the level of burnout syndrome that some people develop. In the study we used Dark Triad Personality Test, Barbutto's Motivation Sources Inventory and Oldenburg Burnout Inventory to measure triad traits, preferred work motifs and level of burnout, respectively. The results showed that the relation between dark triad traits and burnout is mediated by the motivational sources. As expected dark triad traits were more related to external sources of motivation, these on the other hand were associated with higher level of burnout. The study also revealed other unexpected results.

**The role of motivational readiness in identified victim effect**

Ewa Szumowska, Jagiellonian University in Krakow

Małgorzata Kossowska, Jagiellonian University in Krakow

Aneta Czernatowicz-Kukuczka, Jagiellonian University in Krakow

Paulina Szwed, Jagiellonian University in Krakow

Tomasz Żuradzki, Jagiellonian University in Krakow

Research shows that people are more willing to help identified than statistical (non-identified and/or group) victim(s). Different explanations of these effects were suggested. However, there is no agreement whether they can be explained within one theoretical framework. We propose that the Motivational Readiness Theory (Kruglanski et al., 2014) is useful in this context. Decision to help would then be determined by the levels of Want and Expectancy, whereas the magnitude of the help would be mainly determined by Want. We further expected that the affect related to identified victim(s) would intensify the Want, while

perceived effectiveness of helping one person (vs. a group) should mainly affect Expectancy. The results of five experiments were supportive by showing that both Want and Expectancy were predictors of helping behavior. Moreover, the effect of Want was stronger in case of identified victim whereas the effect of Expectancy was stronger in case of statistical victim(s).

**Going beyond the dollar value of cash rewards: Understanding the true value of cash rewards through their functional meaning and its impact on motivation and performance**

Anais Thibault Landry, Université du Québec à Montréal

Jacques Forest, Université du Québec à Montréal

Much debate surrounds the use of cash rewards; lab studies suggest that it is harmful to both individual motivation and performance, yet evidence in the workplace does not unequivocally corroborate these findings. In line with Self-Determination Theory, our study investigated whether the functional meaning of cash rewards could help conciliate these contradictory findings. Two experimental online and in-lab studies indicate that despite having no immediate effect on their self-reported intrinsic and extrinsic motivation, the way cash rewards are presented has an impact on individuals' performance. When cash rewards were presented in a controlling/pressuring way, as opposed to an informative/autonomy-supportive way, participants made more errors in a visual task (Study 1) and had the tendency to over-rate their performance in a linguistic task (Study 2), thus suggesting a greater focus on the quantity rather than the quality of their work. Theoretical and practical implications for the work setting are discussed.

**When does ethnic diversity motivate support for populist parties? The “right” road through political cynicism and lack of trust**

Jasper Van Assche, Ghent University

Kristof Dhont, Kent University

Alain Van Hiel, Ghent University

Arne Roets, Ghent University

Putnam's (2007) constrict claim states that ethnic diversity has serious consequences for social cohesion by making people distrustful and leery. The present contribution extends this claim by including political cynicism and trust as side effects of diversity. Moreover, we nuance this claim by considering citizens' social-ideological attitudes as moderators of diversity effects. Using a Dutch nationally stratified sample ( $N = 628$ ), we showed that both objective and perceived diversity drive political cynicism and mistrust, but only for those high in right-wing attitudes (i.e., social dominance orientation and particularly authoritarianism). Furthermore, only political cynicism motivated greater populist party support in a unique way. Implications for the ongoing debates on the rise in diversity and populist parties are discussed.

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