(p. ii) Oxford Library of Psychology

Area Editors:

Clinical Psychology

David H. Barlow

Cognitive Neuroscience

Kevin N. Ochsner and Stephen M. Kosslyn

Cognitive Psychology

Daniel Reisberg

Counseling Psychology

Elizabeth M. Altmaier and Jo-Ida C. Hansen

Developmental Psychology

Philip David Zelazo

Health Psychology

Howard S. Friedman

History of Psychology

David B. Baker

Methods and Measurement

Todd D. Little

Oxford Library of Psychology

Neuropsychology

Kenneth M. Adams

Organizational Psychology

Steve W. J. Kozlowski

Personality and Social Psychology

Kay Deaux and Mark Snyder

Copyright Page ᵃ

Edited by Richard M. Ryan

The Oxford Handbook of Human Motivation (2 ed.)
Edited by Richard M. Ryan

Print Publication Date: Sep 2019 Subject: Psychology Online Publication Date: Aug 2019

(p. iv) Copyright Page

Copyright Page

9 8 7 6 5 4 3 2 1

Printed by Sheridan Books, Inc., United States of America

Contents

Epilogue

Chapter 28

Envisioning Progress and Perils: Musings on the Future of Motivation Research in a Rapidly Evolving World

Richard M. Ryan and Emma L. Bradshaw

Abstract

This final chapter reflects on the rich contributions within this Handbook of Human Motivation on diverse topics including self-regulation, biological mechanisms, awareness, defensiveness and oppression, and the facilitation of engagement, learning, and behavior change. These processes are examined within broad theoretical frameworks, as well as in specific domains such as close relationships, physical activity, work, education, and psychotherapy. Building on these contributions, the chapter projects forward in time to ask the question of whether future scientists and practitioners will think these authors from the early 21st century were asking the right questions. The chapter includes speculation on how developments in technology, research methodologies, big data, and globalization, among other trends, will reshape the science of motivation not only in its focus and efficacy, but also in its ethics and applications to the formidable problems likely to be faced by our species on a warming and crowded planet.

Keywords: human motivation, psychological science, diversity, global trends, interdisciplinary research

The introduction to this handbook highlighted the historical turn within the field of motivation from a near-exclusive focus on external sources of control over behavior to a concern with the contents of the "black box"—the psychological experiences, processes, and mechanisms through which behavior is mediated. Far from being a mistaken route to scientific knowledge, the study of the black box has not only revealed core elements of our human nature; it has also provided roadmaps for how to design interventions to optimize people's health, wellness, and communities. That is, these inner mediators, both biological and psychological, describe us as creatures, shed light on why we do what we do, and ultimately provide keys to the organization of behavior and behavior change. Chapters within this second edition of The Oxford Handbook of Human Motivation include research on multiple internal mediators, focusing on topics such as enhancing self-efficacy, self-regulation, and awareness; decreasing defensiveness, objectification, and oppression; and facilitating interest, choice, learning, and curiosity. These processes are examined within domains such as close relationships, sport and physical activity, work, education, and psychotherapy. These contributions thus exemplify motivational science in the 21st century, in which a deeper understanding of both mind and mechanisms is playing a significant role.

By going inside the black box, we increase our appreciation of human commonalities as well as variations. Common mechanisms proposed within this volume included structural elements in motivation, such as the role of feedback within self-regulation, the universal contributions of specific brain systems to the two defining elements of motivation, namely, energization and direction, and the importance of high-quality relationships to resilience

and wellness. We also see that across varied developmental and cultural backdrops there are common needs for competence and relatedness and, perhaps more controversial, autonomy. Amid such universals, however, research on the inner processes and mechanisms of motivation reveals significant variations, both within and between groups of people. Understanding these moderators of general principles, whether they be gender, culture, or more nuanced genetic and epigenetic differences, is critical to our basic and applied motivational science.

Although the science of motivation has become more complex, it is still far from unified. The problems and perils of motivation can be viewed through very different lenses. In fact, differences are not just apparent at theoretical levels—there are different metatheories underlying these perspectives, from the purely mechanistic to the organismic, even within the current volume. The clashes between such different perspectives do indeed sometimes generate heat, but with heat also comes light. In our view, the very nature of the dialectic of science requires conflict and consequent attempts at syntheses to resolve those conflicts within more overarching theoretical accounts.

Into the Future

Having begun this volume with a description of the transition from 20th-century thinking to contemporary ideas, in the closing of this handbook we pause to consider what the future of this field might hold. Forecasting is a hazardous function. Consider that the greatest scientists of the 20th century could not have been more wrong about what the future would hold; Freud, Skinner, Pavlov, Hull, and other seminal figures of the past envisioned sciences that have not come to pass. So, it often seems that even those closest to a particular problem may not see the future accurately. Indeed, in 1901, Wilbur Wright—of Wright brothers' fame told his brother Orville that a successful flight was 50 years away. Just 2 years later, they took to the skies. Nonetheless, we shall venture into this dangerous territory with some speculations, some extrapolating from what we have learned in this edition and some based only on our armchair guesses. So here goes . . .

Technology, Human Experience, and Motivation Science

Most striking in our vision of the future of the motivation field is the likely impact of the technology explosion on societies, individuals, and even the methods of our science itself. Psychological science has only recently been explicitly grappling with the issues of the human–technology interface. Yet as a science of what moves people to action, understanding this interface is of the utmost import because new technologies are affecting our lifestyles, attitudes, and behavioral options in myriad ways, both positively and negatively (Calvo, Vella-Brodrick, Desmet, & Ryan, 2016). In addition, our use of technologies as researchers opens up new frontiers in both information gathering and ethical challenges.

New Devices, New Behaviors

Let's consider technologies already rising within our horizons. In the near term, people will increasingly be living within, and relying on, augmented realities; virtual elements will more regularly become part of our perceptual fields. Accompanying this, electronic implants will very soon allow us to operate devices through thought alone, often allowing effortless fulfillment of intentions. Moreover, we may not even need to think at all. The likelihood is high that artificial intelligences will make many of our decisions for us, from driving our cars to anticipating our biological and psychological needs. Our social relations will increasingly

be mediated by social media, and many of us will traverse a world in which personal information will be accessible to strangers, even as they first encounter us.

Such changes are just a few of the many we can readily imagine, because these changes are already unfolding. These varied technologies represent extensions of human capacities and all can be harnessed to help fulfil our goals, purposes, and needs. Accordingly, they also pose dangers insofar as they can lead to unreflective actions, consumerism, alienation from others, distortions of priorities, and numerous other issues of self-regulation and wellness.

Despite the lack of synchrony between the pace of motivation research and that of technological progress, future researchers will nonetheless look back to us, much as we have to those before us in the history of motivation science, to see how we addressed questions concerning our coexistence with emerging technologies. Many of these questions are straightforwardly motivational in nature: For what purpose will we use these technologies? How will their use affect us? How can we use motivational design to enhance the effectiveness and phenomenological smoothness of technologies and augmentations? How can we regulate the seductions of new media and technology and better recognize and avoid their harms? How can we understand motivational ethics in our use of technologies to inform and persuade? Questions such as these highlight the need to attend to and understand human technology interfaces as they exist now and as they will evolve in the future (Calvo & Peters, 2014).

Embodied Thinking

Something most all of the chapters in this second edition have in common is a perfectly sensible emphasis on embodied motivation. However, if current endeavors to create incorporeal cognitive storage systems are successful, disembodied intentions and behaviors and their underlying motivations will be a new domain of study. If we can upload our thoughts, memories, and intentions to the cloud, the loss of temporal distance from our experiences will likely have new consequences for the empirical study of motivation. For example, often we acquire distance from need-thwarting situations or from exposure to conditioned reinforcers, and this distance leads to increased feelings of psychological and emotional security and/or extinction of previously reinforced patterns. How will our behavior be shaped when less buffered by the gift of time? What if we can access memories, skills, and abilities from our pasts and experience them like they happened today? Possibilities such as these have important implications for theory discussed in this handbook. As just one example, Sedikides and Alicke (2019, Chapter 17) point to the self-enhancement process by which we are prone to poorly recall our failings compared to our merits; this and other robust motivational effects associated with memory may need to be reimagined and newly operationalized under these developing conditions.

Technology and Innovation Within Our Science

The issue of technology use, and its promises and perils, is not just an object for our study; it also represents a concern that applies within our scientific practices. For example, even as we write this text, the world is embroiled in controversy about the harvesting of personal information from social media by big data companies and its use to manipulate and control behavior, from voting to consumption. These organizations are harnessing our own psychological science: applying at scale the constructs and statistical techniques that we researchers develop and then combining them with the power to effectively gather the varied strands of biography available on the Internet to profile and target individuals without their

knowledge or consent. Such events highlight how we have more responsibility and power than our profession has to date acknowledged, without having yet articulated basic principles and ethics. The future of motivational psychology will certainly be intertwined with that of big and little data harvesting and the methods we use that can be used both for good and for exploitation.

This "macro" reach of big data science is perhaps outstripped only by our increasing micro reach. We have tools to noninvasively dig into the black box such as functional magnetic resonance imaging, functional near-infrared spectroscopy, and event-related potentials, methods used by authors within this volume to explore motivational dynamics (e.g., Carver & Scheier, 2019, Chapter 3; Reeve & Lee, 2019, Chapter 20; Quirin, Tops, & Kuhl, 2019, Chapter 22; Ryan, Ryan, Di Domenico, & Deci, 2019, Chapter 6). The future (we personally hope this is soon!) will clearly be bringing us new imaging techniques that are enhanced both in their temporal resolution (better at following events over time) and in their depth (better able to assess deeper brain structures) so that brain systems can be tracked rather than just localized activations. Similarly, cardiovascular dynamics (e.g., see Gendolla, Wright, & Richter, 2019, Chapter 21) will be able to be better coordinated with brain dynamics, with beat-to-beat analyses framing patterned neurological changes. Technologies, some already widely available, can be designed to simultaneously and nonintrusively collect psychophysiological metrics such as heart and respiration rates, heart rate variability, skin conductance, energy expenditure, and neurological dynamics—all of which have links to motivation. The more temporally refined our analysis of biological events, the more readily these can be coordinated with phenomenological and structured self-reports, implicit methods, and behavior observations into a richer and more exacting map of the contingencies and dynamics inside the black box.

Connecting these dots between neuroscientific progress and ideas associated with disembodied motivation, we are inclined to also consider concepts theoretically situated deep within the black box in a different way. Following from Thrash, Wadsworth, Sim, Wan, and Everidge's (2019) discussion of conscious and unconscious motives in Chapter 11, we too are led to think of Freud. Several chapters in this edition emphasize the role of nonconscious processes in motivation (e.g., see Custers, Vermeent, & Aarts, 2019, Chapter 15), but as we dive deeper into the black box using increasingly sophisticated neuroscientific tools and link them to the potential creation of disembodied cerebral storage systems, we may edge ever closer to making the unconscious conscious. Given the supposed power of the unconscious in motivation, any increase in its availability would swing the door wide open to knowledge about its impact on our species.

There are challenges and ethical issues at this micro interface as well. As we better understand the interplay of brain systems, we also grow in the capacity to intervene not just psychologically, but also surgically and pharmacologically. We will know how to contain, control, and amplify all kinds of human attributes, mental states, and capacities. To the extent that we manipulate and experiment with human motives, to what degree do we disrupt human nature and its diversity? Will we be suppressing and redirecting existing diversities or interfering with those that could arise? These are practical and normative questions for motivational science in the present, because a future must build on them.

New Methods, New Questions

Reviewing the creative inquiries presented in this handbook, one is struck by the increasing methodological sophistication in the field. Multilevel modeling, growth curve analysis, person-centered approaches, and other new analytic strategies open up novel questions and provide new insights into human interest, curiosity, fear, and defense. However, the complex

questions regarding technological progress and social change presented here will demand commensurate growth in our analytical prowess. Several chapters in this edition explain that constructs such as flow, curiosity, ego depletion, interest taking, and nonconscious processes could all be better explored via the development of more refined measures, going beyond the limitations of traditional strategies such as retrospective self-report, behavioral monitoring, and variable-centered analyses. Similarly, the advent of natural language processing and analytics provides another opportunity to attain less fettered responding and communication styles. In addition, enhanced computing power will facilitate the use of person-centered methodologies and shed new light on the existence of meaningful subgroups otherwise overlooked because of the homogeneity assumption central to variable-centered approaches (e.g., Bradshaw et al., 2019).

Motivating People While Respecting Them

Our science of motivation is being harnessed, it seems, by everyone. Organizations, schools, command-and-control organizations, and even the entertainment industry want to apply motivational science for their varied purposes. Marketers and nonprofits alike want to know how to open a wallet. Health practitioners want to "nudge" people to the behaviors they favor. Everywhere in the world, entities are competing for that greatest of finite resources: human attention.

In the center of this push and pull is the question of human volition. How much is it "open season" on the exploitation of human urges, preferences, and needs? Is there some limit to how deep manipulations should go in the lab and in the field? For example, at one time, media regulatory agencies in multiple countries attempted to ban the use of subliminal stimuli within advertisements on television, a movement that faded because such techniques were thought to be ineffective. But the idea that one could exert influence outside a person's awareness without his or her consent remains a fundamental issue. What are the analogous limits in the early 21st century to intrusive data collection and/or the targeted manipulation of individuals' sentiments, attitudes, and behaviors? How much should our scientific knowledge be used to maximize productivity and with whose benefit in mind? So far, as a science we seem to be open to nearly all uses, and abuses, of the knowledge base we have uncovered. From consumer seduction to education, our techniques are out there in action, often without careful reflection.

Similar questions arise in the face of ostensibly inevitable artificial intelligence. While the jury appears to still be out with regard to whether artificial intelligences will become conscious, and what our ethical obligations will be if they do, it seems likely that many activities, menial and complex, and even whole professions will be taken over by intelligent machines. While this is an issue of ethical, economic, and social significance, it is also important to the study of motivation. After all, as technology begins to take care of some of our more basic goals, what will we do? Van den Broeck, Carpini, and Diefendorff's (2019, Chapter 27) review on work motivation is relevant here too. When manual labor is largely taken off the menu, what professions will we pursue and what will motivate us to choose them? In an optimistic view, one can see this social progress as an opportunity for us to invest ourselves in intrinsically rewarding, nonmaterial pursuits such as purposeful work, meaningful relationships, and healthy, caring communities. In a more dystopian view we might see ourselves become increasingly apathetic and/or invested in our digital and technological worlds to the detriment of our connectedness and vitality. In any view, the worlds of both work and play will be changing in ways motivational science will need to catch up with.

Cultural Psychology, Diversity, and Motivation Research

This discussion of human and technology interactions is situated within the much broader discussion of global economies, cosmopolitism, and the shared and unshared aspects of culture. In Chapter 2, Schunk and Usher (2019) emphasize the centrality of environmental cues in social learning, and Scholer, Cornwell, and Higgins (2019, Chapter 4) focus on cognitive orientations toward promotion or prevention. As cues and social emphases arise and evolve and are readily accessible across cultural lines, how will we change?

This question is particularly salient with regard to gender and ethnicity, given increased feminization and multiculturalism in motivation research. In the mid-20th century, mainstream research and theory were dominated by Western male theorists (with some notable exceptions such as Ainsworth, A. Freud, Maccoby, Loevinger, and J. Spence). It is already clear that women's voices have become more salient in the future, and this may, and hopefully will, change some of the field's substantive focus and sensibilities.

Similarly, the prevalence of Western samples has been thought to limit the generalizability of results, but technology has quickly eroded this problem within modern cultures because we now can sample and retest ideas broadly and quickly. Yet, simply having diverse samples for research does not fully address the problem. If the questions we ask are themselves culturally framed and conditioned (as we know they are), they can obscure alternative cultural viewpoints and concerns. For example, much Western-framed research is focused on outcomes such as growth and achievement, rather than being and belonging. The very focus on these outcomes represents a type of bias that shapes not only research but also the priorities of intervention. We hope the future of our field will increasingly embrace reciprocal forms of inquiry and greater participant involvement in the research itself (see Craven et al., 2016).

Even as motivation researchers focus on cultural and ethnic variations and diversities, issues of common humanity may become more salient. Multicultural studies will need to emphasize the role of group identifications in personality and motivation, as well as the processes associated with tolerance and acceptance across a species noted for its evolved sensitivities to differences. Regulation of these sensitivities and implicit biases will be central to broadening people's scope of concern to caring not only about people within one's own group, but also "different others." In fact, research into the motivational processes underpinning orienting toward helping strangers (e.g., Martela & Ryan, 2016), civic duty (Wray-Lake, DeHaan, Shubert, & Ryan, 2019), societal issues (Randle, Eckersley, & Miller, 2017), and making the world a better place (Bradshaw et al., 2019; McFarland, Brown, & Webb, 2013) suggests that finding ways to expand people's breadth of care to include increasingly distal others can be psychologically beneficial to the actor as well as the recipient of care.

Although we have focused mainly on the increasing sophistication of our research tools and technological capacities, we should note that in our future we can anticipate new human problems as well, regarding which issues of human motivation are key. For example, it is clear to all but a few deniers that our tiny earth is suffering under our own weight. We are crushing our planet with our populations and our consumption. Motivational studies can aim at the heart of our seemingly unquenchable desires and at the distinction of these appetites between what we merely want and what we need. We can wonder, and should wonder, aloud whether our science of motivation will be used more to manipulate preferences and market more consumption or can be harnessed to help us curtail our damaging overreaches and perhaps instead cultivate and appreciate the goods that will not hasten our demise. It seems many motivational psychologists already agree that

materialism is addictive, but not a key to happiness (see Dittmar, Bond, Hurst, & Kasser, 2014).

Indeed, our motivation to improve the world for ourselves and for others will become central as we address a changing landscape of existential risk. Streams of science dedicated to solving the so-called problem of death, using either technological or biological means, are gaining momentum. Given that mortality awareness is thought to be a uniquely human characteristic and a source of motivation for our species (see Pyszczynski, Kesebir, & Lockett, 2019, Chapter 5), prolongation of life will have important consequences for our science in terms of goal setting and pursuit, physical activity and work, interests, curiosity, and more. If we are here forever, or even just for much longer, questions of what we do and why will need to be newly answered.

Our Interdisciplinary Future

Psychology represents an important coalescence of sciences. Our theories are influenced by neuroscience and its underlying physics, while our findings are informed by philosophy, evolutionary studies, economics, and sociology. Within psychology, motivation science perhaps most sets the pace for this empirical amalgamation of diverse disciplines. Given the blurred boundaries between psychological, physical, and biological sciences and between individual and cultural sociological studies, consilience is especially critical in the field of motivation science. The very nature of what moves us to action is multiply determined and interactive.

If anything is clear from our futurist speculations, it is that the field of human motivation has no shortage of problems to investigate, methods to refine, and issues to resolve. This second edition of *The Oxford Handbook of Human Motivation* should give us hope in all these regards, especially if one compares it even with the first edition that appeared less than a decade before. Our prowess as researchers is growing, outpaced only by the concerns we must address as a field and as a species. It is our hope that when it is time for the 10th edition of this handbook, that generation of scholars will look back and be able to say "they were at least asking the right questions."

References

Bradshaw, E. L., Sahdra, B. K., Ciarrochi, J., Parker, P. D., Martos, T., & Ryan, R. M. (2019). *A configural approach to aspirations: The social breadth of aspiration profiles predicts well-being over and above the intrinsic and extrinsic aspirations that comprise the profiles.* Manuscript submitted for publication.

Calvo, R. A., & Peters, D. (2014). *Positive computing: Technology for well-being and human potential.* Cambridge, MA: MIT Press.

Calvo, R. A., Vella-Brodrick, D., Desmet, P., & Ryan, R. M. (2016). Editorial for "Positive computing: A new partnership between psychology, social sciences and technologists." *Psychology of Well-Being, 6*(10). doi:10.1186/s13612-016-0047-1

Carver, C. S., & Scheier, M. F. (2019). A self-regulatory viewpoint on human behavior. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Craven, R. G., Ryan, R. M., Mooney, J., Vallerand, R. J., Dillon, A., Blacklock, F., & Magson, N. (2016). Toward a positive psychology of indigenous thriving and reciprocal research partnership model. *Contemporary Educational Psychology*, 47, 32–43. doi:10.1016/j.cedpsych.2016.04.003

Custers, R., Vermeent, S., & Aarts, H. (2019). Does goal pursuit require conscious awareness? In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. *Journal of Personality and Social Psychology*, 107, 879–924. doi:10.1037/a0037409

Gendolla, G. H. E., Wright, R. A., & Richter, M. (2019). Advancing issues in motivation intensity research: Updated insights from the cardiovascular system. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Martela, F., & Ryan, R. M. (2016). The benefits of benevolence: Basic psychological needs, beneficence, and the enhancement of well-being. Journal of Personality, 84, 750–764. doi:10.1111/jopy.12215

McFarland, S., Brown, D., & Webb, M. (2013). Identification with all humanity as a moral concept and psychological construct. *Current Directions in Psychological Science*, 22, 194–198. doi:10.1177/0963721412471346

Pyszczynski, T., Kesebir, P., & Lockett, M. (2019). A terror management theory perspective on human motivation. In R. M. Ryan (Ed.), The Oxford handbook of human motivation (2nd ed.). New York, NY: Oxford University Press.

Quirin, M., Tops, M., & Kuhl, J. (2019). Autonomous motivation, internalization, and the integrative self: A self-regulation framework of interacting neuropsychological systems. In R. M. Ryan (Ed.), The Oxford handbook of human motivation (2nd ed.). New York, NY: Oxford University Press.

Randle, M., Eckersley, R., & Miller, L. (2017). Societal and personal concerns, their associations with stress, and the implications for progress and the future. *Futures*, 93, 68–79. doi:10.1016/j.futures.2017.07.004

Reeve, J., & Lee, W. (2019). Motivational neuroscience. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Ryan, R. M., Ryan, W. S., Di Domenico, S. I., & Deci, E. L.

(2019). The nature and the conditions of human flourishing: Self-determination theory and basic psychological needs. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Scholer, A. A., Cornwell, J. F. M., & Higgins, E. T. (2019). Regulatory focus theory and research: Catching up and looking forward after 20 years. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Schunk, D. H., & Usher, E. L. (2019). Social cognitive theory and motivation. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Sedikides, C., & Alicke, M. D. (2019). The five pillars of self-enhancement and self-protection. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Thrash, T., Wadsworth, L. M., Sim, Y. Y., Wan, X., & Everidge, C. E. (2019). Implicit-explicit motive congruence and moderating factors. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

van den Broeck, A., Carpini, J., & Diefendorff, J. (2019). Work motivation: Where do the different perspectives lead us? In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (2nd ed.). New York, NY: Oxford University Press.

Wray-Lake, L., DeHaan, C. R., Shubert, J., & Ryan, R. M. (2019). Examining links from civic engagement to daily wellbeing from a self-determination theory perspective. *The Journal of Positive Psychology*, 14, 166–177. doi:10.1080/17439760.2017.1388432