

---

# Una prospettiva psicologica sul lavoro in agricoltura

---

Peter McIlveen<sup>1</sup> e Nicole McDonald<sup>2</sup>

## Sommario

Una crescente domanda di cibo per una sempre maggiore popolazione mondiale, una riduzione di campi arabili e acque disponibili, un incremento della complessità tecnica, una diminuzione della forza lavoro: questi sono tutti fattori dinamici che influenzano il reperimento di lavoratori vitali per il mondo dell'industria agricola. Per quasi cinquant'anni la psicologia ha dato relativamente poco all'agricoltura in termini di ricerca e pratiche. Con il presente lavoro offriamo tre framework in cui dare forma a una «psicologia vocazionale dell'agricoltura» con lo scopo di attrarre più lavoratori nell'industria agricola, a vantaggio del comparto agricolo nel suo complesso. Con questo fine, concludiamo presentando una panoramica dei programmi di ricerca.

## Parole chiave

Agricoltura, framework di sistemi teorici, psicologia del lavoro, *social cognitive career theory*, sviluppo sostenibile.

---

<sup>1</sup> University of Southern Queensland, Australia.

<sup>2</sup> University of Southern Queensland, Australia.

---

# A Psychological Perspective on Careers in Agriculture

---

Peter McIlveen<sup>1</sup> and Nicole McDonald<sup>2</sup>

## Abstract

An increasing demand for food for a growing world population, degradation of arable land and waters, increasing technological sophistication, and a shrinking work force are a dynamic mix of factors that influence the supply of workers who are vital to the world's agricultural industries. For nearly a half century, psychology has given relatively little to agriculture by way of its research and practices. We suggest three conceptual frameworks to inform a «vocational psychology of agriculture» with the aim of better attracting and retaining workers in agricultural industries and within industries that indirectly contribute to and benefit from agriculture. To that end, we conclude with an overview of research program.

## Keywords

Agriculture, systems theory framework, psychology of working, social cognitive career theory, sustainable developmentx.

---

<sup>1</sup> University of Southern Queensland, Australia.

<sup>2</sup> University of Southern Queensland, Australia.

## A Psychological Perspective on Careers in Agriculture

A convergence of global issues brings careers in agriculture into sharp focus. There is an increasing demand for food needed for the world's growing population; however, production of food is threatened by degradation of the planet's arable land and water supplies, and poor management land and water practices, such as overstocking and overfishing. These global problems are the focus of the Food and Agriculture Organization of the United Nations (FAO; Food and Agriculture Organization, 2020) and the Sustainable Development Goals (United Nations, 2020). The FAO (2019) estimates that nearly 820 million people in the world are chronically hungry, especially in developing nations and regions such as Africa, where the prevalence of undernourishment is proportionally highest. The global rate of hunger has increased in recent years and it is not isolated to poor and developing countries; «even in high-income countries, sizeable portions of the population lack regular access to nutritious and sufficient food» (FAO, 2019, p. 3). In the *Agricultural Outlook 2019-2028*, the Organization for Economic Co-operation and Development (OECD) and the FAO (OECD & FAO, 2019) estimate a 15% increase in demand for agricultural products. A critical dimension of these global problems is a sustainable labour supply ready to support agricultural production. In this paper, we discuss the contribution of career development and vocational psychology to agriculture and its workforce.

Agriculture includes workers in a diversity of occupations throughout the global value chain extending from the farm, river, and sea from which the earth's bounty is taken, through to ultimate consumers throughout the world (ABARES, 2019; Greenville, Kawasaki, & Jouanjean, 2019). The types of work in agriculture include those farmers and fishers who literally bring in the harvest, the scientists and technologists who improve varieties of plants, animals, and treatments for disease, pests, and substrate quality, the trades workers who build and repair the machinery needed for production, the manufacturing workers who turn raw products into consumable goods, the transportation workers who move the goods to market, and the retailers who sell their products to consumers. At the time of writing this paper, a simple search of the O\*Net database (National Center for O\*NET Development, 2020), using the term «agriculture», revealed no less than 80 occupations. Consider that those 80 occupations are also connected to other industry sectors, which rely upon and contribute to the global market of agriculture. OECD reporting suggests that approximately 21% of the value of agriculture's global value supply chains flows into other industry sectors which support agriculture (Greenville et al., 2019). Attracting and retaining workers in these diverse occupations is a significant challenge that affects agricultural productivity and, ultimately, food security.

Can psychology contribute to solutions to these global issues of sustainable development and workforce challenges? Emerging perspectives on psycho-

logy and sustainability (Di Fabio & Rosen, 2018) suggest that there is scope for psychology to make a difference to workforce development (Di Fabio, 2017a, 2017b). What does career development and vocational psychology do to contribute scientifically informed solutions to the broad value-change of agriculture's workforce?

If all of mankind is to have an adequate diet, we must both stabilize world population and increase markedly world food supply. Moreover, attaining any such increase in food supply may be as much a problem in vocational psychology (e.g., the skill, knowledge, openness to change, and motivation of farmers) as in agricultural technology (Richards, 1973, p. 485).

This quote from the article titled *The Psychology of Farming: A Review of Twenty-five Years of Research* by Richards (1973) is inspirational; however, there is little evidence of psychology making a substantive contribution to solving the problem. At that time, Richards asserted that psychologists have effectively ignored agriculture, despite its vital role for humanity. Little has changed since the 1970s. Reviews of the literature reveal that psychology has continued to offer an insignificant volume of research as a contribution to agriculture and its workforce (McIlveen, 2015; McIlveen & McDonald, 2019). Despite a limited contribution to date, career development and vocational psychology have significant potential to inform workforce development policies and programs through research and professional practices.

## Conceptual Frameworks

We offer a precis of three conceptual frameworks for consideration to inform a putative «vocational psychology of agriculture» (McIlveen, 2015; McIlveen & McDonald, 2019). We present this overview as a stimulus for dialogue, further research, and for innovations in career development practice.

## Systems Theory Framework

Careers — indeed people — are not simple; thus, psychology is replete with different paradigms, theories, and constructs. The systems theory framework of career (STF; Patton & McMahon, 2014) is a metatheory of theories. The STF is an organizing framework that guides the selection and application of psychological theories and constructs relevant to the study of careers and work, and the practices of career development. Figure 1 depicts the STF and its spherical

model of the layers of career influences beginning from the individual system and extending outward to the environment-societal system.

According to the STF, an individual is a system — a system of career intrapersonal influences that impinge upon and manifest the individual's career (e.g., gender, abilities, interests, skills). An individual is contextualized within a societal system (e.g., education institutions, workplaces, family), and the societal system is also contextualized amidst broader influences, such as geographical location, the employment market, and social trends. Indeed, agriculture is a socially contextualized industry with the majority of farms operated by families (Lowder, Skoet, & Sing, 2014). Thus, the STF asserts that an individual cannot, should not, be understood merely as a dynamism of personal factors. Instead, the STF asserts that to understand an individual, consideration must be given to the multiple contexts that are the manifest lived reality of that person. Furthermore, as shown in figure 1, the STF requires consideration of change over time, the impact of chance events, and the recursive effects of the influences on one another.

As for work and careers in agriculture, an STF perspective suggests that concepts and theories used to understand an individual must be contextually relevant. Whilst a theory of vocational interests such as Holland's (1997) RIASEC offers empirically justified classification of interests relevant to the panoply of careers in agriculture, the utility of the theory and its psychometric measurements tools are further potentiated by contextualizing a person's interests in terms of other concepts that may represent myriad career influences that impinge upon a person's interests. These other concepts should pertain to intrapersonal influences (e.g., abilities), interpersonal and social influences (e.g., peer's opinions, family's guidance), and environmental-societal influences (e.g., access to work that expresses valued interests). Thus, a young person may hold strong preferences for Realistic and Enterprising vocational interests, usually associated with the work of a farmer; however, their interests may be thwarted by the opinions of their friends and family, and limited access to learning opportunities in education and work. Conversely, their Realistic and Enterprising interests may be lauded by friends and family to the effect that they feel motivated and inspired to seek learning opportunities and work to grow a career in agriculture. These contextual differences are crucial, and the STF stands as a reminder to conceptually formulate a person's career-in-context and to offer psychological assessment and counselling services inclusive of contextual nuances.

McIlveen (2015) proposed an agenda for the STF's application to the vocational psychology of agriculture to not only apply extant theories from within vocational psychology and career development, but also to draw upon other disciplines with a longer and stronger commitment to agriculture.

1. Use the STF's categorisation of career influences according to theories of content, process, and content and process, to audit extant vocational psychology theories' relevance to career influences that are predominant in agriculture.
2. Use the STF to select concepts and theories generated by other psychology sub-disciplines (e.g., personality and individual differences, economic psychology, community psychology) and other social sciences (e.g., sociology, economics) that have a substantive literature on agriculture.
3. Use the STF to theorise potential connections between career influences present in different systems of career influences (i.e., environmental-societal, social, personal) and theorise those connections if extant vocational psychology theory cannot accommodate research questions and hypotheses derived from the putative connections (p. 161).

A core tenet of the STF is that work and career are not isolated phenomena; they are contextualized amidst social, political, economic forces. Such a contextualized perspective seems increasingly relevant in this era in which psychology is turning in intellectual and science resources to issues of sustainability (Di Fabio & Rosen, 2018). We now turn to an emerging psychological perspective on work that represents not only a humanistic psychology but also an ethical psychology which understands workers-in-context the myriad influences identified in the STF.

### **Psychology of Working Framework**

The Psychology of Working Framework (PWF; Blustein, 2006, 2013). The PWF asserts that work serves three core human needs: survival and power; social connection; and self-determination. Accordingly, Blustein's PWF acknowledges the fundamental nature of human beings and the needs of food and shelter, control over day-to-day living and future lives, relationships with other people, and the dignity of being a person. These are not radical demands. Yet, there are people in the world whose contexts — proximal and distal — deprive them of the opportunities to express and satisfy their needs.

The PWF has extended its relevance as a psychological perspective on the notion «decent work» (International Labour Office, 2015, 2017).

Decent work sums up the aspirations of people in their working lives. It involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives

and equality of opportunity and treatment for all women and men (International Labour Office, 2015).

Decent work is inherent in the Sustainable Development Goals, requisite for agriculture's productivity, and a mandate to address child labour and slavery in agriculture and other industry sectors (Food and Agriculture Organization, 2020; International Labour Office, 2017).

The PWF has been used to formulate the Psychology of Working Theory (PWT; Duffy, Blustein, Diemer, & Autin, 2016) in which decent work is the central tenet. A psychometric measure of the psychological qualities of decent work (Duffy et al., 2017). This measure assesses a workers' experiences of their work with regard to five factors: physically and interpersonally safe working conditions; access to healthcare; adequate compensation; hours that allow free time and rest; organizational values complement family and social values (Duffy et al., 2017, p. 211). The Decent Work Scale has been validated in several nations (Duffy, Blustein, Allan, Diemer, & Cinamon, 2020), including the national context of this journal in Italy (Di Fabio & Kenny, 2019) and our national context as authors, Australia (McIlveen et al., 2020). The PWF has been applied to the workers' experience of meaningful work (Di Fabio & Blustein, 2016) and human rights (Blustein, Kenny, Di Fabio, & Guichard, 2019).

The PWF thus informs the ethical foundations of the vocational psychology of agriculture (McIlveen & McDonald, 2019) which is focused on attracting and retaining workers in agriculture, and ensuring that workers' psychological experiences of work are satisfying with regard to their needs for survival and power, social connection, and self-determination.

## **A Social Cognitive Perspective**

The social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994) has for more than two decades has motivated research into career decision-making and satisfaction (Brown & Lent, 2019; Lent & Brown, 2019). The core «social cognitive» tenet of the SCCT is that self-efficacy and outcome expectations influence individual's career-related interests, goals, and actions. Furthermore, the SCCT includes a learning feedback loop such that performance, in turn, effects self-efficacy and outcome expectations. In this way, SCCT reflects its foundations in social cognitive theory (Bandura, 1986).

A vocational psychology of agriculture application of the SCCT is depicted in figure 2 (McIlveen & McDonald, 2019). This model simplistically represents the contribution of employability traits (Fugate & Kinicki, 2008; Fugate, Kinicki, & Ashforth, 2004), self-efficacy, and outcome expectation to individual's interests

and explorations of career careers in agriculture. Furthermore, the model depicts the recursive influence of learning experiences in a feedback loop, the «OPEA» which represent the sources of self-efficacy (O = observation; P = persuasion, E = experience; A = affective arousal) hypothesized by Bandura (1997).

This social cognitive model has implications for career counselling and career education interventions designed to inform students' explorations of careers in agriculture. Systematic programs and interventions that target the sources of self-efficacy — OPEA — may foster students' outcome expectations, interest and curiosity about the breadth of occupations on offer in agriculture's broad sectors and industries.

### **A Research Program**

The vocational psychology of agriculture is operationalized as part of a program of research by the Australian Collaboratory for Career Employability and Learning for Living (ACCELL; [www.accell-research.com](http://www.accell-research.com)), based at the University of Southern Queensland. ACCELL is a multidisciplinary research team which focuses on doctoral research training. Its program of research is informed by the STF, PWF, and SCCT, and includes three intersecting streams: employability, vital infrastructure work and workers, and regional and rural workforce development. The employability theme addresses the psychosocial qualities that contribute to individual's capacity and ability to search for and maintain employment (McIlveen, 2018). Vital infrastructure work and workers includes those jobs that are deemed essential for society's success, ranging across professions (e.g., teachers, nurses) to trades (e.g., mechanics), to semi-skilled occupations (e.g., retail). Regional and rural workforce development is a priority for Australia with its vast landmass and population disproportionately concentrated on its coastline and within major capital cities.

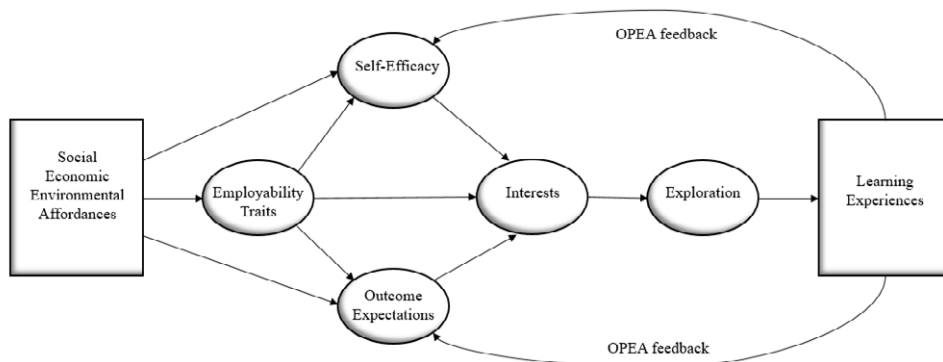
Current research projects at the confluence of these intersecting streams include studies into the factors that attract and retain workers into STEM professions (e.g., soil scientist, geneticist) and trades (e.g., diesel mechanics) whose work is in agricultural industries. Other projects address the experiences of farmworkers working in agriculture sectors that require high skill levels (e.g., cotton industry) and others in semi-skilled occupations (e.g., backpackers employed in fruit and vegetable harvesting). The STF, PWF, and SCCT provide the psychology theory, research evidence, and research methods for this program of research. For example, our research accounts for the effects of contextual demographic variables (e.g., drought, geographical location, income, place identity) and workplace variables (e.g., organization support, supervisor support, decent work) on workers' self-efficacy and outcomes expectations, and, in turn, their





**Figure 2**

A Social Cognitive Model of Agricultural Career Decision-Making (McIlveen & McDonald, 2019)



## Bibliography

- ABARES. (2019). *Australia's place in global agriculture and food value chains*. Canberra: Australian Government Department of Agriculture.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). Self-efficacy: The exercise of control. In New York, NY: Freeman.
- Blustein, D. L. (2006). *The psychology of working: A new perspective for career development, counseling, and public policy*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Blustein, D. L. (2013). The psychology of working: A new perspective for a new era. In D. L. Blustein (Ed.), *The Oxford handbook of the psychology of working* (pp. 3-18). New York, NY: Oxford University Press.
- Blustein, D. L., Kenny, M. E., Di Fabio, A., & Guichard, J. (2019). Expanding the impact of the Psychology of Working: Engaging psychology in the struggle for decent work and human rights. *Journal of Career Assessment*, 27(1), 3-28. doi: <https://doi.org/10.1177/1069072718774002>
- Brown, S. D., & Lent, R. W. (2019). Social Cognitive Career Theory at 25: Progress in studying the domain satisfaction and career self-management models. *Journal of Career Assessment*, 27(4), 563-578. doi: <https://doi.org/10.1177/1069072719852736>
- Di Fabio, A. (2017a). Positive healthy organizations: promoting well-being, meaningfulness, and sustainability in organizations. *Frontiers in Psychology*, 8(1938). doi: <https://doi.org/10.3389/fpsyg.2017.01938>
- Di Fabio, A. (2017b). The psychology of sustainability and sustainable development for well-being in organizations. *Frontiers in Psychology*, 8(1534). doi: <https://doi.org/10.3389/fpsyg.2017.01534>
- Di Fabio, A., & Blustein, D. L. (2016). From meaning of working to meaningful lives: The challenges of expanding decent work. *Frontiers in Psychology*, 7(1119). doi: <https://doi.org/10.3389/fpsyg.2016.01119>
- Di Fabio, A., & Kenny, M. E. (2019). Decent work in Italy: Context, conceptualization, and assessment. *Journal of Vocational Behavior*, 110, 131-143. doi: <https://doi.org/10.1016/j.jvb.2018.10.014>
- Di Fabio, A., & Rosen, M. A. (2018). Opening the black box of psychological processes in the science of sustainable development: A new frontier. *European Journal of Sustainable Development Research*, 2(4). doi: <https://doi.org/10.20897/ejosdr/3933>

- Duffy, R. D., Allan, B. A., England, J. W., Blustein, D. L., Autin, K. L., Douglass, R. P., Santos, E. J. R. (2017). The development and initial validation of the Decent Work Scale. *Journal of Counseling Psychology*. doi: <https://doi.org/10.1037/cou0000191>
- Duffy, R. D., Blustein, D. L., Allan, B. A., Diemer, M. M., & Cinamon, R. G. (2020). Introduction to the special issue: A cross-cultural exploration of decent work. *Journal of Vocational Behavior*, 103351. doi: <https://doi.org/10.1016/j.jvb.2019.103351>
- Duffy, R. D., Blustein, D. L., Diemer, M. A., & Autin, K. L. (2016). The psychology of working theory. *Journal of Counseling Psychology*, 63(2), 127-148. doi: <https://doi.org/10.1037/cou0000140>
- Food and Agriculture Organization (2019). *The state of food security and nutrition in the world 2019. Safeguarding against economic slowdowns and downturns*. Rome: FAO.
- Food and Agriculture Organization (2020). Sustainable Food and Agriculture. Retrieved from <http://www.fao.org/sustainability/background/en/> (consultato il 30 luglio 2020).
- Fugate, M., & Kinicki, A. J. (2008). A dispositional approach to employability: Development of a measure and test of implications for employee reactions to organizational change. *Journal of Occupational & Organizational Psychology*, 81(3), 503-527. doi: <https://doi.org/10.1348/096317907X241579>
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65(1), 14-38. doi: <https://doi.org/10.1016/j.jvb.2003.10.005>
- Greenville, J., Kawasaki, K., & Jouanjean, M. (2019). *Employment in agriculture and food trade: assessing the role of gvcs*. OECD food, agriculture and fisheries papers, no. 124. Paris: OECD Publishing.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.
- International Labour Office. (2015). Decent work. Retrieved from <http://www.ilo.org/global/topics/decent-work/lang-en/index.htm> (consultato il 30 luglio 2020).
- International Labour Office. (2017). *Decent work and the 2030 agenda for sustainable development*. Geneva, Switzerland: ILO.
- Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, 115, 103316. doi: <https://doi.org/10.1016/j.jvb.2019.06.004>
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79-122. doi: <https://doi.org/10.1006/jvbe.1994.1027>
- Lowder, S. K., Skoet, J., & Sing, S. (2014). *What do we really know about the number and distribution of farms and family farms in the world? Background paper for The State of Food and Agriculture 2014*. Retrieved from <http://www.fao.org/docrep/019/i3729e/i3729e.pdf> (consultato il 30 luglio 2020).
- McIlveen, P. (2015). A research agenda for the vocational psychology of agriculture. *Australian Journal of Career Development*, 24(3), 157-165. doi: <https://doi.org/10.1177/1038416215586005>
- McIlveen, P. (2018). *Defining employability for the new era of work: A submission to The Senate Select Committee on the Future of Work and Workers*. Canberra, Australia: The Senate.
- McIlveen, P., Hoare, P. N., Perera, H. N., Kossen, C., Mason, L., Munday, S., . . . McDonald, N. (2020). Decent work's association with job satisfaction, work engagement, and withdrawal intentions in Australian working adults. *Journal of Career Assessment*. doi: <https://doi.org/10.1177/1069072720922959>
- McIlveen, P., & McDonald, N. (2019). The vocational psychology of agriculture: Fiat panis. In J. A. Athanasou & H. N. Perera (Eds.), *International handbook of career guidance* (pp. 459-474). Cham, Switzerland: Springer.
- National Center for O\*NET Development. (2020). O\*NET OnLine. Retrieved from <https://www.onetonline.org/> (consultato il 30 luglio 2020).
- OECD & FAO. (2019). OECD-FAO Agricultural Outlook 2019-2028. Retrieved from <https://www.oecd-ilibrary.org/agriculture-and-rural-development/9789264270202>

- [www.oecd-ilibrary.org/agriculture-and-food/oecd-fao-agricultural-outlook\\_19991142](http://www.oecd-ilibrary.org/agriculture-and-food/oecd-fao-agricultural-outlook_19991142) (consultato il 30 luglio 2020).
- Patton, W., & McMahon, M. (2014). *Career development and systems theory: Connecting theory and practice*. (3rd ed.). Rotterdam, The Netherlands: Sense Publishers.
- Richards, J. M. (1973). The psychology of farming: A review of twenty-five years of research. *Journal of Vocational Behavior*, 3(4), 485-501. doi: [https://doi.org/10.1016/0001-8791\(73\)90060-2](https://doi.org/10.1016/0001-8791(73)90060-2)
- United Nations. (2020). Sustainable Development Goals. Retrieved from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/> (consultato il 30 luglio 2020).