Good work design for all: Multiple pathways to making a difference

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Disclosure statement: The authors report no conflict of interest

Full citation:

Parker, S. K., & Jorritsma, K. (2020). Good work design for all: Multiple pathways to making a difference. *European Journal of Work and Organizational Psychology*. *https://doi.org/10.1080/1359432X.2020.1860121*

Good work design for all: Multiple pathways to making a difference

In the light of mental health issues amongst the workforce, as well as future of work challenges ahead, it is more important than ever to create well-designed work. In this article, as researchers and practitioners, we share our approaches to influencing work design practice and policy. We draw on research on the antecedents of work design to identify multiple pathways for achieving better quality work designs. We describe some practical materials and models that provide a foundation for our approach. We then discuss how we have sought to achieve impact at the individual level, the organisational level, and, increasingly, across multiple organisations, industries, and even the national level. Although we have often experienced challenges and setbacks in our quest to affect practice, we nevertheless remain optimistic for the future. We hope our article encourages expanded attention to translating and using research to make an 'evidence-based difference' in work design for all workers.

Keywords: work design; impact; job design; organizational change; decent work

Research and theory on work design has always been strongly informed by practice. In the 1900s, early research on the topic emerged from observations that jobs designed on the basis of Tayloristic principles caused employee alienation and stress. The principle findings of these early studies informed theories that remain popular today, such as the Job Characteristics Model (JCM; Hackman & Oldham, 1976) and the demand-control model (Karasek, 1979). Both of these theories, and others since, essentially propose that particular attributes of jobs – such as having reasonable levels of control and variety, as well as reasonable levels of work demands – affect psychological states such as meaning and psychological strain, and thereby impact on worker behaviours (e.g., performance, attendance) and attitudes (e.g., job satisfaction). Meta-analyses (e.g., Humphrey et al., 2007) and reviews (e.g., Knight & Parker, 2019) show these core theories are largely supported in many studies. Thus, work design practice has undoubtedly informed research and theory, and continues to do so (see, for example, our recent article on how contemporary developments in technology could benefit from the application of work design theory, Parker & Grote, 2020). Work design research and theory development is continues to grow, as shown in our review on 100 years of work design research in which we demonstrated that work design is a now major independent variable in the field of applied psychology, with more than 250,000 citations of over 5000 articles (Parker, Morgeson, et al., 2017).

But how much does work design research and theory inform practice? In the 100 year review, on the one hand, Parker and colleagues (2017) showed evidence work design is being considered in management and practitioner outlets such as HBR and 'airport' books, as well as positive views about the prevalence of positive work design according to surveys that target human resource managers and CEOs. On the other hand, these authors concluded a much "less rosy picture" when examining how people

who ‘do the work’ perceive their jobs. For instance, the Sixth European Working Conditions Survey (Eurofound, 2016) of over 44,000 workers showed that one out of five workers had a job of ‘poor quality’ (e.g., with low skill use, low autonomy, and poor work conditions), and an additional 13% had an ‘under pressure’ job with excess demands. Similar statistics come from related studies across the world.

We see high quality work for all as the holy grail application of work design research and theory. In other words, for us, ‘well-designed jobs as experienced by workers’ (including all types of workers from managers, employees, entrepreneurs, gig workers, contractors, and volunteers amongst others) is the ultimate criterion to judge the non-academic impact of work design research and theory. This is because we know that when work is experienced as well-designed, there are benefits all around – including improved attraction, retention, commitment, performance, safety, innovation, and proactivity of workers, as well as benefits for families, communities, and the wider economy. And yet it is clear from the large-scale studies cited in the paragraph above that, globally, we have some way to go to achieve this impact. We also face a mental health crisis in many countries (Patel et al., 2018), as well as threats to the quality of work as a result of new technologies such as AI and robots (e.g., Parker & Grote, 2020); both of which heighten the importance of a quest to achieve well-designed work.

Our aim in this article is to reflect on our own efforts to achieve “well-designed work” in policy and practice, coming from a career primarily as a researcher (in Sharon’s case) and primarily as a practitioner (in Karina’s case), albeit with both of us having experience in, and a deep commitment to, the synergy between research and practice. We reflect on some of our successes, learnings, challenges, lost opportunities, and failures, based on our work both separately in our earlier careers, as well as our work together over the past ten years. We extrapolate from our personal views and

experience to suggest some tips for researchers, for those in practice, and for the field of applied psychology more generally. In so doing, we hope to encourage expanded attention to translating and using research, and making a difference, consistent with recommendations of many scholars over the years (e.g., Antonakis, 2017).

In what follows, we draw on research to describe multiple pathways for achieving better quality work designs. We then lay the foundation for what follows by describing some practical materials and models we have developed. Next we describe how we have sought to achieve impact at different levels, first at the individual level, second at the team and organisational level, third across multiple organisations or at the level of industry/sector, and fourth at the level of national policy and guidance. We conclude with some final observations about achieving impact, and our optimistic vision for the future.

Antecedents of Work Design and Pathways to Impact

Following from an article in which we concluded that researchers must give more attention to how to embed good work design into practice (Parker, Morgeson, et al., 2017), we shifted our research attention away from the outcomes of work design to consider the antecedents of work design. In a synthesis of this interdisciplinary literature, we proposed a model (Parker, Van den Broeck, et al., 2017) of multilevel influences on work design. This model can be used to understand pathways of impact, as depicted in Figure 1.

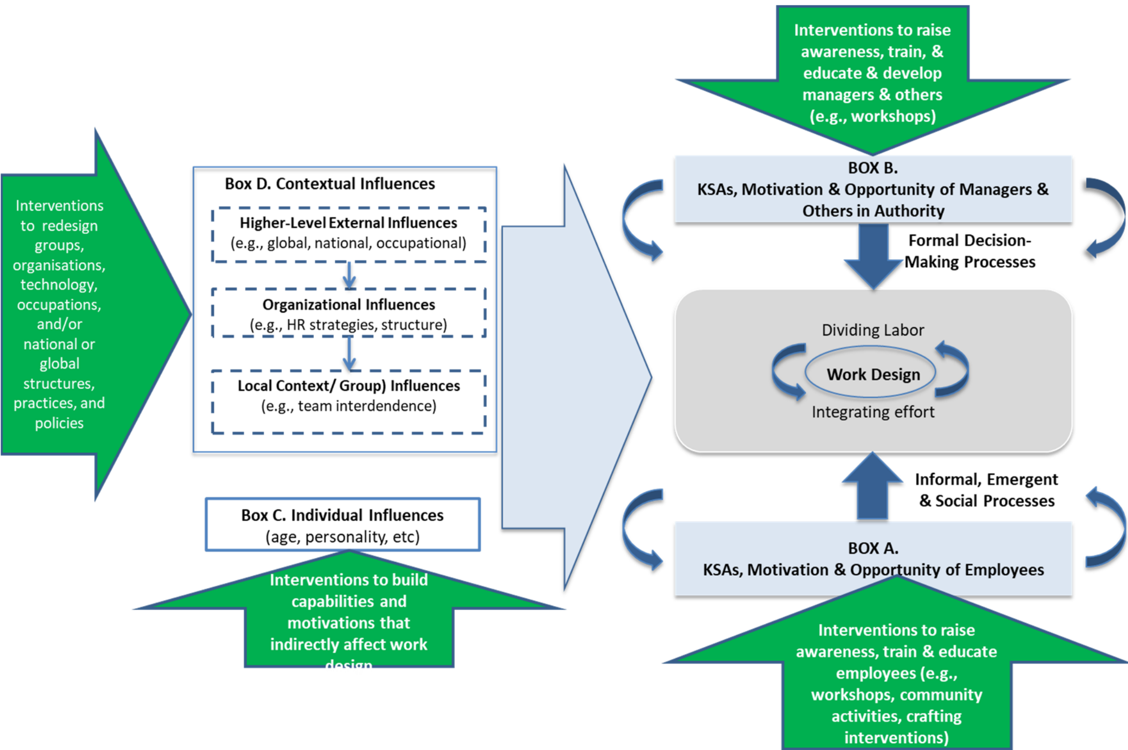


Figure 1. Model showing how the antecedents of work design (based on Parker, Van den Broeck et al., 2017) can be influenced by various intervention strategies.

Box A (Figure 1) shows one pathway for achieving better work designs for workers is to build the work-design related knowledge, skills, and abilities, and the work-design related motivation of, workers themselves. This pathway recognises that the informal actions of individuals and teams can shape work design via more emergent and social processes. An example is when a group develops norms of long working hours, which in turn affects the level of job demands of workers. Another example is when individual workers proactively revise their work methods and schedules to reduce their level of job demands; a process that has been referred to as 'job crafting'. Work redesign through this pathway is often described as "bottom up" because it flows from the actions of workers themselves.

The implication of this pathway is that one set of strategies to achieving better work is through educating and encouraging individuals and teams to change the work

themselves through processes such as job crafting, negotiating ideals, or other forms of proactive work behaviour (Parker et al., 2010). Consequently, increasing workers' knowledge, skills, and abilities about work design (e.g., teaching them how to craft) and/or to increasing their motivation for shaping their own work (e.g., boosting their self-efficacy to be more proactive) can help to achieve better work designs.

As depicted by **Box B**, a further pathway for achieving better work designs for workers is to build the work-design related knowledge, skills, and abilities, and the work-design related motivation of, those who have formal authority in the workplace. This pathway derives from the recognition that work design is strongly shaped by the formal actions of supervisors, managers, and others in positions of authority. In other words, these individuals make decisions that affect how labour is divided and how effort is then integrated (the two fundamental problems of organising), which then affect work design. For example, when an organisational or functional head adopts a cost control strategy rather than an innovation strategy, this then drives standardisation of work processes as a priority which, in turn, usually reduces the level of method autonomy in jobs. Likewise, when a supervisor adopts a highly empowering leadership style, this enhances the level of autonomy in a job for workers.

An implication from the perspective of impact, therefore, is that one way to improve work design of workers is to influence those in formal positions of authority to design better work. This in turn means increasing these stakeholders' work design-related knowledge, skills, and abilities, as well as influencing their motivation to care about this topic. For example, educating managers about how work design affects workers' mental health, and then persuading them about the cost benefits of improving work design, would enhance their KSAs and motivation, respectively, which should shape their work design decisions. Work redesign through this pathway would be an

example of a 'top down' process, flowing from the formal actions of managers or others in authority to affect workers' work characteristics.

It is relevant at this point to observe that designing enriched work with variety and autonomy does not always come 'naturally' to managers. In a study in which we asked people to design work in a hypothetical case (Parker et al., 2019), we showed that many of the designers created boring jobs with low task variety. Interestingly, people with higher quality work themselves (with autonomy in their own job) designed better work for others, perhaps unconsciously mimicking their own work. Individuals with more open, and less conservative values, also designed better work, as did those with expertise in work design theory. Managers, however, overall had a tendency to design poorer quality work. From an impact perspective, one implication of this research is that those in positions of authority will likely benefit from training and development around the topic of work design, and those who are more conservative in their values will likely need additional support. To help disseminate these ideas, we published an article about this work in HBR online, see: https://hbr.org/2019/06/why-managers-design-jobs-to-be-more-boring-than-they-need-to-be).

A third implication of the model is that, as depicted, a range of other individual factors (e.g., personality of workers, **Box C**) and contextual factors (e.g., technology, organisational design, the actions of other stakeholders, regulation, **Box D**) can shape work design via the formal and informal processes described above, as well as more directly, as elaborated next.

Focusing on individual factors (**Box C**), the personal attributes, demographics, or abilities of an individual can directly shape work design as enacted by workers, such as when more optimistic individuals appraise their work more positively. These factors can also indirectly shape work design via formal processes, such as when the high level

of skill of an employee motivates a manager to give him/her greater job autonomy, or informal processes, such as when an individual's proactive personality prompts greater job crafting. From a work redesign perspective, this pathway means, for example, promoting the development of skills and attributes of workers that are likely to enhance their capability or opportunity to achieve good work design.

Focusing next on contextual factors, **Box D**, local work unit factors (e.g., team work design), organisational factors (e.g., culture, climate, information systems, technology, health and safety policies), occupational factors (e.g., role demarcations), national factors (e.g., policies, regulations) and international factors (e.g., globalisation) can all affect work design, both directly and indirectly via the formal/informal processes described above. For example, in a direct path, at the national level, working time regulations affect the hours that junior doctors work, thereby affecting their job demands. Likewise, the way that technology is designed can affect opportunities for worker control directly, irrespective of any choice made by a manager. Contextual factors can influence the formal, top down influences above because they shape the knowledge, skills, abilities, motivation, and opportunities of managers. An example is when high levels of employment in the market increase managers' motivations to design engaging work as a way to attract and retain workers. Contextual factors can influence the informal bottom up processes, such as when national culture shapes workers' preferences to work in teams (or not), or when an organisational-level investment in skill development motivates individual job crafting. From a work redesign perspective, therefore, changing the context – such as restructuring the organisation, removing constraining demarcations in an occupation, or altering national work health and safety regulations – can be powerful ways to achieve better work design for workers.

Important implications flow from this model of changing work design. First, there are multiple pathways, not just one, for having an impact on people's work design, and these pathways can vary on many dimensions, such as level, scope, and the stakeholders involved. At one level, a simple local intervention might be to educate a team about how to manage their workload. Such an initiative would influence work design through an informal bottom up process, with a relatively local impact. At the other extreme, a large-scale policy change – such as the introduction of regulations to limit the working hours of trainee doctors – might be a complex and highly political change process which trickles down to impact organisations and individuals on a broad scale. This means that work redesigns can look very different, which is in part what we believe makes this topic both so interesting and challenging.

A second implication of the model is that many of the factors that shape work design interrelate, which means multiple processes and factors often need to be considered simultaneously. For example, even if an individual manager has the knowledge, skills, and abilities, and the motivation, to (say) empower their workforce, they can nevertheless be severely constrained in their opportunity to do so by the wider context. Sometimes, indeed often, simply 'training managers' is therefore insufficient, and deeper, system-wide change is called for. Likewise, when considering work design, it is usually insufficient to focus just on one level (e.g., what the supervisor does), but rather it is necessary to consider broader aspects (e.g., the organisational culture, the technology, occupational demarcations, etc) to fully understand opportunities and constraints.

A third important implication of this model is that, when a change is made in one aspect of an organisational system, it might well have unintended impacts on work design. This is important because it means that work design issues sometimes emerge

when other apparently unrelated changes are introduced. For example, organisational restructuring, technological change, new financial systems, and changes to roster systems can each affect work design, often without these effects being explicitly recognised by leaders or change agents. This inter-linking of systems can present both risks to work design (for example, when a new finance system is introduced that inadvertently constrains workers' decision making) and opportunities for improved work design (for example, when new technology enables workers to get more detailed feedback on how they are performing). It also means these systems need to be considered, and aligned, in any work redesign.

Shortly, we draw on this model to provide examples of different levels of impact we have achieved, and/or seek to achieve, in our goal of creating better work. Before we do so, however, we describe how we have sought to convey 'what work design is' through the development of various materials.

Building a Foundation for Impact: Practical Models and Materials

There are several challenges in conveying work design. As discussed above, most people do not 'naturally' think about work design or understand what types of work design are effective for people and organisations. The term 'work design' is also rarely used amongst the general public or professionals, even though they frequently refer to on-trend topics that are essentially work design (e.g., lean production, agile teams, decentralised management and flexible work arrangements) (see Parker, Morgeson, et al., 2017 on this point)).

A further challenge is that work design is frequently a rather hidden cause of human attitudes and behaviour, with managers and others tending to see worker attitudes/behaviour as being the responsibility of individuals rather than the work (see Weber, 2019, for evidence of this tendency to overemphasise individuals in other fields

of practice). This can lead to a focus on 'changing the individual', such as via stress management or by sending people on conflict resolution training. We often depict this notion using the popular iceberg metaphor: work design is 'under the iceberg' of many attitudes and behaviours, yet it is often hidden (see Figure 2). In other words, when employees experience poor mental health at work, or impaired performance, this can be a symptom of a deeper cause, with the deeper cause being poor work design. For example, if a worker is looking anxious, suffering from sleep problems, or displaying other such signs of stress, it might be that they have extremely high levels of workload in their job. Or if an individual's performance is not 'up to scratch', it might be they receive insufficient feedback to be able to develop the skills they need. And so on. Poor performance, well-being, innovation, and the like are not *always* going to be due to work design – but work design is one of the potential causes that should be considered. Unfortunately, in practice, work design is frequently neglected as a possible explanation in favour of more personal attributions ("s/he is not up to the task", "s/he is not resilient enough", for example).

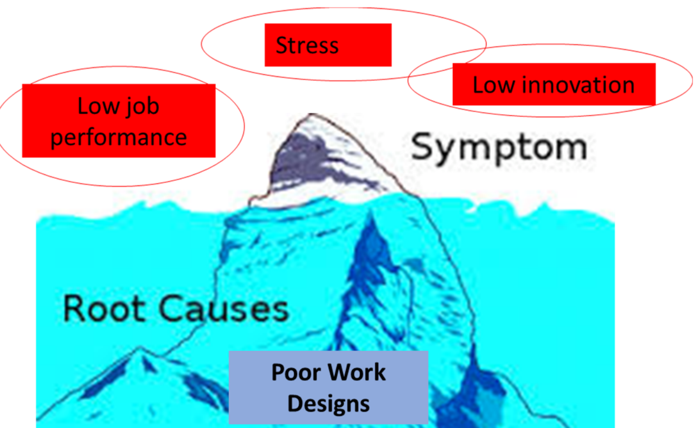


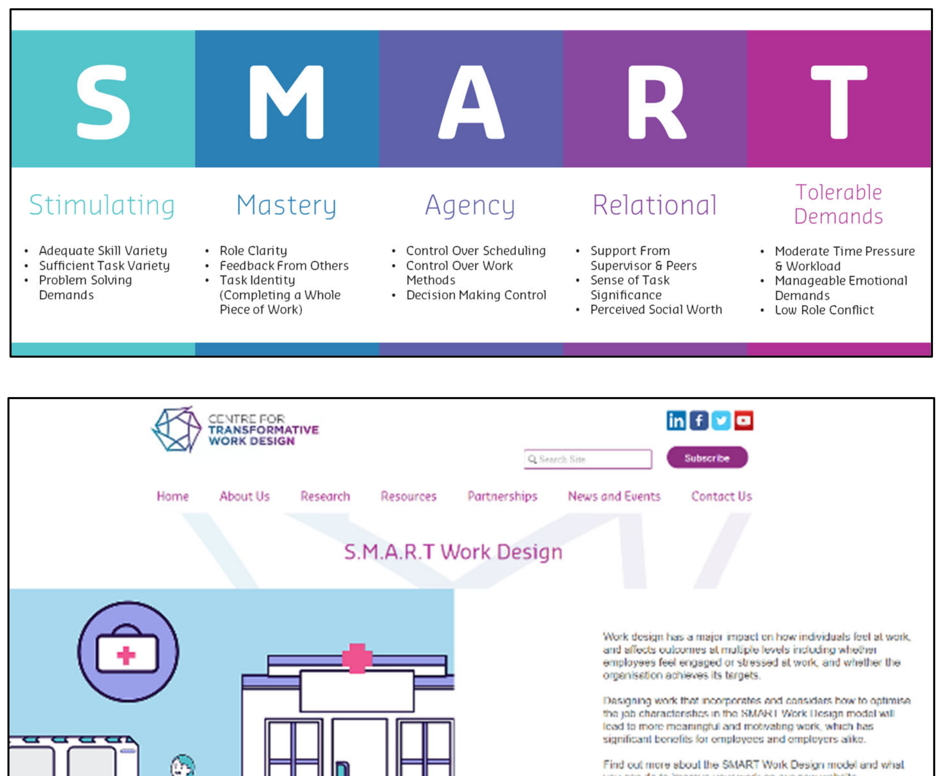
Figure 2. Iceberg model depicting that work design is often an invisible yet powerful cause of poor employee performance, stress and mental health issues in the workforce, and low innovation in the organisation.

Because of these challenges, we have designed some overarching 'practically-oriented' models and materials to convey work design. We provide three examples (later we discuss others).

First, with regard to core work characteristics, we have developed the SMART model of work design (where SMART represents: Stimulating, Mastery-oriented, Agentic, Relational, and Tolerable demands), to simply convey five comprehensive higher-order work design concepts via a simple acronym that many different stakeholders – employees and employers alike – can remember and understand (see Parker & Knight, 2020, for theoretical and empirical underpinnings). The overall SMART model and screenshot examples of supporting online resources, including a supporting animation video for the "S" (or Stimulating work), are shown in Figure 3. Further such resources are freely available here: https://www.smartworkdesign.com.au/

Second, we have also developed integrative models and frameworks that lead people to work design from different agendas or entry points. One example of this is our "Thrive at Work" framework which underpins an initiative we have that supports organisations to create mental health and well-being strategies centred around designing good work (see www.thriveatwork.org.au). The topic of workplace mental health is a vital one in most countries. Yet our observation working with organisations is that most focus almost solely on the mitigation of mental health – that is, assuming people come to work with mental health problems – and therefore viewing the workplace's role primarily to support workers to detect ill-health and provide support for their recovery journey. We encourage taking a prevention focus – recognising that work design can often be the primary cause of psychological stress (and hence also often a vital component of any strategic interventions). Thus, our Thrive at Work framework acknowledges the importance of organisational practices to support ill-health (via the

pillar of ‘Mitigate Illness’), but also integrates strategies for organisations to protect employees against psycho-social risk (via the pillar of ‘Prevent Harm’), and beyond that, to integrate strategies to optimise well-being (via the pillar of ‘Promote Thriving’). Figure 4 shows the Thrive at Work framework as well as screenshots from the Thrive at Work website. Although work design is relevant across all the pillars (for example, good work design supports Return to Work in the Mitigate Illness pillar), we especially highlight it in ‘Prevent Harm’ pillar because of the legal emphasis on risk control in Australia (and indeed elsewhere). To create synergy across our ideas, we use the SMART framework in this pillar, and encourage organisations to prevent harm (and reduce psychosocial risks) by creating SMART work.



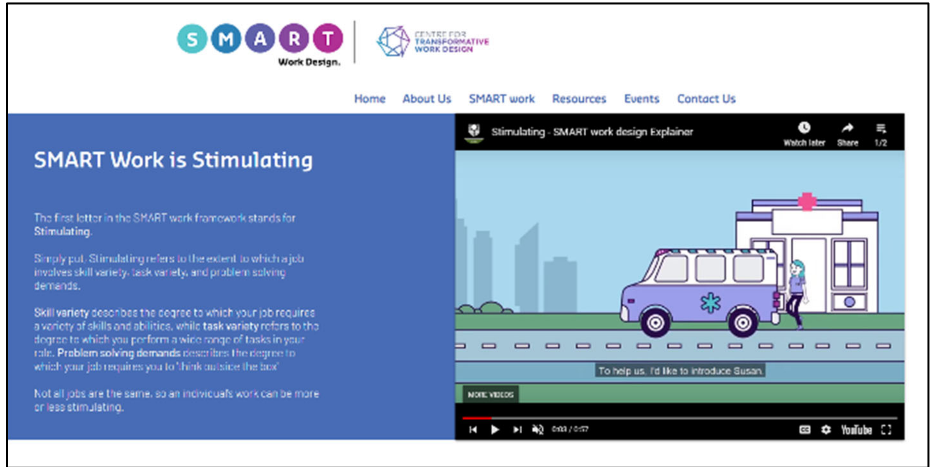
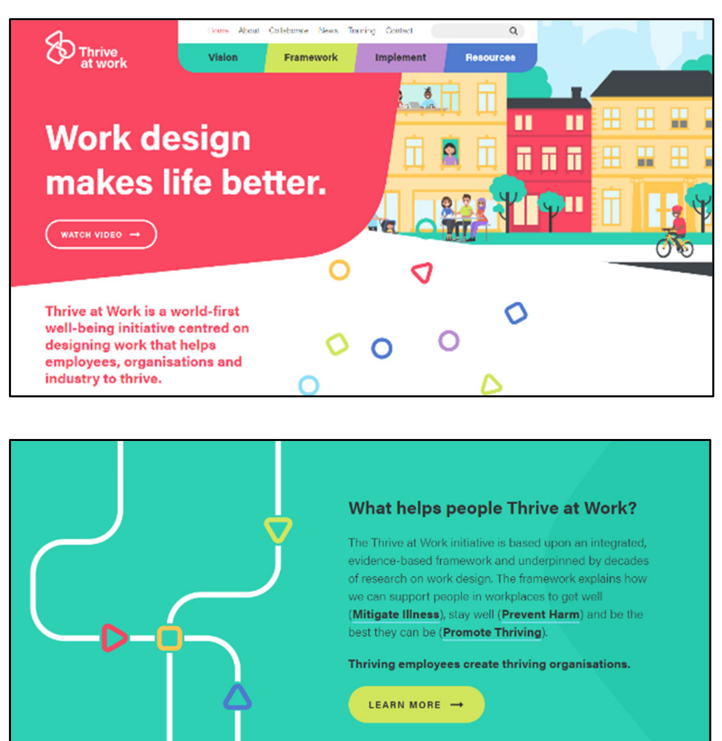
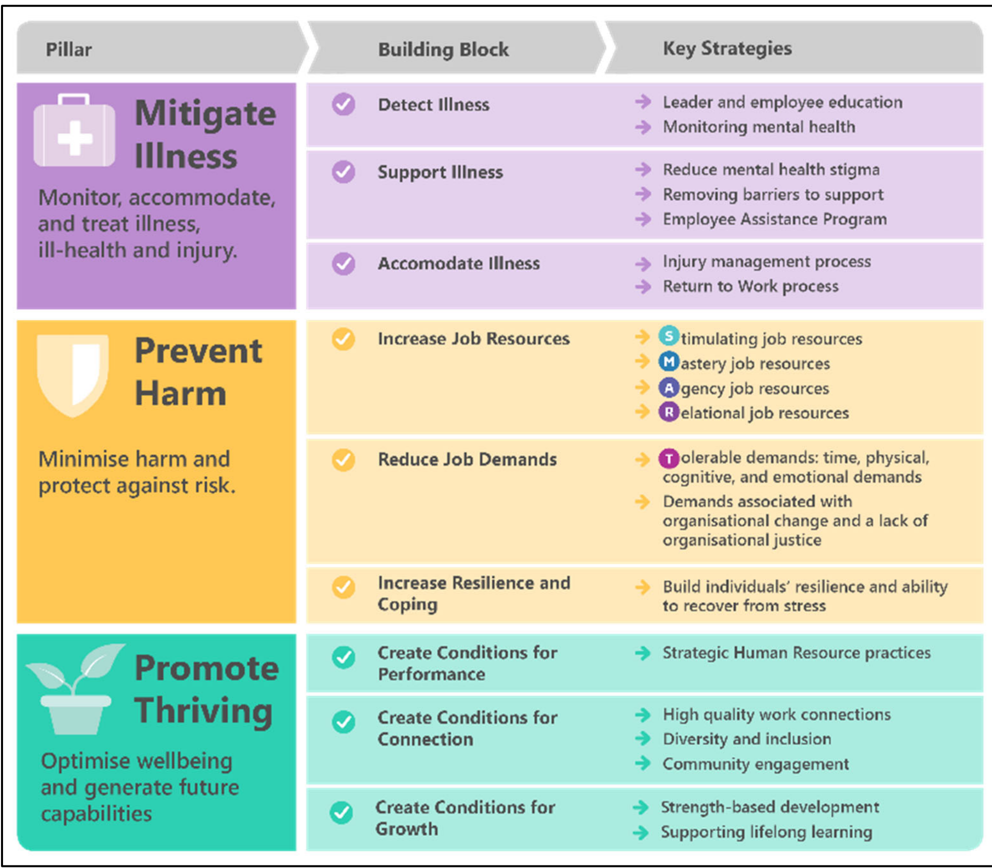


Figure 3. Overview of the SMART model of work design and sample screenshots of online materials to support the SMART model (see both transformativeworkdesign.com and smartworkdesign.com.au)





Pillar	Building Block	Key Strategies
Mitigate Illness Monitor, accommodate, and treat illness, ill-health and injury.	Detect Illness	Leader and employee education Monitoring mental health
	Support Illness	Reduce mental health stigma Removing barriers to support Employee Assistance Program
	Accomodate Illness	Injury management process Return to Work process
Prevent Harm Minimise harm and protect against risk.	Increase Job Resources	Stimulating job resources Mastery job resources Agency job resources Relational job resources
	Reduce Job Demands	Tolerable demands: time, physical, cognitive, and emotional demands Demands associated with organisational change and a lack of organisational justice
	Increase Resilience and Coping	Build individuals' resilience and ability to recover from stress
Promote Thriving Optimise wellbeing and generate future capabilities	Create Conditions for Performance	Strategic Human Resource practices
	Create Conditions for Connection	High quality work connections Diversity and inclusion Community engagement
	Create Conditions for Growth	Strength-based development Supporting lifelong learning

Figure 4. Introductory screenshots from the Thrive at Work initiative website and Thrive at Work integrative framework, which includes SMART model within the Prevent pillar (see also www.thriveatwork.org.au).

Another specific entry point or agenda angle is the challenge of the ageing population. From a work perspective, designing work that accommodates physical, mental, and psychosocial changes as people age has been recognised as crucial to an agenda for retaining mature workers, as well as ensuring their health and productivity. We developed the '3-I' intervention model to bring work design to the attention of policy makers and practitioners, categorising work design as one of the "key ingredients" necessary for managing an ageing workforce. The 3 I's are Include, Individualise, Integrate, which refer to three different categories of 'meta-strategies' to attract and retain mature workers (see Parker & Andrei, 2020, for the academic article, and see https://matureworkers.cepar.edu.au/ for examples of how we use this model). Although elements of work design are relevant to each meta-strategy, 'Individualise' draws most strongly on work design and redesign approaches. Age is associated with changes in cognition, affect, motivation and physical abilities, but the rate and extent to which individuals experience changes across the lifespan is not uniform (e.g., Fisher et al., 2017). Therefore, the "Individualise" meta-strategy encourages organisations to tailor the work design to suit individual preferences and needs, such as by allowing flexible work arrangements so that mature workers can meet care needs, or reducing the physical demands of a job as mature workers' strength declines. Work design approaches for mature workers can include top-down work redesign processes (e.g. the introduction of ergonomic equipment to protect physical health) or bottom-up self-driven redesign (e.g., encouraging job crafting behaviours).

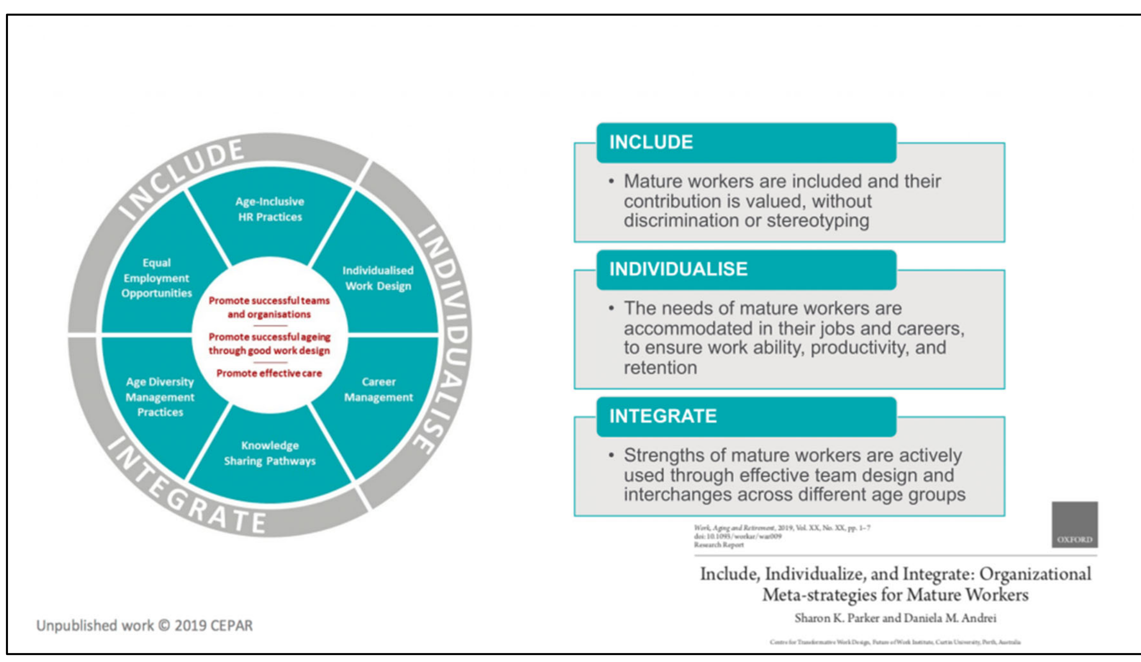


Figure 5. Overview of 3i model, with work design at its centre.

These models and materials are not the only approaches we use to get work design on the agenda, nor do we use them in every piece of work we do. However, as we discuss later, especially as we have sought to scale our impact, we have found them increasingly useful. In the next sections, we delve into multiple paths for improving work design at different levels of impact (individual-level interventions, team/organisation-level interventions, multi-organisation and national).

Individual-Level Interventions: Awareness-Raising, Education and Training

In this section, first, we consider awareness-raising and education-oriented interventions that target individual employees and, second, we consider those that target managers and others in positions of authority.

Targeting Individual Workers

One way to achieve better work is through building the work-design related knowledge, skills, and abilities (KSAs) and motivations[1] of individual workers (**Box A**) in the hope that this raised awareness, skill, and interest might motivate job crafting, promote individual advocacy for better quality work, and/or stimulate individuals to pursue higher quality work throughout their career. This sort of impact is mostly achieved through awareness-raising strategies (e.g., twitter, websites, community displays) as well as via education, training and development (e.g., higher education courses, workshops).

With respect to awareness-raising, like many research centres, we have invested in websites, twitter accounts, LinkedIn, and other such outreach activities. Regarding our websites, most of our websites deliberately utilise development tools such as Wix because they are a very easy-to-use, relatively inexpensive way to put educational and outreach content online, and can be easily updated by any member of the team (see: transformativeworkdesign.com, smartworkdesign.com.au, and matureworkers.cepar.edu.au for example such websites). We also use professional firms on occasion when we have external funding to support building websites with accessible design (e.g., for www.thriveatwork.org.au). We encourage all members of the Centre to participate in posting material, supported by a marketing professional within our centre, although we acknowledge it can be challenging to maintain momentum and our staff do require occasional 'nudging' to provide content amongst competing workloads. Usefully, online content dissemination enables easy tracking of

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1. "Opportunity" of individuals is likely to be mostly affected by changing broader and more systemic factors, such as the technology they use or the systems they operate within, so we discuss this aspect in other sections.

usage and reach. We currently see our websites average between 1000-4000 unique users per month (with a peak of nearly 10,000 unique users the first month we launched Thrive at Work website). An average of 25 -50 percent of users are international, and the remaining national users are up to 40 percent from states outside our own.

Our efforts to get our research into the media have recently been aided by excellent support provided by our university. A central staff member with media expertise drafts a media release directly from a published paper, and this level of support reduces the workload for researchers and therefore increases the chance that it will happen. One of these media translations last year (based on Ouyang et al., 2019), for example, reached more than 300,000 people (with an advertising space value of more than $AUD 1,000,000). We also try to publish our work in practitioner outlets. As well as the HBR online article mentioned above, we have also written and been interviewed for human resource/ industry magazines both within Australia and overseas including Australian Financial Review, Rio Tinto's (2019) publication on 'Work of the Future' in Australia, the Australian Council of Learned Academies' (2019) publication on Artificial Intelligence, Personal Quarterly (Germany), HR Monthly (AHRI, Australia), OverWerk (Belgium), and The Globe and Mail (Canada). Some of these awareness-raising activities can be relatively feasible ways for individual researchers to achieve impact.

One of our more unusual strategies to promote work-design related KSAs and motivation (and related topics) amongst the wider community has been through the introduction of "Psychology at Work", a free and publicly available 'massive open online course' or MOOC. This online course provided a basic introduction to key concepts in work psychology, including sessions featuring work design. In the several

years that we ran the program[2], we had several thousand people complete the course, and the program was highly rated. Most exciting to us, testimonials and stories about personal impact came from participants, both local and global. For example, we met a participant when Sharon was giving a keynote talk at a safety conference – the participant stood up publicly at the end of the talk and told everyone how valuable the program was (excellent marketing!). As an added bonus, we designed the program to collect data about people's work design, which we now use in our research.

A further somewhat unusual activity we have engaged in to enhance awareness of work design amongst the wider community is an initiative to sketch work design (see sketchingworkdesign.com; and see Figure 6a for an example). The idea behind the project was for an artist to draw people doing their work (to the extent this was possible) whilst also interviewing them. We have found the resulting 44 sketches and stories to be powerful in conveying the importance of work design in a highly practical way. The stories give examples of how, when people love their work, it is often about work design; how work designs are changing; how people craft their work design; and how poor work design can create problems for people and performance. We displayed the sketches at the launch of our Centre (see Figure 6b), at an academic conference, and (forthcoming) in our city's town hall, and we use the materials in our training/education activities and presentations. We also ran a competition for other artists to sketch their work, which also yielded fascination depictions of work design all around the world (see the winning sketches here: https://www.sketchingworkdesign.com/competition-

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2. We closed the program when we moved to a new university but are currently designing a work-design specific MOOC.

[outcome](). We are considering a book and a “global tour” of the sketches to select conferences.

Figure 6: a. An example sketch of work design (see sketchingworkdesign.com for more)

Figure 6: b. people looking at the sketches at our centre launch.

Targeting Managers and System Designers

Enhancing the work-design related KSAs and motivation of those in positions of authority who can directly shape workers’ work design, such as managers and team leaders (**Box B**), potentially achieves even wider span impact. For example, if a manager implements better work design as a result of training in this topic, the work of multiple workers can be improved. Likewise, as discussed above, just about every organisational system affects work design in some way – such as the human resource system, the finance system, the information system and technological systems (**Box D**). Broader regulations and policies around topics such as health and safety also affect

work design. Therefore, awareness-raising and training interventions should also seek to enhance the KSAs and motivation of those who design systems, regulations, and policies that affect work design. Consequently, we aspire to find ways to raise awareness, educate and train business leaders, engineers, health and safety, human resources, occupational physicians, software designers, information technology managers, accountants, ergonomists, public administration leaders, and more.

One strategy to influence the work design KSAs and motivation of those who might be in a position to design work, or who design systems and policies that shape work, has been to accept invitations to deliver keynote addresses at practitioner conferences. Across our careers, we have delivered between us more than 100 talks to different groups. These include talks to: small regional not-for-profit organisations through to large multi-national listed companies from a range of industries (mining and resources, finance, professional services, healthcare, insurance, transport and logistics, and education, amongst others); varied professional and industry bodies and advisory groups; and state and national government agencies and regulators. At these talks, we seek to both motivate and educate. We motivate by showing the relevance of work design to bigger picture issues (e.g., mental health, future work, innovation), and we then educate about work design principles, theories, and evidence. We often feature longitudinal case studies because we want to show it is possible to redesign work, whilst also showing the value of tracking change over time, including change in work as well as change in outcomes like health, safety, and efficiency. We have even given talks to teenagers and children to in which we do experiential exercises to help them think about work design (and not just money and status) when choosing their careers.

We also deliver accredited formal training and education through our own tertiary institution, and we are developing content that others can use in similar

contexts. Higher education is a powerful opportunity for building the KSAs and motivation of future work designers (and future workers). Whilst we have made local efforts to do this through our own teaching activities, we are keen to build these efforts to increase reach. One of the projects we are working on is the dissemination of freely available work design teaching materials (cases, activities, reading materials) that are targeted at different types of students (e.g., MBAs, organisational psychology, engineers) at different levels (undergraduate, postgraduate)[3]. As we (Parker et al., 2019) lamented in our article that showed managers tend to design poor work, "one might question how much attention (relative to, say, leadership) the topic of work design gets in MBA programs, executive development or leadership programs, and even supervisory training courses. Our sense is that work design is relatively rarely the topic of such training and development programs" (Parker et al., 2019, p. 17). We hope that by helping to make material available for others to insert into their own teachings, this will partially help address this lack. The changing trends in education, such as nanodegrees, micro- credentials, and cross-disciplinary degrees, and an increased interest from other disciplines (e.g., health and safety professionals requiring work design training, engineers requiring human-systems interaction training, general interest in 'future of work') are expanding our education opportunities.

Beyond the above activities to raise awareness, KSAs, and motivation, we also conduct work design workshops for professional membership bodies, as well running open public training and customised in-house executive-education style training. With respect to the latter activities, due to the growth in our team, we have begun to

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3. This material will be available on transformativeworkdesign.com.au/teaching from approximately July 2020. Sign up to the website and we will advise you.

professionalise these workshops, such as by standardising content, thereby enabling us to reach a wider audience.

With respect to the question of "does any of this actually improve work?", we are confident that MOOCs, keynote industry presentations, professional training, and the like do raise awareness and build understanding of, and interest for, work design. Using the Kirkpatrick (1998) model of training evaluation, we always do well if we, or others, assess whether participants feel they have learnt from these activities. But, going to a deeper level of Kirkpatrick's model – do participants ever put the knowledge into practice to help create better work for themselves or others? We have often been remiss in neglecting to formally evaluate this question, although we do know from Campion and Stevens (1991) that training increases work design knowledge and changes behaviour in a simulation, and we know from some of our own simulation studies (Parker, Van den Broeck, et al., 2017), that organisational psychologists appear to retain their knowledge about work design over time. We also often informally hear that our training activities have had impact on the thinking and strategy behind particular professionals' and managers' approaches, such as a leader changing his/her team briefing approach, the establishment of communities of practice, and the inclusion of work design into the mental health and well-being strategies of organisations.

In sum, we should not underestimate the power of influencing individuals, especially if they are those that are in (or will be in) positions to affect the jobs of many others through management roles or system/policy design. We find that these activities increase our visibility and credibility and put us "on the radar" for further activities, sometimes in surprising ways. For example, several of our best research opportunities have emerged from a participant seeing us present at a practitioner conference. Nevertheless, building KSAs and motivation requires working on both the head

(through compelling statistics, evidence, rigour) and the heart (through empathy, legacy, stories, etc), and benefits from both discipline and focus in our approach (e.g., in standardising workshop materials) combined with creativity and exploration (e.g., the sketching initiative).

Organisational-Level Interventions: In-depth and Longitudinal Change Projects

The target for achieving well-designed work can also be a larger entity, such as a business unit or organisation (**Box D**), with the goal being to redesign work from a more 'top down' perspective, through initiatives such as self-managing teams and job enrichment, changing work characteristics to address psychosocial risks, or (for example) monitoring work during technology implementation.

Most of our (Sharon's) early research in the United Kingdom, was of this type, involving intensive, longitudinal studies of particular organisations. For example, Sharon's PhD research involved longitudinally tracking the implementation of self-managing teams and just-in-time management within an electronics company (relevant research publications include: Mullarkey et al., 1995; Parker et al., 1997). Further longitudinal intervention studies were funded by the United Kingdom's Health and Safety Executive and were intended to show the outcomes and processes for successfully implementing work redesign (Parker et al., 1998; Parker & Williams, 2001). In order to obtain 'access' in these companies, and especially to maintain it over time, as researchers, we were highly motivated to positively improve work design practices because that was important for the research, as well as for the well-being of the workers involved.

This early work conducted in the United Kingdom was a time in which we learnt several lessons that continue to ring true, such as the importance of fully understanding

the technical detail of the work (Sharon was once quite the expert in steel making). Also important is the need to build the trust of both managers and workers, the need to understand and carefully manage the diverse interests of all stakeholders (unions, supervisors, specialists, production workers, managers), and the necessity for success of full and genuine participation of workers in any redesign work. There was no way that unionised Sheffield steelworkers, for example, were going to accept (say) team working if they thought it was just managing wanting to "screw more work out of them". At the same time, there was no way that the managers were going to do positive things for workers unless they saw productivity benefits. This was therefore fertile training ground for learning how to design work to achieve positive synergies for both parties, as well as how to bring research and practice together and achieve publishable work at the same time as delivering value to the organisations. From a practical perspective, we made a difference locally (as evidenced by changes in participants' work characteristics). We also produced research papers, several of which we still draw on today, given the continued paucity of longitudinal work redesign studies. We unfortunately less often published studies on the process of change, despite much attention to this topic (with one exception being Nadin et al., 2001 and another exception being the final two chapters in our book Parker & Wall, 1998).

We continue to conduct such in-depth, longitudinal projects in which we fully immerse ourselves with a company and then either design the change and track it, or, more simply, track a change already being implemented. The latter has the advantage of being less time consuming for us, as well as allowing us to have a more independent role in change evaluation. As an example, members of our research team have been involved in evaluating and supporting the redesign of a work system for diagnosing rare diseases, which has involved an analysis of what factors enabled the successful redesign

(Hay et al., 2020) as well as intensive observations of the team work processes involved (which has led to the design of a new app for observing interactions, Klonek et al., 2020). We deliberately are also publishing a more practically-oriented version of this work in a genetics journal in order to expand the impact of the work beyond our discipline. Very important in this project has been the ability to work alongside other experts.

One question concerns how to get companies motivated to change work design. Organisations rarely, if ever, come to us saying that they want work redesign – partly because this is not a common term used in practice, and partly because of the iceberg issue discussed above (Figure 2). Nevertheless, there are many different and mostly indirect entry points into organisations when it comes to work design. Some of the organisational motivations for particular projects include:

- the anticipation of major technological disruption, with some recognition that human consideration is needed, and some recognition of possible work design issues (see, for example, Boeing et al., in press);
- the emergence of negative reactions from workers and/or productivity/safety issues after major technological disruption;
- a desire to be an Employer of Choice, coupled with the recognition that well-designed work motivates and attracts staff;
- problems with employee mental health issues and/or a desire to comply with work health and safety policies that include designing work that minimises psychosocial risk;
- a fiscal need to increase employee innovation and proactivity, in a traditionally bureaucratic organisation with highly controlling management practices;
- an ageing work force and uncertainty about how to deal with this challenge;

- interest in a popular management initiative (such as agile teams, holocracy) that involves work design issues.

In early conversations with organisational stakeholders, it is therefore important to understand what the particular agenda is, how a potential project fits the organisation's mental model, and how it might meet their goals. Different stakeholders within an organisation also have their own agendas, and it is important to work out what those are, and to be able to relate work design to those issues. Depending on the agenda of the organisation, and the type of opportunity presented, we then try to carve out whether the opportunity is best positioned as a PhD oriented research project, or is more at the other commercial end of the spectrum (i.e., short-term, solution-implementation focused, with no opportunity for diagnosis or evaluation), or is somewhere in between.

We also rarely find that engaging with Human Resources roles is sufficient. Indeed (depending, of course, on the individuals involved) Human Resource managers sometimes struggle to perceive any need for work redesign. This can be because they have an overly positive perception of the existing work design of their staff (in essence, they tend to believe their own rhetoric), and/or because they have low positional power relative to management and therefore do not feel empowered to champion work design interventions that will involve changes to operational practice. It is often those who either do the actual work (i.e., the workers) or those who closely engage with the actual work (such as the production managers or the health practitioners) who live the mismatch between rhetoric and reality, and who directly feel the consequences of poor work design, who are the most receptive. Ultimately the best outcome tends to come from engaging Human Resources, those close to the work, *and* any other relevant stakeholders. A broad group of stakeholders speaks to the systemic nature of work redesign, and the likely need for multiple departments to amend their systems. In

addition, the usual challenges of managing longitudinal relationships, such as the regular turnover of managers, suggests the good sense of a broad base of engagement. Indeed, our Thrive at Work audit process (https://www.thriveatwork.org.au/resources/thrive-at-work-assessment-tool/) explicitly draws on this notion of engaging multiple stakeholders that all coalesce around the topic of worker mental health.

Other aspects that we have found important in gaining commitment to work redesign include having clear frameworks (such as the SMART and Thrive at Work models), being able to refer to successful case studies (especially within the same industry), and being able to provide compelling statistics relevant to the issue at hand. For example, in terms of workplace mental health intervention statistics, we often cite a professional consultancy firm's analysis showing that - for every dollar spent on successfully implementing an appropriate action to create a mentally health workplace - there is on average $2.30 in benefits to be gained by the organisation in terms of improved productivity and lower numbers of compensation claims (PwC, 2014). One of our team's recent paper that systematically reviewed the effect of work redesign intervention studies on performance (Knight & Parker, 2019) has also been useful for providing quantifiable effect sizes of workplace interventions. In another project, incorporating an additional analysis undertaken by a health economist, we showed the efficiency gains from a redesign in surgical teams (introducing multi-professional team briefs) conservatively saved over three million dollars per year (Parker, Griffin, et al., 2018). These sorts of data and examples help, and can sometimes (depending on the audience), be more useful than talking about correlations or significant effects, which often do not resonate with managers and business leaders.

Well-designed work is good for the organisation and the person – we genuinely believe that, and there is a lot of evidence this is so. We advocate for this synergy, so we are essentially on both 'sides' (that is, managers and workers). Despite this, we have frequently found ourselves having to advocate for, and represent the voice of the employee, more often because this is a voice that is often not heard, and we, as external advisors, help give legitimacy to that voice. We rarely undertake projects that do not bring in the employee perspective at some point (ideally, it is the dominant perspective) because it is the enacted and experienced work design that is most relevant. The audits, for example, with Thrive at Work are a great way to get people from across functions around the table – but these audits do not include the views of employees, so we would always push for this as a crucial step. Employee perspectives can come from interviews, running focus groups with employees, and/or conducting employee perception surveys (which have the added benefit of potentially providing research data). Of course, we need to simultaneously remain focused on the organisational goals too, and it requires skill to navigate the different perspectives.

Larger-Scale Interventions: Scaling Up and Influencing Policy

We are now seeking to achieve a larger-scale impact by influencing the work design within multiple organisations and by shaping and supporting national-level policy.

Multi-Organisation Impact

With respect to multi-organisation impact, as a case in point, we recently conducted a large-scale project to investigate the mental health risks associated with fly-in-fly-out (FIFO) work (Parker, Fruhen, et al., 2018). FIFO workers (mostly miners and construction workers) fly to their work sites, and typically spend between 1 to 4 weeks away from home. This work - initiated by our state government in response to high

levels of suicide amongst this workforce - was carried out by a multidisciplinary academic team involving ourselves and other academic experts (e.g., clinical psychologists with experts in in suicide, social workers), and supported by a multi-stakeholder advisory group. The opportunity to focus on a specific industry allowed us to provide more tailored findings and industry-specific recommendations to compel companies to change behaviour, and has informed wider industry developments (e.g., a FIFO Code of Practice), and led to us having a greater engagement with regulators.

There are several ways in which this larger-scale approach differs from, or extends, our organisational-level work. First, we benefit from a larger and more diverse team. As interest in our work has grown, and with the help of some government funding, we have been in the fortunate position to employ more practitioner-oriented staff in our team. These staff are mostly qualified organisational psychologists who work with us to help enhance and spread our impact beyond academia. Members of our "Collaboratory" engage in a wide range of activities and projects, including working concurrently with multiple organisations within and across industries. Sometimes these projects are applied research projects like the FIFO study described above, but sometimes they are commercially-focused at the outset with research being drawn on to do the work, rather than the initial goal to generate research data. These latter projects expand the reach of our impact, increase our funding for both research and impact, and build our resources and expertise. With respect to the latter, these projects often allow us to test and refine new methods and tools we are developing, which builds our collateral, capability, and reputation, which then creates yet more opportunity for impact, in a positive spiral.

Second, the multi-organisational or industry-level approach often means working with bodies that represent organisations, rather than just the organisations per

se. In the case of the FIFO work, for example, the project was governed by an advisory group involving representatives from key unions, regulators, industry chambers, as well as mental health associations. Similarly, in the case of our Thrive at Work initiative, it has been necessary to work with regulators, mental health bodies, as well as industry chambers, who bring differing perspectives and have varying drivers for change.

Often these stakeholders have very diverse perspectives. For example, in the context our Thrive at Work initiative, differences particularly centred around the required levels of prescription. On the one hand, individual organisations (and therefore the industry bodies or chambers that represent them) often sought industry-specific guidance for their members to address psychosocial risks so as to ensure legal compliance, as well as to manage growing workers' compensation claims. On the other hand, organisations and their representatives resisted guidance documents and frameworks from regulators or guidance bodies being overly prescriptive as they feared being constrained in their business practices as well as the legal ramifications of non-compliance. This tension resulted in us frequently having to tread the delicate balance of bringing together different organisations to share lessons learned (through Communities of Practice or other discussion forums) without the formality that might highlight a consistency of findings across organisations (e.g., task forces or summits) which industry bodies fear might then lead to the development of new industry requirements. We have observed that successful cross-organisational sharing has often been within industries that have clear and publicly understood drivers for change, such as emergency services agencies. In the latter case, a recent national study found that one in three emergency services employees experience high or very high psychological distress; much higher than just over one in eight among all adults in Australia (Beyond Blue, 2018). Another similar case in which there is a clear case for change is our public

sector, with 56 per cent of mental health stress claims in Western Australia lodged with public sector agencies, despite public sector employees only accounting for 10 per cent of the State's workforce (Insurance Commission of Western Australia, 2018, 2019).

A third feature of multi-organisational impact is that, whilst we have traditionally fought against having ready-made models and services (advocating for the importance of contextual understanding for shaping methodology and measurement), the more that we have tried to collectively influence and engage multiple organisations concurrently, and the more our team has grown, the greater our move in that direction. To some extent, organisations also expect this more standardised approach as they are used to seeing a suite of products and services when working with consultants. Our starting point has been the development of our practical models that 'synthesise' in a compelling and logical way the evidence and the ideas we wish to convey, as described above. Then, to accompany our models, we have designed various measurement methods and processes, such as a "SMART" assessment of work design, a "Thrive" audit of practices relevant to mental health, and a "three-i" survey of aged worker experiences. We have then collated and curated statistics and case studies around various elements in these models. Much of this material is publicly available on our websites with guidance, for example, on facilitating change processes.

As an example of how having practical models can help, we recently worked with a police department who were wanting to understand how to improve their return to work processes after an officer is injured. In talking to case managers about various successful return to work cases, it was clear that these cases often involved changing the work in order to accommodate the officer's injury whilst also ensuring the work was well-designed. It was relatively straightforward to introduce the idea that individuals need to return to "SMART" work, and to collect examples of how, for example, a

supportive sergeant could come up with ways to create ‘stimulating’ work that was nevertheless ‘tolerable’ (i.e., addressing the “S” and “T” elements of the SMART model).

Fourth, we increasingly realise the need to develop a business model that can be scaled. Thus, despite the fact we have made a great deal of our material freely available, we still find that there is a need for detailed facilitation and in-depth organisational work in many cases. For example, whilst the Thrive at Work framework and supporting resources to guide implementation processes are publicly available on the Thrive at Work website, and we know some organisations have independently used these resources to guide their thinking around mental health strategy, many organisations still seek our input in facilitating these processes. Reasons for involving us varies. Sometimes it is because organisations lack the internal organisational development skills to undertake the activities; sometimes it is because they do not have the time to conduct the activities themselves; and sometimes it is because they value the independence we offer. As we move forward, to achieve scale, we anticipate needing to expand our team of organisational psychologists or develop a ‘train the trainer’ model so that we can train others to engage in the processes.

Fifth, a challenge we are now confronted with is how to measure the impact of our work as we grow. We recognise our impact is often very indirect, slow to emerge, and multifaceted. Furthermore, as we now begin to see positive spirals emerging, multiple points of contact, and accumulation of results, measuring impact becomes even more challenging. For example, if we set up a Community of Practice, how would we track the impact of this? Often the members of these Communities of Practice have multiple contact points with us, possibly being alumni of our education programs, having been in the audience of keynotes we have delivered, and having colleagues who have

participated in our applied research projects, if not personally. Often, the buy-in and advocacy from organisations stakeholders is not immediate and is not earned until we have undertaken work that provides company specific data and evidence. For instance, in one construction company, only after we conducted a survey and then statistically modelled the effect of work factors on mental health did we shift the managers' focus from tertiary interventions, such as mental health awareness training, to primary interventions involving work redesign. In another case, only when we gave the customised example of pre-start safety briefings being a way to increase 'mastery' at work did the senior leadership understand that work design was also relevant to their blue-collar workers. Models, case studies and educational resources can only go so far. Often, one-on-one, and longitudinal connections are still necessary. The importance of in-depth, longitudinal projects in which we fully immerse ourselves with a company will still be essential for ongoing impact.

Shaping and Supporting National-Level Policy

An important approach to getting better work design for all is to influence relevant national-level policies, which is recognized as an increasingly important role for organisational psychologists (see, for example, Steve Kozlowski here https://www.youtube.com/watch?v=8dpepxpYa6M). Our early longitudinal research informed the United Kingdom's Health and Safety Executive agenda to prevent harm through addressing psychosocial risks. For example, our work was identified by MacKay et al. (2004) as influencing how the UK "management standards" for work stress were developed. As these authors stated,

"We therefore drew on the extensive literature on job design, especially as it applies to the prevention of workplace stress, and where there was high quality case study material to support such an approach (Parker et al., 1998)" (MacKay et al., 2004).

More recently, we have contributed to the development of a work design model and guidance by Comcare, the national work health and safety authority, and Safework Australia, a government body that develops work health and safety policy. Specifically, through synthesis of research (see Parker, 2015), as well as drawing on our expertise with organisational change, we helped these bodies to develop the "Good Work Design" principles that are designed to help organisations to prevent psychosocial risks through good work design (see Figure 7[4]). These guidance materials have been extensively used across Australia.

4. For the principles, see https://www.safeworkaustralia.gov.au/system/files/documents/1702/good-work-design-handbook.pdf For a video of Sharon describing these principles, see https://www.safeworkaustralia.gov.au/media-centre/good-work-design-and-applying-it-psychosocial-risks

Figure 7. Why, What, and How Principles of Good Work Design (source: https://www.safeworkaustralia.gov.au/good-work-design)

Other examples of our efforts in this space include our participation in national working party alliances on the topic of mental health and contribution to national policy-oriented documents such as discussions on the future of work (ACOLA, 2019). We acknowledge, nevertheless, the scope for much more action with regard to shaping and supporting policy, especially given the large scale and transformative impact of digital technologies that is ahead of us.

Final Comments and Moving Forward

Our analysis above shows there are multiple paths to achieving better work for all, varying in scope and target, and affecting work in different ways (Figure 1). Although we presented the different levels of impact separately, in practice, they often operate simultaneously, and they feed each other. For example, work at the policy level enhances our reputation and connections, which can fuel keynote invitations, which then often spark interest from a particular organisation. Likewise, many of the lessons at one level apply at another level, such as the idea that, across the board, establishing relationships is vital.

It is also important to be clear that, beyond our examples above, we have had many disappointing experiences, missed opportunities, and failures over the years. We have worked with companies who want to treat as "cheap consultants", or who simply do not "get us". Some organizations struggle to know how to work us (and we with them) because our value sets are so different. In a meeting recently, my colleagues described how they were grilled by a senior human resources executive that could not fathom why we cared about research and assumed our "real" motive must be money. We have sometimes (perhaps often) wasted time pursuing opportunities that do not come to fruition. We have frequently missed the boat – discovering consultants or others have secured a project or opportunity that we should have been ideally placed to do, but we just could not persuade the stakeholders we were right for the job or we did not have the capacity to respond. We have grown so frustrated on occasion with companies that will not act on our recommendations, filling us with guilt at having participated in raising expectations of workers that are then not met. We have given away intellectual property and seen it reappear in consulting companies. We have failed to extract good research from commercial/applied projects when we should have. Vice versa also applies – we have often not translated and disseminated good research into

practical guidance. For example, several years ago, Sharon set a goal to “translate” every academic paper accepted into a practical article, but this goal was not met; and Karina has struggled to keep up with writing case studies for our case library because the next and ‘live’ case is a more pressing demand. Our local TEDx committee has been uninterested in having us present. We have been slow to target HBR and other such outlets, and when we do, getting traction has not been easy. Our work is often not as ‘attention grabbing’ as social psychology experiments, and there is no doubt it is harder to get into high profile practitioner outlets if you are situated at a remote Australian university. As noted already, our impact on policy is (thus far) relatively light.

And we could go on with this list of mistakes and regrets! The point we are wanting to acknowledge is that seeking to have an impact is not easy. For a researcher, trying to influence practice on top of the excruciatingly difficult demands of producing high quality research (as well as doing editing, reviewing, teaching, etc), can be too much, especially in an educational sector that has traditionally not valued or supported impact. For a practitioner, it is challenging to influence practice within the constraints of a bureaucratic higher education institution that often has other priorities, and there is much uncertainty in carving out a career path in a context where research is most heavily rewarded.

Nevertheless, despite the ‘failures’ and challenges, we keep trying, learning from our mistakes, and moving forward. We both have a deep commitment to making work better, and when we find out we have done that, the intrinsic motivation associated with this ‘task significance’ keeps us going. We are also motivated by the tremendous opportunities we see ahead for our field. Not only is there much wider recognition of the role of good work design for mental health, but technological change means work design is a crucial topic (as we argued recently, see Parker & Grote, 2020).

The traditional data modelling skills of organisational psychologists also mean that we are comfortable with big data, and therefore readily able to interact with data scientists and others, which in turn creates opportunities. We also observe that many universities are understanding more than ever the importance of impact of research beyond academic impact, which hopefully translates into better support for this type of activity within universities. The opportunity for impact is greater than ever.

To fully capitalise on these opportunities, we concur with the recommendations that are frequently made in our field, such as the value of more interdisciplinary work; greater openness from authors, editors and reviewers to different types of research; recognition of, and support for, different types of contributions in Universities; upskilling our profession with more policy-oriented and business-oriented training; and closer connections between practitioners and researchers. Most of all though, we encourage researchers who have to date not engaged much externally to have a go. Although we see that senior researchers whose careers are established are best placed to lead larger-scale impact endeavours, even junior researchers can take small steps to make a difference. In the words of Helen Keller, "*the world is not moved only by the mighty shoves of the heroes, but also by the aggregate of the tiny pushes of each honest worker.*" We hope this article on our tiny pushes helps us to create better quality work for all.

Acknowledgements

We acknowledge the funding of the Australian Research Council, FL160100033, as well as other funding bodies, industry partners, and Universities who have supported our research. We also acknowledge the contribution of many other individuals at the Future of Work Institute and the Centre for Transformative Work Design, past and present, in many of the initiatives and activities that we describe here. There are too many wonderful such individuals to mention individually.

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