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Whack-a-Mole?: Ecologies of young adults with intellectual disabilities as they transition from school to open employmnent

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This paper addresses the question of why young Australians with intellectual disability (ID) remain underrepresented in open employment despite significant investment by various stakeholders. It uses the analogy of Whack-a-Mole (an arcade game) to draw attention to the complexity young people face during transition, and to illustrate how addressing one barrier in isolation is unlikely to result in successful transitions. In response to repeated calls for more holistic understandings of the transition process for young adults with ID, the paper draws upon the work of Urie Bronfenbrenner to present an adaptation of his model to map the ecologies of young people with ID's as they seek to transition from school to open employment. The model illustrates the complexity of transition, a proliferation of stakeholders, and traces how transition is contingent on much more than young adults with ID's capabilities. It invites further consideration of, and utility for, an ecological model as a basis for imagining possibilities

to increase the number of people with ID in open employment and concludes by raising some questions that stakeholders might ask.

Keywords: *disability, school-work transition, ecological model, Bronfenbrenner, intellectual disability, young adults*

Introduction

Gaining meaningful work on completing compulsory school education or post-school vocational education is a goal for many young adults with intellectual disabilities (ID). While supported workplaces are a common post-school employment option, some young adults with ID are shifting the goal to getting a job in open employment. By this, we mean in organisations where the raison d'être is not simply to provide opportunities for people with disabilities. Realising this goal can mean increased participation in economic society and social participation (Laragy, Fisher, Purcal & Jenkinson, 2015), greater self-determination (Donelly et al., 2010) and improved wellbeing (Meltzer, Robinson & Fisher 2018).

However, the goal of open employment is one that few young adults with ID achieve. Poor employment outcomes for people with disability are common (Gouvea & Li, 2021), and Australians with ID are even less likely to participate in open employment compared to those with sensory, speech and/or physical disability (Australian Bureau of Statistics, 2020). Further, if young adults with ID do find a job, they are likely to be in insecure positions (Meltzer et al., 2018). Overall, despite the efforts of individuals or organisations, it remains a dismal situation.

In Australia, as elsewhere, there is significant investment in educational initiatives to support the transition of young people with ID from school to work (e.g., Dunn, Shannon, McCullough, Jenda & Qazi, 2018). On completion of school education post-school initiatives include specialised employment programs focusing on skills development (e.g., Smith, Grigal & Shepard, 2018) and Disability Employment Services (DES) that provide dedicated support workers to advocate and support young people in the workplace. Yet, the under- and unemployment of people with ID belies the significant investment in these initiatives.

This prompts us to ask why is it that young Australians with ID remain underrepresented in open employment? In response, we suggest that educational institutions are engaged in a game of 'whack-a-mole'. Whack-a-mole is a popular arcade game where a player uses a hammer to hit toy moles that randomly appear. However, the game is characterised by players futile attempts to hit a mole before it pops up in a different location.

Here we use the analogy to draw attention to issues beyond the scope of any educational initiatives arising, despite stakeholders' efforts to support transitions to employment. For instance a young adult might want to work but their family might be sceptical (Southward & Kyzar 2017); an educational institution might teach relevant work skills but this is futile if there are few willing employers (Ross-Gordon & Procknow, 2020); organisations may be willing, but maintaining employment can be difficult if employers are not also open to working with support workers, creating appropriate jobs, making suitable workplace adjustments or providing adequate training (Joshi, Bouck & Maeda, 2012; Ross-Gordon & Procknow, 2020). Overt and covert discrimination and attitudes of work colleagues/customers can make maintaining a job challenging (Meltzer et al., 2018). Broader social structures can hinder educational programs from being translated into employment opportunities: e.g., inadequate/inefficient policy, complex funding arrangements, societal views on disability, labour market demands, and perceived economic imperatives (Leonard et al., 2016).

The whack-a-mole analogy is also evident in research. Tranches of research concerned with these young people's transition often approach studies with singular foci (e.g., family engagement, employer attitudes or educational interventions). While the spectre of competing issues is noted, recommendations are framed in response to the specific issue under investigation. However, like a game of whack-a-mole, addressing a singular issue does not ensure success. In all, we agree with Trainor et al. that 'improving secondary and postschool outcomes for individuals with disabilities [is] an incredibly complex endeavor[sic]' (2019, p. 1). This sentiment is echoed by Foley, Dyke, Girdler, Bourke and Leonard, who conclude:

> *The range of issues related to transition from school to adult life for individuals with intellectual disability are complex and*

> *multi-faceted. Over the past two decades, there have been many initiatives implemented within the developed world to try to facilitate a smooth and successful transition from secondary school, although very few have had positive outcomes. (2012, p. 1760)*

In their own way, these authors see transition as a 'wicked problem': 'where there are many decision makers and clients with conflicting values, and where the ramifications in the whole system are confusing' (Churchman, 1967, as cited in McCall & Burge, 2016, p. 200). This invites the production of holistic accounts of school-to-work transition for people with ID. We respond by framing the transition of young adults with ID in a manner that sheds light on its multifaceted and complex nature. Drawing from Bronfenbrenner's Ecological Systems model (1979, 1994), we map the ecologies of young adults with ID at a point in their lives when they are transitioning from school to employment and illustrate the ever-evolving system surrounding them as they enter adulthood. Depending on the characteristics of the individual, this may include final years of schooling as well as post-schooling (pre)vocational education and early experiences in the workplace. Our purpose is not to solve the 'wicked problem' of transition but to offer a modest way of understanding the complexities by framing transition in a new and different way. In doing this, we invite stakeholders to consider where innovations might be imagined - perhaps leading to more frequent/successful transitions.

Transition as a time of learning

Transitioning from school to work is a period of much learning. In Australia, this begins at school and is directed by a National Curriculum, which includes Work Studies modules and (ideally) work experience opportunities for all students in their final school years (e.g., Dunn et al., 2018.). Following compulsory education, post-school education provides further opportunities for learning in either specialised institutions that work specifically with people with ID or mainstream providers (with/without specialised programs). Learning may involve developing work skills (e.g., retail or hospitality), employment skills (e.g., resume writing, interviews), soft skills (e.g., communication) and life skills (e.g., catching public transport, personal grooming). Work experience, while desirable,

can be difficult to secure and some educational institutions create alternative opportunities (e.g., microbusiness, institutionally based work experience etc.) (Young and Rooney, 2021).

Learning is not limited to involvement in educational institutions. Once in a workplace (work experience or job), further learning occurs through onboarding, mentoring programs and/or simply as young adults 'find their feet'. It is not just young adults who need to learn either. A resounding finding in research is that families (Leonard et al., 2016), employing organisations (Meltzer et al., 2018) and educators (Ross-Gordon & Procknow, 2020; McDonnell & Hardman, 2010) require further learning to better understand the abilities of workers with ID and how to support them to succeed.

Conceptual resources to foster understandings

We approach the transition of young adults with ID from a strengths-based position, believing that they possess (or have the potential to develop) skills and capabilities necessary to engage in meaningful employment. We distance ourselves from medical models of disability where potential is viewed solely on cognitive, psychological or physiological states (Ross-Gordon & Procknow, 2020, p. 392). The latter frames barriers to open employment in terms of limitations and deficits (e.g., the young person does not have the skills/capabilities required). Further, these views can see people purged of personal biographies, aspirations and dreams, social contexts as well as independent of broader structures. To this end, we look towards social and situated views. Merriam and Baumgartner (2020) point out that 'there has always been an interlocking of learning needs with the social context in which they occur' (p. 6) and Illeris (2017) adds, 'all learning is situated' (p. 115). We extend this by adding that, just like learning, the transition period is situated in social and structural contexts.

The concept of learning ecologies has been deployed by those seeking situated accounts of learning. Drawing inspiration from ecologies in nature, ecological accounts of learning focus on the broad context and are attuned to people, relationships, entities, activities, structures and materiality. Like systems thinking approaches, ecological accounts tease out the 'interrelations and interdependencies' of various parts of the system and how these interact 'with other systems and subsystems'

(Gonzales, 2020, p. 3).

Ecological accounts of learning are common in childhood educational research and models have been generated to illustrate influences on learning beyond everyday teacher/student interactions. For instance, Epstein (2011) presents a Venn model depicting relationships between schools, families and communities. Her model emphasises shared responsibility for a child's learning (2011) and convincingly exemplifies the idiom of 'taking a village'. Ecological accounts of learning are not limited to children. They are also evident in accounts of workplace learning (Evans, 2020), higher education (Jackson & Barnett, 2020) and adult life (Jackson & Barnett, 2020).

A common influence underpinning ecological accounts of learning is the work of Urie Bronfenbrenner. Inspired by Lewin and Vygotsky, Bronfenbrenner (1979) was interested in the complex environments and relationships that enfold children and how this impacts their development. He established a model consisting of interconnecting systems ranging from children's immediate situation to broader social structures and dominant social norms. The model's explanatory power lay in its capacity to take account of a wider view of context and the interconnectedness of various systems and as an 'antidote to theories that reduced development of the individual to single factors such as genetics' (Quickfall, 2021, p. 96).

The interconnected systems central to Bronfenbrenner's work include the microsystem, the mesosystem, the exosystem and the macrosystem. These are typically presented as concentric circles that move from microsystems in the centre through to macrosystems on the outer circle. This enables the tracing of the impacts of wider phenomena on everyday relationships, interactions and attitudes. In later work, Bronfenbrenner introduced a fifth system, the chronosystem, acknowledging changes in the systems over time that impact children's development (Bronfenbrenner, 1994).

Bronfenbrenner's ideas remain popular among educational scholars, including studies interested in the education of children with disabilities (Anderson, Boyle & Deppeler, 2014; Gonzales, 2020; Laragy et al., 2015). With a focus on school education, Gonzales suggests that model helps 'school leaders to develop a holistic view of the complex layers of

family, school and community relationship' (2020, p. 82). Anderson et al., concerned with inclusive education, also turn to Bronfenbrenner to understand child development by drawing attention to relationships and connections of various layers through a 'snapshot of a single point in time' (2014, p. 9). In this paper, we build on these applications to create a 'snapshot' of a different 'point in time' where young people with ID are transitioning from school to work.

Deploying Bronfenbrenner's model

To unpack Bronfenbrenner's ideas and illustrate them with literature related to the ecologies of young people with ID, Figure 1 provides a snapshot of the layers of a young person with ID's ecology during transition. Importantly, while it shares similarities with the ecologies of transitioning young people without ID, it draws attention to additional considerations which are specifically relevant to the lived experiences of those with.

Figure 1. A young person with ID's ecology during transition.

Unpacking the model

The microsystem

The inner circle of the ecosystem is the microsystem, and central to this is the young person themselves (Quickfall, 2021). This necessarily includes their work dreams, likes and dislikes, beliefs and the experiences leading up to the transition: all critical for promoting self-determination (Maia-Pike, 2021). It also includes individual strengths and developing capabilities relevant to future employment. Surrounding the young person in the microsystem is a network of people who play a pivotal role in their daily lives (Donelly et al., 2010; Anderson et al., 2014). These stakeholders regularly interact with the young person, although the interactions occur in various physical sites.

Like Epstein (2011), the inclusion of a home, school, and community are visible here. Home is where young people interact with their family. Research on families' influence on the employment of people with ID is widespread and resounding (O'Brien & Murray, 2018; Donelly et al., 2010). One example is the conversations families have about the future and how these shape aspirations and attitudes towards work as well as formulate expectations for all concerned. Chronologically, these conversations can (and should) occur long before transition begins (Kelley & Prohn, 2019). Transition can be a considerably stressful time for parents too. Parenting any child has its challenges, but challenges are compounded when a child has ID (Kelley & Prohn, 2019; Leonard et al., 2016). As the young person leaves school, the responsibility for securing appropriate support services largely falls to the family. Navigating disability support systems is a source of stress for many parents/carers (Hirano, Rowe, Lindstrom & Chan, 2018; Leonard et al., 2016). Parental anxiety gains momentum during transition and is not limited to employment issues alone; transport to and from work and even future accommodation weigh heavily for families as their young person matures and they themselves age (Young and Rooney, 2021).

Of course, schools and post-school educational institutions are other significant sites in the transition process—thus, teachers, admin staff, peers and close friends become important inclusions in the microsystem. A young person is likely to have daily interactions (pedagogical or otherwise) with these people and these interactions can

shape attitudes to work.

Various people in the local community where a young person engages in leisure, retail, sport, recreational or faith-based activities matter too. Community participation plays an important (often understated) role in the microsystem and is an important transition component (McDonnell & Hardman, 2010, p. 126). If a young person's friendship group consists predominately of school-based friends, there is potential for friendships to wain on graduation (Foley et al. 2012). However, participation in communities can help form new/broader friendship groups as well as help develop social skills that may be of use in workplaces.

Until this point, the microsystem described appears common to most children. However, a notable difference for young people with ID is the number of interactions they may have with health and allied health professionals. Some will be under the care of, or interact with, one or more health and allied health professionals (e.g., physicians, speech therapists, occupational therapists) on a regular basis.

A further significant feature within the microsystems of young adults transitioning is the interactions with employers and work colleagues. Interactions might occur as part of work experience programs, paid or unpaid work. This warrants the inclusion of employers, work colleagues and even customers in the microsystem. Employer attitudes towards disability can influence decisions about employing a person with ID. The employer determines the actual work that the young person undertakes. As does their willingness to incorporate workplace accommodations (e.g., flexible hours, adjusted job roles and modified training and supervision) that contribute to employment success (or failure) (McDowell & Fossey, 2015; Ross-Gordon & Procknow, 2020). Work colleagues can aid successful transition just as unsupportive colleagues can adversely impact success. Disability-based discrimination in workplaces can (and does) impact the success or failure of securing and maintaining employment (Ross-Gordon & Procknow, 2020) and this includes discriminatory interactions with customers/clients. Variously named support workers also play an important role in transition. In Australia, the NDIS fund Disability Support Workers who can accompany the young person in the workplace and their ongoing support can be critical (Certo et al., 2008; McDowell & Fossey, 2015).

Overall, the microsystem is in a state of flux during transition. It is

subject to simultaneous exiting and expansion of stakeholders. As school-teachers farewell their charges, employers, work colleagues, customers/clients and DES support workers expand the system. As mentioned above, parallel exiting and expanding occur as friendships formed at school dwindle (Foley et al. 2012) and new friendships formed.

The mesosystem

Moving outwards from the microsystem is the mesosystem. Bronfenbrenner describes this as the 'interrelations among two or more settings in which the developing person actively participates' (1979, p. 25). Importantly, this involves relationships and interactions that may not include the young person with ID but can impact their transition. For instance, teachers and parents' interactions over the child's educational progress, individualised learning goals and post-school options are likely. During transition, parental interactions can also involve conversing with post-school education providers about training options or using personal networks to secure work experience opportunities (Young & Rooney, 2021).

At this time, parents must also renegotiate support available through the NDIS. Shergold et al. (2020) call for better collaboration in senior school years so that 'individual post-school transition plan[s are] put in place prior to leaving school' (p. 22, emphasis added). In some cases (not all), schools endeavour to make transition seamless by organising parent information events and bringing parents together with new stakeholders.

Parents and health/allied health practitioners' relationships and interactions, while continuing through transition, can take on new foci. Discussions may turn to specific workplace adjustments required to support the young person in employment and how this can be communicated to employers (McDowell & Fossey 2015). In addition, health practitioners themselves are typically embedded in interprofessional networks involving other health and allied health professionals, and this network can involve professional interactions about people with ID and employment.

Overall, a significant amount of brokering, negotiations and interactions concerning a young person with ID and their transition to employment

is evident in the mesosystem. While there is increasing acknowledgment of the value of including young people with ID in such negotiations, many interactions in the mesosystem (about the young person) continue to occur without them. This works to divest young people of self-determination (Maia-Pike, 2021).

Finally, there are interactions that expand an already burgeoning mesosystem that perhaps rightfully do not include the young person but have the potential to impact transition. For instance, interactions between health providers who are embedded in their own professional and personal networks. Like health providers, other stakeholders in the microsystem are embedded in their own ecologies (or networks): a parent can have a job; siblings have their own friendships; and teachers, employers and work colleagues have their families and friends too. Few of these other people's networks would directly interact with the young person at the centre of the ecology. Yet, each relationship has the potential to indirectly influence it -not least of all through perpetuating or contradicting broader attitudes to disability. One example is that of an employer who knows or is related to someone with a disability. This relationship has been cited as one of the main reasons an employer agrees to employ a person with disability themselves (Young & Rooney 2021).

The exosystem

The exosystem 'refers to one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person' (Bronfenbrenner, 1979, p. 25). Central here are the structures that indirectly impact the experiences of young persons with ID (Quickfall, 2021, p. 89). This includes the educational system, which impacts and influences the everyday activities and experiences of the young person with ID. It is in the exosystem that three tiers of schools are conceived and made available in Australia: specialised school settings, support units in mainstream schools and inclusive mainstream classrooms. Choice of school among these options can impact successful transitions (Joshi et al., 2012, p. 105). The educational system itself also includes a National Curriculum which is influenced by Australia's federal system (Young & Rooney, 2021).

Broader health systems constitute another important inclusion involving accepted knowledge, treatment, management, and classifications of ID that may or may not be consistent. This 'matters on the ground'. For instance, a medical classification of disability used by health professionals may not be the same classification used by educational institutions or by other support systems (e.g., NDIS). These competing views can filter down to relationships and activities in the meso- and microsystems and contribute to the complexities of transition.

The NDIS itself is also an important feature of the exosystem in an Australian context that significantly influences the daily matters of people with an ID. Not untouched by ideologies of marketisation (macro), the scheme makes available financial support for individuals who must then 'purchase' services. This requires personalised planning (ideally undertaken by families in consult with the person with ID), identifying a range of suitable services, and then finding and purchasing them on 'open markets'. While at school, young people with ID are eligible for NDIS plans to provide funds to access allied health, respite care and specialised equipment. On leaving school, other support for accommodation, other educational provisions, health care services and employment support can be accessed (National Disability Insurance Agency, 2022). However, the NDIS has been subject to much critique with its complexity for those who must navigate often cited (Laragy et al., 2015) and its dedifferentiated nature that can further disadvantage those with ID (Bigby, 2020).

With a focus on the transition to work, some further related systems are also acknowledged: e.g., the broader economy, industry, labour market, social services, housing, accommodation and even transport systems (Trainor, et. al., 2019). Each of these can potentially impact a young person with ID's capacity to secure and maintain employment. The exosystem also includes disability advocacy agencies and mass/social media that disseminate views on disability. Both can, subtly or overtly, perpetuate or challenge, broader opinions about inclusivity that 'trickle down' to potential employers, work colleagues and customers/clients and even young people with ID themselves and how families, teachers and others position them.

The macrosystem

Finally, Bronfenbrenner describes the macrosystem as the 'consistencies, in the form and content of lower-order systems (micro-, meso- and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies' (1979, p. 26). This outer layer of the model involves cultural elements that impact young people with an ID and includes dominant societal attitudes towards and beliefs about disability, education, and people's roles in society, which impact entities, activities and relationships available (or not) in other systems. It is also here that ideologies of neoliberalism, human rights, and democracy also lay foundations, and justify what is possible (or not) at other levels of the ecology.

Across the ecology

This paper began by suggesting that the transition of young people with ID - from school to open employment—is a 'wicked problem' where the nature of the explanation determines the solutions on offer (Rittel & Webber, 1973, as cited in McCall & Burge, 2016 p. 200). Here we have highlighted the complexities by deploying an ecological model and drawing attention to interconnected subsystems that influence the likelihood of young adults with ID successfully transitioning from school to open employment. The ecology presented in the model demonstrates the interdependency of various systems and how something in one system impacts something elsewhere in the ecology. Notably, it illustrates how decisions, entities, activities, roles, and relationships, beyond the immediate experience of a young adult with ID (micro), influence successful transitions from school to work (see examples in Table 1 below).

Table 1

Neoliberalism (macro)	influences how NDIS support is made available (exo)	impacts parents' capacity to financially support their child (meso/micro) or an organisation's decision to employ a person with a disability (meso/micro)
Human Rights and cultural attitudes to disability (macro)	influences populous attitudes towards people with disability (micro)	impacts people with IDs' experiences at home, work, school and in communities (meso/micro)
An employer's personal experiences with disability (employers' micro)	influences decisions to employ a person with an ID (employers' micro)	impacts the likelihood of a young person with ID having open employment (young person's micro)
Categorisation of disability (exo)	influences what support is available (micro)	impact on the likelihood of success in securing open employment (micro)
Human rights (macro)	influence education systems' conceiving educational options/ National Curriculum (exo)	impact on the likelihood of success in securing open employment (micro)

Changes and inflections

Transition is, by definition, a time of change, and Bronfenbrenner's inclusion of the chronosystem acknowledges the temporality of transition. For instance, choices made early in life, the curriculum and previous learning of the young person enable skills and capabilities that later be 'put to work'. The interrelated systems are not impervious to change either. Temporal elements are noted in changes in the ecology over time: e.g., changes in broader understandings of disability; the move away from sheltered workshops being the only employment option (Quickfell, 2021; Evans 2021; Young & Rooney, 2021).

But not everything changes. Young people's transition to adulthood is a period involving continuity too. The presence of ID is likely to continue (although this may be more pronounced in adulthood). Family's enduring relationships are another example—as is their ongoing support of their child through multiple life-course transitions (McDonnell & Hardman, 2010, pp. 123–124). Perhaps it is more accurate to think about the ecology in terms of inflections, that is, something that continues but takes new or different emphasis or intensity.

A notable feature of the ecology is the exponential growth in the mesosystem through the transition. This exemplifies how various stakeholders can be 'the village' that embraces young adults with ID and lends weight to calls for shared responsibility for transition (Butterworth, Christensen & Flippo, 2017). Indeed, stakeholder collaborations feature in many educational initiatives that claim successful transitions (Sheppard, Harrington & Howard, 2017; Xu & Stancliffe, 2019). However, the number of interactions happening about the young person but without including them in all levels across the ecology summons much critique (Maia-Pike, 2021). This said, it is also in the mesosystem where possibilities might be conceived.

Possibilities

Assuming general agreement on the need for better/more inclusive employment outcomes for young adults with ID, then this ecological model has something to offer. First, it can illuminate some of the complexities involved in the transition, and perhaps even absolve individuals or individual agencies, of some blame for poor employment outcomes despite their best efforts. As with many social issues, the transition to employment for young adults with ID is a complex issue not solved through a single solution alone. However, there may be potential for stakeholders to join forces. So, secondly, the model provides possible directions for imagining how stakeholders might achieve a shared goal. Thus, we conclude by proposing some questions.

- *Educators might ask*: Are shared programs possible so that the move from school to post-school education is more seamless? Are work preparation programs centred around what young adults can do? Can educational efforts be further supported by stakeholder collaborations?

- *Program funders might ask*: Is realistic acknowledgement given to the significant amount of brokering many already do or see possibilities for doing?
- *Employers might ask*: Who in the microsystem can help understand young peoples' strengths? Are job roles strength-based? What training is available for the existing workforce, and who might you collaborate with to deliver it?
- *All stakeholders might ask*: What are the parallel conversations happening that work with or against what you are trying to achieve? Are there other stakeholders in the mesosystem or microsystem you could link with? Are the young people with ID involved in the discussions that impact them? How are you perpetuating or challenging views on disability?
- *Young adults with ID might ask*: What are your dreams for the future, and who can help you achieve them?

Conclusion

Bronfenbrenner's model helps illuminate the complexities of transition of young adults with ID from school to work. Through presenting the various systems, we hope to make explicit the impact of multiple (and sometimes) competing stakeholders and broader social structures. New considerations of young adults with ID's context as they transition from school to work emerge through this ecological account.

The paper began by likening the transition from school to work for young people with ID as a game of whack-a-mole. This referred to the complexities of transition and how educational interventions alone, cannot assume full responsibility for the underrepresentation of people with ID in open employment. The ecological model presented here sought to illustrate the complexity of transition and trace how young people's transition to employment is contingent on more than young person's capabilities, or an educational intervention alone. While these obviously matter, the model presented here invites broader consideration for imagining possibilities if more such transitions are to be successful. It was never our intention to prescribe possibilities - however, we see some potential in imagining more effective 'whack-a-mole hammers' in the form of collective efforts.

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