Article

An Ecological Approach to Understanding the Complexities of School-To-Work Transitions Among Youth with Intellectual Disabilities

by

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Abstract

Purpose: This study investigated the complexities in the school-to-work transition faced by youth with intellectual disabilities in Hong Kong. There is a lack of local research focused on such transitions for youth with intellectual disabilities.

Methods: In-depth individual interviews were held with 30 participants, including youth with intellectual disabilities, their family carers and health, education and social work professionals. Data were analysed using the Framework Method.

Results: Data analysis based on the ecological model revealed participants' experiences of different challenges in different systems.

Conclusion: By exploring the interplay among various interactions, this study revealed the conditions that impacted the self-determination of youth with intellectual disabilities in a Chinese context, the perspectives on work held by them, their personal aspirations and the interconnected factors within-and between systems. Recommendations for rehabilitation practice were given.

Keywords: transition, vocational rehabilitation, qualitative study

Introduction

School-to-work transition specifically refers to the process of youth entering the labour market (Buttler et al., 2023). It also represents a dynamic process, in which different changes are involved and adjustments are needed when youth move from schools to work environments (Wehman, 2006). Like other youth, people with intellectual disabilities also have to go through the stages from school to work (Sigstad & Garrels, 2022). Intellectual disability is a neurodevelopmental disorder characterized by deficits in intellectual and adaptive functioning in cognitive, communication, social and daily adaptive skills (American Psychiatric Association, 2022). The deficits in intellectual function encompass problem solving, abstract thinking, learning, reasoning, judgment, planning, working memory and verbal comprehension (American Psychiatric Association, 2022). The assessment of the intellectual and adaptive functioning level is determined by validated tests and IQ scores (Patel et al., 2018). IQ scores between 69-85 are considered borderline intelligence, 55-70 are considered mild, 40-55 are moderate, 25-40 are severe and below 25 are profound (Kliegman et al., 2024).

In general, special schools in Hong Kong prepare students for the transition from school to work by incorporating curriculum and career planning based on the school curriculum guidelines. These schools offer training for children with special education needs, covering subjects like languages, math, arts, music, technology and liberal studies. Moreover, special training like speech therapy and programmes focusing on pre-vocational skills and developing communication, self-care, motor and social skills. Life planning education is an important component in the school curriculum. Under the instructions by the 'Guide on Life Planning Education and Career Guidance for Secondary Schools' and 'The Senior Secondary School Curriculum Guidelines' stipulated by the government, special schools need to provide career assessment, career education, career counselling and career and life planning activities, in addition to career-related learning opportunities for the students (Education Bureau, 2021). To help prepare students for transition to future work, special schools arrange work-related experiential learning activities, offer simulated or real job internship, arrange visits to different workplaces, invite graduated students to share their experiences, conduct student and parents' workshops, and offer career-related

information. Teachers, social workers, therapists and nurses work in a team to offer these activities, which are included in a career guidance programme plan. The plan is monitored by a teacher who is in the position of career master or mistress.

The transition to the workforce can be particularly challenging for youth with intellectual disabilities due to the increased barriers and societal discrimination they face (Sigstad & Garrels, 2022). They remain marginalized in the labour market (Lindsay et al., 2016; Wehman et al., 2018). In Hong Kong, only 19.7% of adult persons with disabilities were employed (Census and Statistics Department, 2021). However, there is no official statistical data available explaining the employment rate of youth with intellectual disabilities. Although their right to equal employment is protected by the Disability Discrimination Ordinance (Cap. 487), youth with disabilities still face obstacles in finding employment due to self-stigma and social stigma (Equal Opportunities Commission, 2023). Generally speaking, youth with intellectual disabilities in Hong Kong will undergo vocational ability assessment in special schools (Cheng et al., 2015). Those with good ability will be recommended to receive two years of post-secondary vocational training, while those with a weak ability will be arranged to wait for sheltered workshops or day training centres (Hong Kong Government Press Release, 2020). There are several issues worthy of discussion, including whether youth with intellectual disabilities have a choice in all placements? Are the existing measures sufficient to help them transition to open employment, post-secondary vocational training or sheltered workshops?

Unfortunately, it is less common to find studies about school-work transition among persons with intellectual disabilities in Hong Kong (Law & Shek, 2017; Xu et al., 2014). In Hong Kong, students with mild to moderate intellectual disabilities typically complete their secondary special education programme at the age of 16. After they graduate, they will enter vocational education, which is offered by vocational rehabilitation and retraining centres as well as vocational skills centres. This programme lasts for two years, with students learning vocational skills for specific industries, such as catering and bakery. However, not all students meet the criteria for vocational education. In these cases, they are referred to sheltered workshops, supported employment or day activity training centres based on their abilities. Sheltered workshops provide a supportive and structured environment for people

with disabilities to develop their work habits and social skills. Those who work in supported employment units undergo on-the-job probation, and receive a monthly internship allowance of approximately USD 250 to 600, depending on the type of job matched for them, such as a cleaning job. Alternatively, youth with intellectual disabilities who prefer to directly enter the job market can seek assistance from The Social Enterprise Scheme (News government Hong Kong. 2018). The scheme provides seed money to social service organizations to run small businesses such as a restaurant or a vegetable store, while people with disabilities are employed within the small business and learn the related job skills, such as how to manage a restaurant.

Although different measures or preparation work have been provided by special schools and government, it is still unknown whether these measures or preparation work meet the needs of the youth with intellectual disabilities. In particular, the youth with mild to moderate grade intellectual disabilities may hope to find a job in the open employment market. Currently, there are no government statistics on the number of youth with intellectual disabilities in open employment, nor any reports assessing the effectiveness of various measures implemented to support them (Press Release, 2025). A survey conducted by The Equal Opportunities Commission discovered that youth with disabilities face employment barriers due to low self-confidence, discrimination, limited awareness from employers, lack of accessible facilities and societal stigma, which hinder their transition from school to work, and affect their job opportunities and acceptance in the workplace (Press Release, 2023).

Indeed, an ecological model will help to gain a deeper understanding of the challenges encountered by youth with intellectual disabilities from the school-to work transition (Cumming et al., 2020; Poirier et al., 2020). The ecological model extends from the microsystem to the macrosystem (Lindsay et al., 2016). It also provides an understanding of the interaction within each system, and between systems (Strnadová et al., 2016) Therefore, it is crucial to explore the problems that exist in each system and between systems that influence school-work transition for youth with intellectual disabilities in Hong Kong. In the current study, an ecological perspective is employed as a conceptual framework to help address the local research gap concerning the school-to-work transition for youth with mild to moderate

intellectual disabilities. Qualitative research is being conducted with the aim of identifying the intricate issues and challenges associated with the transition from school to work among them. The research questions are: (1) What kind of difficulties and complexities are facing youth with mild to moderate intellectual disabilities during the school-to-work transition? and (2) What recommendations can be given to transition planners?

Literature Review: The Challenges in Transition and The Ecological Model

During the transition process, youth with mild to moderate intellectual disabilities often face various challenges. These include experiencing emotional distress and anxiety, losing access to health or therapeutic support previously provided by special schools, encountering long waiting times for vocational placements, limited availability of post-school services and resources, low levels of parental involvement in transition planning and a lack of meaningful activities after leaving school (Dyke et al., 2013; Pallisera et al., 2016; Young-Southward et al., 2017). Local Hong Kong studies also echo these difficulties, since youth with intellectual disabilities believed that employers were unlikely to see them as suitable candidates because of their disabilities, and if hired, they would need extra time to adapt to the work environment (Press Release, 2023). Additionally, youth with intellectual disabilities face difficulties in employment due to employers' lack of understanding of their needs, such as requiring repeated guidance and encouragement, and limitations like an inability to work long hours (NEWS, 2025).

The ecological model has been used in understanding the challenges in transition (Bekken, 2020; Lindsay et al., 2016). The model examines the issues of transition from the microsystem to the macrosystem (Lindsay et al., 2016). Transition problems are characterized by problematic interactions between individual and his or her immediate environment in the microsystem, a lack of connections between different system microsystems in the mesosystem, a lack of policy or infrastructure support in the ecosystem, social discrimination or culture in the macrosystem (Small et al., 2013). At the microsystem level, there is a focus on the support given to youth with intellectual disabilities, and the relations between youth, school and family

environment in which a person is embedded. Personal factors influence school-to-work transitions, for example, individual career awareness, job expectation and work motivation (Dubois et al., 2022). While environmental factors include school transition planning and the offering of vocational preparation programmes (Sigstad & Garrels, 2022). At the mesosystem level, the emphasis is on relationships between the school system and the family system, or the school system and the social service system. At the exosystem level, the focus is on the linking mechanisms between the systems, such as partnership, collaboration, involvement and interactions. At the macrosystem level, the focus is on the culture, social attitude and government policies. Therefore, the ecological model in transition planning stresses the importance of mapping the different layers that the youth with intellectual disabilities live within. The interaction between the layers is the key to the ecological model. In addition, the ecological model considers the inherent structural problems of service delivery (Cambridge & Carnaby, 2005). Thus, a collaboration between family, school, social services and health services is needed throughout the transition process (Poirier et al., 2020).

Moreover, the school-to=work transition is a complex process involving an interaction between different stakeholders and a mixture of different services and resources (Pallisera et al., 2016; Young-Southward et al., 2017). By adopting an ecological approach to transition planning, a deeper understanding can be gained regarding the interplay between structural constraints and personal agency (Schoon & Heckhausen, 2019). Since transition involves a lot of decision-making processes, such as whether to continue with further vocational education or to enter job market directly after completing special education, individual agency can become an important factor in examining school-to-work transitions (Schoon & Lyons-Amos, 2017).

The current study uses the ecological model as a conceptual framework since it is suitable for use in Chinese culture, as it is a kind of relational and Guanxi (relationship) culture. Moreover, Chinese family culture tends to be more protective than Western culture, and reinforces the dependence of youth with intellectual disabilities on their parents (Lo & Ma, 2022). Chinese youth with intellectual disabilities often have limited autonomy, and their parents tend to adopt an authoritative parenting style (Su et al., 2017). Conflicts arise as children and parents

may have different expectations about transition pathways (Xu et al., 2014). In addition, Chinese parents are hesitant to seek assistance from others since they are restricted by the face culture (which means the culture of honour or dignity), and they feel embarrassed or losing face (Leung & Cohen, 2011; Wong et al., 2014). Given the aforementioned factors, the ecological model explains the relational aspect of the interconnection that arise during the transition process.

In addition, an ecological model emphasizes culture and social attitudes at the macrosystem level, influencing perceptions of youth with intellectual disabilities. Stigmatization can limit access to employment opportunities by youth with intellectual disabilities (Rao et al., 2010; Scior & Werner, 2016). Stigma refers to the stereotypes, discrimination and prejudice resulting from misconceptions about the working ability of youth with intellectual disabilities (Scior & Werner, 2016). Employers are less likely to employ youth with intellectual disabilities because of the misconceptions that they have a lesser working ability than other youth without disabilities. Additionally, internalizing societal stigma will lead to youth with intellectual disabilities and their family carers developing negative emotions and beliefs (Ali et al., 2012).

Methods

The study adopted a qualitative approach by conducting semi-structured interviews with youth with intellectual disabilities, their family carers, and educational, health and social care professionals. As Table 1 illustrates, 30 participants were interviewed. Twelve of them were professionals (one nurse, four social workers, three teachers, three speech therapists and one occupational therapist, nine family carers (six mothers, one grandmother and two fathers), eight students (five senior form secondary school students and three graduated students). Students with mild intellectual disabilities were interviewed alone, while students with moderate intellectual disabilities and parents took part in a joint interview. To ensure that students' voices were expressed adequately during interviews, we invited students to quote some examples, and allowed extra time for responses. We created a comfortable and non-threatening environment to encourage their expression. We also observed non-verbal cues, and asked students questions for confirmation. For example, when an interviewed student expressed that she was criticized by

restaurant staff for not doing well during restaurant cleaning training, her facial expression showed sadness and disappointment. Therefore, we asked her if she felt unhappy while doing the cleaning work to further confirm her emotions. During joint interviews with parents, we recommend using gestures or facial expressions to reaffirm the student's responses, even if parents attempt to clarify or interpret the answers. The average interview hours lasted for 60 mins (parents and professionals) and 30 mins (students). Eligibility criteria were: (1) school leavers and their family carers; (2) students approaching transition to work within two years and their family carers; and (3) professionals, including teachers, speech and occupational therapists, nurses, and school social workers.

The Research and Ethics Committee of Hong Kong Shue Yan University provided ethics approval for the study (details to be provided following peer review). Sampling followed the stratified sampling method: three special schools, one for children with mild intellectual disabilities, one for children with moderate intellectual disabilities and one for children with mild to moderate intellectual disabilities, were invited to participate in the study and identify suitable participants to take part in the interviews. Participant recruitment was supported by special school social workers who knew about the purpose and process of the study. The purpose of employing a stratified sampling here is to ensure that participants from each specific subgroup of students with different levels of intellectual disabilities are adequately represented in the study. This approach helps in capturing diverse experiences and perspectives across the spectrum of intellectual disabilities, leading to more comprehensive and generalizable findings. It also allows the researcher to effectively compare and analyse differences or similarities among the subgroups. Participation in the study was voluntary, and information about the study was given to participants before the interviews, which were conducted by telephone or face-to-face. Participants' confidentiality was protected, and their contributions reported in this paper anonymized.

We obtained written consent from the participants being interviewed. First, the school social worker provided an explanation of the interview purpose and content to both the students and parents. Subsequently, verbal consent was obtained from them to participate in the interview. Lastly, the researcher handed the parents a consent form, duly signed by parents and students, for their children's participation in the study. As

for the professionals who participated in the interview, they received an invitation letter emailed to them by the researcher before the interview, explaining to them the purpose and the content of the interview. Next, the purpose of the research was verbally explained to them again before the interview, and they were asked to sign a written consent form. For youth who participated in interviews via video conferencing or telephone, school social workers provided them with a written consent form to sign prior to conducting the interviews.

Measures were taken to ensure that youth with intellectual disabilities were well-informed about the purpose of the study. First, we used a simplified and clear explanation to explain the study's purpose, procedures, and their rights. Second, we obtained their consent by obtaining informed consent from parents or guardians, and a verbal agreement from the youth themselves. Third, we allocated more time to explain and make clear clarifications. Fourth, we conducted interviews at their familiar school setting.

Interviews were conducted by the principal investigator and the research assistant. Interviewers followed a set of predetermined questions, such as asking youth with intellectual disabilities: 'You are about to graduate and leave school, do you have any concerns?', 'What are your worries about transition?', and 'Do you have any aspirations or wishes about transitioning from school to work?' Questions for family carers included: 'What kind of adjustment problems do you think your child will have during the transition?' and 'What kind of transition activities or measures are currently offered by the school?' Questions for professionals included: 'What kind of difficulties do you think the students will have during the transition?' and 'What kind of transition activities or measures are currently offered by schools?' Interviewers also allowed participants to freely express their thoughts and beliefs more deeply.

Data analysis

The data analysis utilized the Framework Method, with the analysis process consisting of seven stages (Gale et al., 2013). Firstly, the audio files were transcribed by a research assistant, who then reviewed the transcripts. Secondly, a principal investigator familiarized herself with the data. Thirdly, coding was conducted using

NVivo12 software, with initial codes representing various themes in the data, such as emotions, behaviours, incidents, values, impressions and structures. For example, a graduate student expressed feeling nervous and afraid of making mistakes while working in a restaurant, which was coded as the emotion of adjusting to a new job. NVivo facilitated the digital coding process and automatically kept track of new codes.

The fourth stage involved constructing a working analytical framework, with input from other members of the research team. Categories were identified, labeled, and defined, and the data was organized accordingly. In the fifth stage, the analytical framework was applied to the remaining coding process, with NVivo used to store and organize the data. Suitable excerpts were extracted and placed in the appropriate branches of the code tree within NVivo. The principal investigator then reviewed the code tree and transcripts to identify any missing themes or patterns.

The sixth stage involved using NVivo to generate framework matrices, and in the seventh stage the data was interpreted by mapping connections between categories, interpreting relationships and explaining phenomena. This stage concluded with the writing up of findings.

Overall, The Framework Method was used for data analysis to systematically organize and interpret qualitative data. It provides a structured approach that facilitates a transparent, rigorous and collaborative analysis by allowing researchers to develop an analytical framework, code data consistently and identify patterns and relationships across themes. This method enhances the clarity and reliability of findings, thus making it suitable for complex qualitative studies involving multiple researchers and large datasets.

Findings

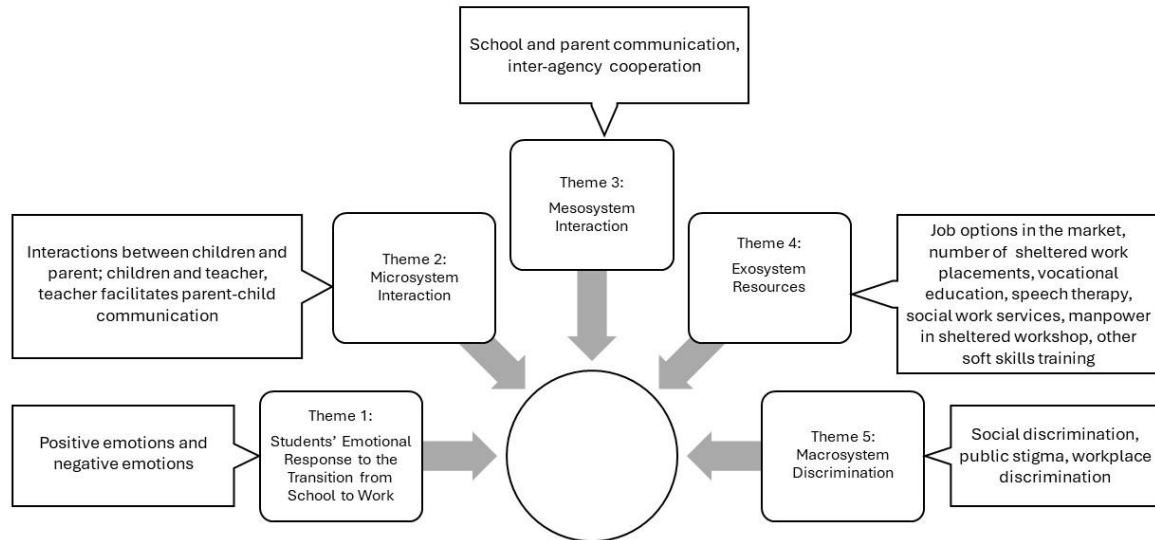Figure 1 illustrated the five themes and related sub-themes identified during the coding process.

Figure 1 The Themes Framework

Theme 1: Students' Emotional Response to the Transition from School to Work

Some students expressed positive emotions and their aspirations to pursue careers in the future. Students were asked where they wanted to work after graduation. Some of them were able to articulate their preferred job type, while others expressed their intention to pursue further training at a vocational training centre after graduation and enrolled in their desired vocational subjects.

> I am interested in enrolling in a chef course at either a vocational training school or a culinary school. (R21 - Senior form secondary school student)

> I wanted to do hospital cleaning work after graduation, and I felt I could handle it. (R13 - Senior form secondary school student)

Some students expressed negative emotions and worries towards handling challenging tasks in a future work environment. In fact, there are even students who expressed their reluctance to enter the workforce. Additionally, some students conveyed their disinterest in working at sheltered workshops, as they perceive the work there to be very boring.

> I am worried that I will not be able to adapt to the work environment, or that I will be scolded when I do something wrong. (R20 - Senior form secondary school student)

> I had a previous internship experience at a sheltered workshop where I primarily worked on packing boxes. Packaging is very boring. I don't want to work in a sheltered workshop in the future. (R19 – Graduated student)

Theme 2: Microsystem Interaction - Interaction Between Students and Their Immediate Environment

The theme of microsystem interaction revealed the interactions between children and their immediate surroundings, such as parents and teachers. Basically, parents and children talked about their career choices. In general, parents showed respect for their children's wishes, and were willing to provide them with opportunities to explore jobs they were interested in.

> He himself has many things he wants to do. Sometimes when he is interested in a profession, he will ask me if he can engage in the related profession. I will reply that he will succeed if he works hard. Then he asks me if I can engage in it. Chef, I said he can do it. (R30 – Family carer)

However, parents and children may have different expectations regarding future career choices and vocational decisions. Both parents R21 and R24 expressed that their expectations differ from their children's expressed wishes. Parents had their own ideas about their children's career choices, and hoped to influence their children's decisions.

> My son keeps saying that he wants to do cleaning work in the future, but I don't agree with him because cleaning work involves frequent contact with detergents, which is not good for his hands. (R24 – Family carer)

> I hope my daughter can consider working in a restaurant, as it is a busy job that does not require much physical labour. It is not a boring job, and may be more suitable for her. Although I know she enjoys doing cleaning work, I will communicate with her and explain the benefits of catering work. However, if she insists on doing cleaning work, I am willing to give her a chance. (R22 – Family carer)

However, some parents had negative expectations and negative self-perceptions toward themselves and their children. These parents developed a sense of self-stigma, and believed that their children may not be qualified to work. Although parents knew a job matching programme organized by the government may help their children to find a suitable job, they were reluctant to let their children try it.

> I am afraid that my children may not be qualified to work. Although I know that the government has launched a job-matching programme for youth with disabilities, I wonder whether it is suitable for my children to join the programme. I am always worried about the effectiveness of the matching. I don't know whether it will be successful. (R25 – Family carer)

Similarly, teachers and students may encounter differences of opinion. For instance, certain teachers expressed that their students had unrealistic expectations for choosing a job because they did not understand their abilities and interests. Teachers needed to talk and communicate with the students.

> Students may not have a clear understanding of the actual workplace situation, as well as their own abilities and interests. For instance, some students express their desire to become singers or drivers. Teachers need to talk with them to dispel any misconceptions they may have. (R4 – Teacher)

The teacher mentioned that there were examples where parents and children struggled to effectively communicate about career choices. Therefore, they coordinated between them, and facilitated parent-child communication.

> Our students with mild intellectual disabilities possess good work abilities, and can express their desires. It is crucial for teachers and social workers to facilitate communication between parents and children, as their wishes may not always align. For instance, while parents may prefer their children to work in sheltered workshops, the children themselves may aspire to be openly employed. (R9 – Teacher)

Theme 3: Mesosystem Interaction - Interactions among Various Microsystems

The theme of mesosystem interaction reflected the communication and interactions among various microsystems. This included teachers, school professionals and students, as well as interagency cooperation. Professionals (including teachers, nurses, social workers and therapists) stated that they were able to maintain communication with parents. However, they expressed challenges in effectively communicating due to disagreements, such as differing opinions on children's employment.

> We believe that work is not only about earning money, but also about self-satisfaction, achievement, killing time or socializing and making friends. However, parents may worry that their children will be scolded while working, or may not adapt to the working environment, so they over-protect their children and do not allow their children to go out to work. We have different opinions from parents, which requires a lot of communication, but it is not easy to convince parents either. (R4 – Teacher)

Moreover, professionals stated that the lack of effective inter-agency partnership, and the significant disparities in training methods across different settings, pose challenges for students in terms of adjustment.

> The inter-agency partnership between different settings is immature. It is difficult for youth with intellectual disabilities to generalize and apply the skills they learned in school to job settings. This difficulty arises due to the varying requirements and instructions across these settings. (R7 - Speech therapist)

> The instructors in the sheltered workshop express dissatisfaction with the students' lack of comprehension regarding their daily work instructions. This disparity can be attributed to the contrasting teaching methods employed by the instructors and special schoolteachers. In my opinion, fostering interagency collaboration is crucial in addressing this issue. (R11 - Speech therapist)

Theme 4: Exosystem Resources - Infrastructure Support

Inadequate policy or infrastructure support was reflected in the exosystem theme, which encompassed limited job options in the market and insufficient sheltered work placements.

> There are not many job opportunities for students with moderate intellectual disabilities in the open job market. They all have to enter sheltered workshops or day training centres, but the waiting time for these services is relatively long. (R3 - Social worker)

> The performance and abilities of youth with intellectual disabilities are quite good when they leave school, but because they are not immediately connected to the adult employment service, or may not find a job immediately, they stay at home with nothing to do. (R9 - Teacher)

Both parents and social workers indicated that the two-year vocational education offered by the Adult Employment Training Centre for special school graduates was widely favoured by parents and students. This was because it allowed them to pursue their preferred vocational subjects for further studies. However, parents expressed concerns that the duration of two years may not be sufficient for their children to acquire the necessary job skills, and secure employment opportunities.

> I don't want my child to go out to work for the time being. Instead, I want him to enroll in a vocational training centre course and study in the centre for two years, and let him try and see whether he can adapt to those industries. (R26 – Family carer)

> I hope that my daughter can go to a vocational training centre after graduation. I hope that she can learn one more vocational skill. I will observe what she will learn during the two years of schooling. Unfortunately, two years of study is too short. I estimate that my daughter may not be able to master job skills in two years, and may have to work in a sheltered workshop in the future. (R28 – Family carer)

Participants complained that speech therapy was not provided to youth with intellectual disabilities after leaving school. Moreover, the two-year social work follow-up services for them were insufficient to cater to the longer-term needs of graduated students and parents.

> Graduated students with intellectual disabilities do not receive speech therapy in adult employment service. They are experiencing difficulties at work, and lack the ability to effectively communicate or express their needs. (R11 - Speech therapist)

> As a single mother, I am facing the challenge of teaching my daughter who has Downs Syndrome. Despite receiving two years of social worker follow-up services, I feel that it is not sufficient to meet our long-term needs. Therefore, I am hopeful that there will be social workers available for long-term follow-up support. (R27 – Family carer)

Social workers and parents mentioned that students with intellectual disabilities who were unable to find open employment opportunities will be directed to sheltered workshops. However, these workshops lacked sufficient manpower to handle students with more emotional or behavioural challenges. As a result, these students were placed in non-employment services like day training centres, even if they were still capable of working.

> Because sheltered workshops do not have enough manpower to deal with students with more behavioural problems, students are then referred to day training centres, even if they are still capable of working. (R8 - Social worker)

> Youth with intellectual disabilities don't know how to build relationships with strangers. They rely on someone who cares about- and understands their needs. Specifically, students facing emotional or behavioural difficulties require additional support. Unfortunately, the limited workforce in the sheltered workshop is unable to adequately meet their needs. (R1 - Nurse)

> My daughter is now working in a sheltered workshop. She is passive and generally has difficulty interacting with youth, because she is reluctant to talk. In the sheltered workshop, other youth don't know what she wants, and they may not understand what she wants to express. There are barriers to communication. (R 23 – Family carer)

Parents expressed that transition arrangements for youth with intellectual disabilities should not solely emphasize employment, but also encompass other essential aspects, such as nurturing their interests and fostering the ability to live independently.

> I hope that schools can arrange for my daughter to participate in sport activities. Since she likes to have social interactions with other people, it is good for her to develop her own interest, and continue this interest after graduation from special schools (R22 – Family carer)

> I hope that schools can offer training on how to take public transport independently. I believe that children's ability to live independently is very important. (R23 – Family carer)

Theme 5: Macrosystem Discrimination - Social Discrimination and Public Stigma

Social discrimination and public stigma are discovered in the macrosystem. Social workers and parents mentioned that many employers were unwilling to hire youth

with intellectual disabilities due to stigmatization and social discrimination, thereby resulting in fewer job opportunities.

> I am lucky enough to have my son working in a coffee shop. However, many employers do not believe that youth with intellectual disabilities are capable of working, and they are unwilling to provide additional work assistance to youth with disabilities. (R24 – Family carer)

> Employers are reluctant to hire youth with intellectual disabilities. Recently, we met some cafe employees who are willing to hire youth with intellectual disabilities. We have started training students to make coffee in the hope that they can work in these cafes in the future. (R3 - Social worker)

Professionals mentioned that the graduated students faced workplace discrimination or struggled to adapt to their jobs, while they tended to resign quickly and were unable to sustain employment.

> We have graduated students who go out to work as waiters, and they encounter workplace discrimination. Their self-confidence took a blow, leading them to quickly resign from their positions; however, it is not easy for them to secure alternative employment. (R12 - Occupational therapist)

> When graduated students go to open employment, their boss directly points out the mistakes made by them. Some of them develop emotional and mental health problems. It is difficult for them to continue working in these environments (R8 - Social worker)

Professionals also expressed that due to the weaker physical conditions of youth with intellectual disabilities, they experienced fatigue more easily and required additional rest. Unfortunately, this can sometimes result in unwarranted criticism or discrimination, as some may mistakenly perceive them as lazy or lacking attention in work.

> Youth with intellectual disabilities often experience fatigue and may require frequent breaks, which can sometimes lead others to mistakenly perceive them as lazy in the workplace. (R12 - Occupational therapist)

Discussion

Given the ecological perspective, the transition process is viewed in terms of relationships between an individual and his or her surrounding contexts. During the interviews, it was discovered that effective communication regarding career choices is crucial for parents and children, teachers and students, as well as parents and teachers. However, disagreements may arise during this process, particularly when parents and children have conflicting opinions. For example, there are notable discrepancies between parents and children regarding future career choices. Youth

with intellectual disabilities tend to choose careers they like, but their parents will consider other factors such as safety, health or social discrimination. However, only some parents said they had good communication with their children, and were willing to accept their children's right to self-determination. International studies reflect that youth with intellectual disabilities often experience barriers obtaining a job because of strong parental concerns and weak communication with parents (Lindsay et al., 2015; Xu et al., 2014). Similarly, it is not easy for Chinese parents, who tend to be over-protective of their children with disabilities, to respect their children's independent decision-making (Lo & Ma, 2022).

Deficiencies exist in mesosystems since partnerships between special schools and social service agencies are not well developed. Special schools' teachers and vocational service units take different approaches to guidance, which cause trouble for youth with intellectual disabilities in the adjustment period. The identified deficiencies in mesosystem collaboration and support services are consistent with the ecological model literature, which underscores the interconnectedness of systems and the impact on transition outcomes (Pallisera et al., 2016; Schoon & Heckhausen, 2019). The findings also echo a local study conducted by the Equal Opportunities Commission (2023), that different parties such as The Education Bureau, schools, and non-governmental organizations should strengthen their alliances to establish effective coordination and encourage business sector participation.

Moreover, an inadequate policy or infrastructure support, limited resources, and a lack of career choices are discovered in the exosystem. Services like speech therapy are discontinued after youth leave their special school. Furthermore, the social work services provided for special school graduates and parents during the two-year follow-up period are not enough to address their long-term needs. The findings enrich the information about the school-to-work transition among youth with intellectual disabilities in Hong Kong (Law & Shek, 2017; Xu et al., 2014).

At the macrosystem level, social discrimination and public stigma create problems for youth with intellectual disabilities in obtaining employment. Due to employers' reluctance, youth with intellectual disabilities face limited job opportunities. Graduated

students encountered workplace discrimination or experienced difficulties in adjusting to their jobs, thereby resulting in a tendency to resign quickly and an inability to maintain employment. Consistent with local and international findings, poor public attitudes result from stigmatization and negative perceptions toward youth with disabilities (Equal Opportunities Commission, 2023; Lindsay et al., 2012). More attention is needed to transform public attitudes that may disadvantage youth with intellectual disabilities in the labour market.

What new ideas does this research bring to the understanding of the school-to-work transition for youth with intellectual disabilities? Firstly, the current research indicates that it is important to consider the needs of youth with intellectual disabilities beyond employment upon graduation. In addition to vocational skills, they also require training in areas such as social skills, communication skills and independent living skills. These are the soft skills and important areas of learning for improving the quality of life for them as supported by international studies (Ritter et al., 2018; Sigstad & Garrels, 2022). Therefore, the transition from school to work should not solely focus on work-related learning and adaptation, but should also address other important aspects of soft skills learning.

 Secondly, this study specifically interviewed youth with intellectual disabilities to help understand their perspective on work. Some of the interviewees expressed a preference for vocational training to further develop their job skills, rather than pursuing actual employment. This reveals the fact that students with intellectual disabilities may have limited options after graduating from special schools. While an ordinary youth who cannot attend university can still pursue other subjects based on their interests, youth with intellectual disabilities seem to be limited to either working or staying at home. Even if they enter sheltered employment, the focus is primarily on work, and there are few opportunities for them to learn vocational skills that align with their interests. Given the high demand for upper secondary vocational education among youth with intellectual disabilities, there is a need to examine whether vocational education should be extended as a free choice, rather than solely functioning as a form of infrastructure support and a route to employment.

Thirdly, as highlighted in international studies, self-determination is an important element for youth with intellectual disabilities across the life span (Tøssebro & Olsen, 2020). The study reveals that the realization of self-determination based on four important conditions, including: a) the students' own understanding of work and their abilities, as well as their ability to make appropriate job choices based on a correct understanding; b) the smooth communication between youth and other people, and whether their wishes are accepted and respected; c) parent's understanding of the child and the self-stigma attitude impact their ability to respect children's own self-determination; d) the school culture that allows student's self-determination throughout the school-to-work transition planning. These findings align with the study by Spenser et al. (2021), which indicates that parental involvement often restricts students' autonomous decision-making, as parents tend to play a significant role in employment choices. Therefore, effective communication and support from family and peers are essential for fostering self-determination. Additionally, a school culture that promotes student self-determination reflects a rights-based approach, empowering young people with disabilities to take the lead in their transition, as recommended by the Equal Opportunities Commission (2023).

Fourthly, the study findings clearly contribute to- and inform existing ecological theory regarding the school-to-work transition for youth with intellectual disabilities. By highlighting the interactions between youths and their surrounding contexts, the findings reflect the challenges at various levels of the ecological model, such as the microsystem, mesosystem, exosystem and macrosystem. The contradictions between the career choices of youth and the concerns of their parents illustrate the dynamics of these relationships, further informing the ecological model. The findings regarding deficiencies in mesosystem collaboration between special schools and social service agencies support the claim about the interconnectedness of systems in ecological theory. The study affirms the relevance of ecological theory in understanding the complexities of the school-to-work transition, underscoring the necessity of a holistic approach that incorporates various stakeholders and environmental factors.

Recommendations for Rehabilitation Practice

Within the microsystem, more effort is needed to facilitate communication between youth with his or their immediate systems, such as parents, teachers and professionals. Youth with intellectual disabilities need more support when their career choice differs from that of their parents. Their voices should be listened to when designing suitable transition plans for them. Further development of inter-agency collaboration and partnership is needed to support the smooth transition for youth with intellectual disabilities. Within the mesosystem, information sharing and communication between special schools and vocational service units can help youth with intellectual disabilities adjust well. Within the exosystem, suitable resources should be put in place to assist these youth on their employment journey. Provision of speech therapy, social work services, and other essential family support is essential for both youth and family carers. Further enhancement of training in soft skills such as social skills, communication skills and independent living skills will help youth with intellectual disabilities to secure employment and to live a quality of life. Additionally, there is a need to reexamine the importance of upper secondary vocational education, and expand the choice and options for youth with intellectual disabilities. A further promotion of equal opportunities is urgently needed to create more job options. Within the macrosystem, stigma and discrimination surrounding youth with intellectual disabilities and their family carers require attention. Employers who lack understanding and knowledge about youth with intellectual disabilities should receive support from the government. For example, the promotion of government employment assistance or the job-matching scheme can be strengthened to inform employers on how to access suitable assistance. Youth with intellectual disabilities and parents with self-stigma and low self-confidence should be given enough time to be exposed to the real working world, and try out work experience before the transition. They need early preparation for the school-to-work transition. Lastly, positive work experiences with employers can help increase their self-confidence.

Conclusion

By exploring the interplay among various interactions, this study enhances our understanding of the conditions that impact self-determination in a Chinese context. It also helps to shed light on the perspectives on work held by youth with intellectual

disabilities, their personal aspirations and the interconnected factors both within and between systems. To help facilitate a successful school-work transition, it is crucial to address these systemic interactions and factors that encompass the transition process. First and foremost, the essence of this study should be to explore the school-to-work transition challenges for students with intellectual disabilities in Hong Kong, while career and life development is commonly advocated and executed for adolescents with normal intelligence.

The strength of the current study is its large sample size of 30 participants, including youth with intellectual disabilities, their family carers and various professionals, such as teachers, occupational and speech therapists, social workers, and nurses. A limitation of the study is that the sample did not extend to service practitioners from vocational service units, employers or government officials. Future research should explore the experiences of different stakeholders involved in the transition process.

Table 1 Profile of Participants

Number	Status	Gender (F: Female, M: Male)	Special school for students with intellectual disabilities A: Mild to moderate grade; B: Moderate grade; C: Mild grade
R1	Nurse	F	A
R2	Speech therapist	F	A
R3	Social worker	F	A
R4	Teacher	F	A
R5	Teacher	M	B
R6	Social worker of school hostel	M	B
R7	Speech therapist	F	B
R8	Social worker	F	B
R9	Teacher	M	C
R10	Social worker	M	C
R11	Speech therapist	F	C
R12	Occupational therapist	F	C
R13	Senior form secondary school student	F	A
R14	Graduated student	F	A
R15	Senior form secondary school student	M	A
R16	Graduated student	M	A
R17	Senior form secondary school student	F	B
R18	Senior form secondary school student	F	B
R19	Graduated student	M	B
R20	Senior form secondary school student	M	C
R21	Senior form secondary school student	M	C
R22	Family carer	F	A
R23	Family carer	F	A
R24	Family carer	M	A
R25	Family carer	M	A
R26	Family carer	F	B
R27	Family carer	F	B
R28	Family carer	F	B
R29	Family carer	F	C
R30	Family carer	F	C

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