

Working-Age Disability and Vocational Training Interests: The Magelang City Survey

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ABSTRAK

Pemetaan penyandang disabilitas usia kerja pada tingkat kota—beserta minat pelatihan vokasionalnya—merupakan prasyarat untuk merancang intervensi yang tepat sasaran. Namun, data operasional yang mengintegrasikan profil disabilitas dengan preferensi pelatihan di Kota Magelang masih tersebar. Studi ini bertujuan memetakan profil penyandang disabilitas usia kerja di Kota Magelang serta memetakan minat pelatihan vokasional yang relevan. Penelitian ini menggunakan survei deskriptif terhadap penyandang disabilitas usia kerja (≥ 15 tahun) yang terdaftar pada pemangku kepentingan setempat ($n = 257$). Variabel utama meliputi jenis disabilitas dan minat/riwayat pelatihan. Analisis dilakukan secara deskriptif dan disajikan dalam bentuk tabel dengan uraian naratif. Hasil menunjukkan bahwa kelompok disabilitas terbesar adalah tunagrahita (24,90%) dan disabilitas fisik (24,90%), diikuti disabilitas psikososial (19,46%) dan disabilitas ganda (14,01%). Minat pelatihan didominasi kategori “lainnya/mandiri” (69,60%) yang mengarah pada wirausaha berbasis rumah, diikuti memasak (6,20%) dan membuat (5,40%). Peta kebutuhan ini mengindikasikan preferensi kuat terhadap pelatihan adaptif berbasis rumah, disertai sejumlah keterampilan teknis tertentu. Temuan ini menegaskan pentingnya kurikulum modular, penguatan kapasitas pelatih yang inklusif, serta kemitraan penempatan/pasar yang lebih kuat untuk kerja upahan maupun usaha mikro.

Kata kunci: disabilitas, usia kerja, pelatihan vokasional, pemetaan, Kota Magelang.

ABSTRACT

Mapping working-age persons with disabilities at the city level—together with their vocational training interests—is a prerequisite for designing targeted interventions. However, operational data that integrate disability profiles with training preferences in Magelang City remain scattered. This study aimed to map the profile of working-age persons with disabilities in Magelang City and to map relevant vocational training interests. This research used a descriptive survey of working-age persons with disabilities (≥ 15 years) listed by local stakeholders ($n = 257$). The main variables were disability types and training interest/history. Analysis was descriptive, presented in tables



with narrative explanations. The results showed that the largest disability groups were intellectual disability (24.90%) and physical disability (24.90%), followed by psychosocial disability (19.46%) and multiple disabilities (14.01%). Training interest was dominated by the “other/self-employed” category (69.60%), pointing to home-based microenterprise, followed by cooking (6.20%) and batik (5.40%). The needs map indicates a strong preference for adaptive, home-based training alongside selected technical skills. These findings underline the importance of modular curricula, capacity-building for inclusive trainers, and stronger placement/market partnerships for wage work or microenterprise.

Keywords: *disability, working age, vocational training, mapping, Magelang City.*

INTRODUCTION

Persons with disabilities are an integral part of society (UNICEF, 2023) whose numbers and visibility have increased from year to year (Olusanya et al., 2022). This raising number is due to growing public awareness of early identification (Hallahan et al., 2014; Heward et al., 2017). People in our society have also enhanced their disability sensitivity, knowing the symptoms, the characteristics, and the challenges. Social empathy and positive behaviors toward people with disabilities has also increased (Carmel et al., 2024; Gonzalez et al., 2024). Therefore, including people with disability in every aspect of life should be implemented. In short, disability is not only about numbers, it is about social relations and public policy that determine the quality of citizens' participation.

Many countries has legalized commitments on the rights of persons with disabilities both in national and local governments to improve services, accessibility, and reasonable accommodation in education and employment (Hayes & Bulat, 2017; Karanja et al., 2021; Sukardari, 2019; Wray & Houghton, 2019). However, many international and national reports still show gaps in quality of life for persons with disabilities, especially in health, education, income, and decent work (Ananian & Dellaferrera, 2024; WHO, 2023). Limited access to health services and rehabilitation, together with physical and attitudinal barriers (Danso et al., 2019; Yusuf et al., 2025), contributes to gaps in health and labor outcomes, reducing economic independence in households with members with disabilities. In the labor market, barriers to recruitment, job placement, and workplace accommodation produce persistent gaps in participation and wages for working-age people with disabilities (Ananian & Dellaferrera, 2024). This condition is often compounded by limited possession of skills relevant to local market needs (Delubom et al., 2020) and by constrained opportunities for upskilling and reskilling (MacKenzie et al., 2023). As a result, many persons with disabilities find it difficult to achieve financial independence and remain vulnerable to multidimensional poverty (WHO et al., 2011).

Vocational training is one of the most recommended interventions to improve employability, income, and quality of life for persons with disabilities—especially when it is adapted to diverse disability needs and market context (Usup et al., 2024). Evidence shows that programs combining technical training, soft skills, reasonable accommodation, and job placement support can improve the probability of employment and job satisfaction (Fischer & Kilpatrick, 2023; Herrick et al., 2022). On the other hand, home-based microenterprise—supported by production training, digital marketing, and financial literacy —offers a realistic pathway to overcome mobility constraints and transaction costs (Cahyani, 2025). Program success is usually shaped by alignment between curriculum and participants' interests, parents, trainers who understand differentiated needs, and the presence of post-training mentoring and market access (Cahyani, 2025; Herrick et al., 2022; Ludwig-Mayerhofer et al., 2011; Rejeki et al., 2025). When these factors are present, impacts on well-being and social participation tend to be sustained.

Even so, a research gap remains: although the literature on vocational training is extensive, field implementation often faces misalignment between training type (Cahyani, 2025; Fischer & Kilpatrick, 2023; Herrick et al., 2022) and participants' interests/aspirations, leading (Delubom et al., 2020) to stalled and unsustainable programs . Several studies show that participants tend to drop out or not apply new skills when training is not contextualized to local needs and individual preferences (Muzite & Gasa, 2024) (OECD, 2019). For example, some studies reported weak interest mapping that resulted in a mismatch between curricula and local conditions (Nadya et al., 2022; Venkatesh et al., 2023). Other study highlighted the lack of post-training follow-up as a key reason why skills fail to convert into income for people with disabilities (De Souza & Vongalis-Macrow, 2021). Other study also underlined the importance of city/district-level

data disaggregated by disability type and training interest to craft targeted interventions (Fischer & Kilpatrick, 2023; MacKenzie et al., 2023). This study addressed that gap through a structured mapping of working-age disability types and vocational training interests at the city level.

In Indonesia, the employment of people with disabilities is regulated by Law Number 8 of 2016 concerning Persons with Disabilities. This law serves as the legal basis for protecting their employment rights and affirms the right to equal opportunity, reasonable accommodation in the workplace, accessibility, and the prohibition of discrimination. Magelang City as a part of Central Java, Indonesia, provides an enabling institutional setting for inclusive employment, allowing more precise neighborhood-level mapping (BPS Magelang City, 2023). The city's compact size eases cross-agency coordination—across Social Affairs, Manpower, and Development Planning—and accelerates feedback loops from field findings to program improvement (RPJMD Magelang City, 2021–2026). A training ecosystem is available through the local Job Training Center (BLK) and MSME networks, which serve as natural channels for placing training outputs, especially for home-based ventures (BLK Magelang, 2024). The presence of local DPOs (disabled persons' organizations) and relatively accessible social services strengthens post-training mentoring while mitigating mobility and accommodation barriers. The planning capacity of Bappeda also supports replication of this mapping model to other small/medium cities with similar characteristics in Central Java (Bappeda Magelang City, 2023). Taken together, these characteristics make Magelang a strategic testbed to connect needs mapping with local value chains in an operational and sustainable way (RPJMD Magelang City 2021–2026).

Based on this context, the study aims to (1) map disability types among the working-age population in Magelang City and (2) map vocational training interests aligned with local preferences and opportunities. The expectation is to provide a foundation for adaptive modular curricula—combining production skills, basic digital marketing, and financial literacy—together with post-training mentoring and market-placement partnerships. Beyond establishing a policy baseline for local government and training partners, the map is expected to reduce mismatch and improve the sustainability of economic impacts for persons with disabilities. By providing disaggregated city-level data, this study contributes to an evidence-based, contextual agenda for inclusive employment. Ultimately, the goal is to strengthen an ecosystem of “train–connect–mentor” so that skills genuinely convert into economic independence.

METHOD

This research uses a quantitative–descriptive approach with a survey design. The focus is mapping the composition of working-age disability types and vocational training interests in Magelang City. The design was selected to present a snapshot of current conditions within a single measurement period. Findings are presented using descriptive statistics and narrative exposition. Participants were working-age persons with disabilities (≥ 15 years) listed by local stakeholders and meeting inclusion criteria. The total analyzed sample was $n = 257$. Exclusion criteria included missing data on key variables or refusal to participate. Aggregate data were used to maintain confidentiality. Data were collected through a registry questionnaire completed by officers or respondents, either offline or online as needed. The main variables were disability type (hearing, visual, speech, intellectual, physical, psychosocial, autism, multiple disabilities,

and severe mental illness) and vocational training interest/history. Training categories included cooking, batik, motorcycle repair, sewing, carpentry, barista, graphic design, product marketing, barbering, and “other/self-employed.” Descriptive statistics were used to calculate frequencies (n) and percentages (%). Results are presented in tables to aid reading and to inform program recommendations. Narrative explanations highlight key findings and their implications for training design.

RESULT AND DISCUSSION

Mapping Working-Age Disability Types

Table 1 shows the composition of working-age persons with disabilities by type. The two largest groups are intellectual and physical disabilities, each 24.90 percent. The next group is psychosocial disability at 19.46 percent, followed by multiple disabilities at 14.01 percent. Other categories are each under ten percent, including hearing, visual, speech, autism, and severe mental illness.

Table 1: Working-Age Disability Types in Magelang City

Disability type	n	Percentage (%)
Hearing	21	8.17
Visual	10	3.89
Speech	4	1.56
Intellectual	64	24.90
Physical	64	24.90
Psychosocial	50	19.46
Autism	2	0.78
Multiple	36	14.01
Severe mental illness	6	2.33
Total	257	100.00

Mapping Vocational Training Interests

Table 2 presents the distribution of vocational training interests. The “other/self-employed” category dominates at 69.60 percent, typically indicating home-based or context-specific creative economy activities. Cooking follows at 6.20 percent and batik at 5.40 percent. Technical tracks such as motorcycle repair, sewing, and carpentry each fall around three to four percent.

Table 2: Vocational Training Interest in Magelang City

Training category	Percentage (%)
Other/self-employed (home-based/creative)	69.60
Cooking	6.20
Batik	5.40
Motorcycle repair	3.90
Sewing	3.90
Carpentry	3.10
Barista	2.70
Graphic design	1.90
Product marketing	1.90
Barbering	1.20
Total	100.00

Discussion

Findings on the dominance of intellectual and physical disability in the working-age composition indicate a strong need for adapted learning, assistive tools,

and instructional differentiation at the program level. These results resonates with reports from previous research that underscored task modification and functional supports is needed for effective learning and skills uptake especially for people with intellectual disabilities (Hallahan et al., 2014; Heward et al., 2017). In vocational training, a one-size-fits-all approach is not sufficient because every type of disability has its own characteristic and specific educational adjustments. Consistency with prior literature is reinforced by evidence that training success rises when curricula are tailored to individual functional needs with realistic performance targets (Cahyani, 2025; Mackichan & Harkins, 2013). This occurs because appropriate adaptation reduces irrelevant task burdens, improves learning engagement, and lowers participation barriers—thus raising the likelihood of transitioning into economic activity.

The dominance of the other/self-employed (home-based/creative) category shows a strong preference for home-based entrepreneurship that is flexible, personalizable, and relatively low-cost compared to other categories. These findings are consistent with earlier studies showing that home-based work is a rational strategy to address mobility constraints, transport costs, accommodation needs, and negative stigma for female with disabilities (Nadya et al., 2022; Solomon et al., 2023). In Magelang, local MSME networks and community markets strengthen incentives for this route, especially when business mentoring and digital marketing channels are available. This trend aligns with social capital theory, which highlights the role of local networks in opening sustainable microenterprise opportunities (Hurd & Stanton, 2023). This is because home-based enterprise allows control over work rhythm, friendlier environments for disability, and lower transaction costs—raising net benefits compared to alternatives that demand high mobility.

Even so, the share of technical skills such as motorcycle repair, sewing, and carpentry is relatively lower than in some other regional reports. This may contrast with studies reporting higher uptake of technical training when practice facilities, certified trainers, and placement channels are well-established (Fischer & Kilpatrick, 2023; Muzite & Gasa, 2024). The disparity is likely due to several factors: truly accessible practice facilities are limited (Danso et al., 2019), trainers skilled in differentiated instruction are scarce (Solomon et al., 2023), and partnerships with workshops/industry to place graduates are not yet mature (Usup et al., 2024). The literature shows that without placement routes and basic tool provision, motivation to choose technical tracks is lower because transition risks into the labor market are perceived as high (Fischer & Kilpatrick, 2023; Nadya et al., 2022). Thus, the difference appears to reflect ecosystem gaps rather than participants' intrinsic potential, opening space for institutional interventions.

From a program design perspective, specifying the “other/self-employed” category into operational subcategories—such as home-based culinary, crafts, or light services—will improve targeting and facilitate impact measurement. This aligns with good practice recommending a three-part modular curriculum: production, basic digital marketing, and financial literacy—which increases the probability of monetizing skills at the household level (Cahyani, 2025). Prior studies also showed that weeks of post-training mentoring and provision of basic tools can catalyze conversion of skills into income (Cavadini et al., 2025; Herrick et al., 2022). This is because post-training support shortens the implementation gap, provides technical/commercial feedback, and expands marketing networks, so skills do not remain at the training stage alone. In other words, success depends not only on curriculum content but also on the local value chain that can absorb graduates' products/services on a sustained basis (Almalki, 2022; Cahyani, 2025).

Finally, this study underscores the importance of linking needs mapping with institutional strategies that ensure continuity—from partnerships and microfinance access to community-based and digital marketing support. These findings are consistent with inclusive employment policy recommendations that emphasize integrating “train–

connect–mentor” as a single package (Ananian & Dellaferrera, 2024). Compared with studies focusing on the formal sector, these results differ by highlighting home-based strategies as the main pathway, a difference driven by local opportunity structures, participant preferences, and the accessibility conditions of a compact city. The approach remains consistent with a realistic attainability frame for medium-size cities with strong community networks. Thus, a key contribution of this study is offering city-level, disaggregated evidence that can be directly operationalized into curriculum design, post-training support, and market partnerships simultaneously.

CONCLUSION

This study offers a disaggregated map of working-age persons with disabilities in Magelang City and their vocational training interests. The largest composition is in intellectual and physical disability groups, while training preferences are dominated by the “other/self-employed” home-based category—signaling strong needs for adaptive, easy-to-operate microenterprise pathways. The findings affirm the relevance of interventions that connect production skills with household-level marketing support and financial literacy. At the same time, the study is limited by the use of aggregated data and the possibility that some persons with disabilities remain outside existing records. Future work should include neighborhood analyses and cross-tabulation of disability types with training subcategories to test more specific fits. Practically, the results provide a basis for modular curricula, inclusive trainer capacity-building, and more systematic partnerships for placement (UMKM/marketplace/BLK). Consistent policy implementation across the three links—train, connect, and mentor—is expected to improve the sustainability of economic impacts for persons with disabilities in Magelang City.

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