

Symposium 1992: The Americans with Disabilities Act of 1990
EMPIRICAL STUDY OF THE EMPLOYMENT PROVISIONS OF THE AMERICANS
WITH
DISABILITIES ACT: METHODS, PRELIMINARY FINDINGS, AND IMPLICATIONS

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This article is the product of the collaboration of many people. The data were collected as part of a grant from the Oklahoma Development Disabilities Services Division ("DDSD") through a contract with the Oklahoma State University ("OSU") Sociology Department. This article represents an attempt to synthesize many of the findings from this data set that are relevant to discussion of the ADA. Although the views expressed in this article are my own, their development would not have been possible without the support, comment, and guidance from the following people: At Oklahoma DDSD--Eranell McIntosh- Wilson, Daniel Broughton, Deborah Rothe, Roger Stuart, Dennis Bean, and John Smallwood; at Oklahoma State University--Professor Lynn Atkinson and Yolanda Dow. At Oklahoma Developmental Disabilities Council, Pat Burns. At Temple University--James Conroy and Celia Feinstein. At the University of Iowa--The College of Law Foundation for partial support of this project, Barbara Broffitt, Shawn Cardin, Beth Knickerbocker, Kyle Lathrop, Professors William Buss and Michael Saks. The author gratefully acknowledges the long-term support and funding of this project by the Annenberg Washington Program. This work is dedicated to my parents.

The views and opinions expressed in this article are those of the author and do not necessarily reflect the views or policies of the Oklahoma Department of Human Services, Developmental Disabilities Services Division.

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I. INTRODUCTION

This article is descriptive. It presents a framework for studying the Americans with Disabilities Act ("ADA") generally, and aspects of the employment provisions of the ADA in particular (title I of the Act).¹ This article is also exploratory. It is meant to provide preliminary insight into the nature of title I through the collection and analysis of empirical data from people actually impacted by the Act. It also sets forth a process or method by which the long-term effectiveness of title I may be measured.²

Others have described in excellent detail the legal import of the ADA.³ It is a comprehensive civil rights measure meant to prohibit discrimination against some forty-three million Americans with disabilities.⁴ It is the first such federal statute addressing discrimination against persons with disabilities in every day life,⁵ and it is designed to outlaw discrimination in the

¹ 42 U.S.C.S. §§ 12101-12213 (Law.Co-op.Supp.1991).

² See Campbell, Reforms as Experiments, 24 Am. Psychologist 409 (1969) (classic discussion of methods designed to assess whether social programs are effective so that policy makers may better decide whether to retain, imitate, modify, or discard them on the basis of their apparent effectiveness); see also H.H. Perritt, Jr., Americans with Disabilities Handbook vii (1990) (stating that even though the employment title of the ADA is deferred for two years, it is essential that adequate information and data be developed about the implementation of the Act, and suggesting that there are many approaches for employers now to reduce their potential liability under the Act).

³ See, e.g., Symposium on the ADA, 22 N.M.L.Rev. 1 (1992) (this issue).

⁴ For an excellent overview of the Act, see Burgdorf, Jr., The Americans with Disabilities Act: Analysis and Implications of a Second- Generation Civil Rights Statute, 26 Harv.C.R.-C.L.L.Rev. 413 (1991) (discussing "people first" emphasis of Act).

⁵ The 1964 Civil Rights Act does not address discrimination on the basis of a disability. The Rehabilitation Act of 1973 prohibits discrimination against persons with disabilities but applies only to federal contractors and recipients of federal grants. The Rehabilitation Act does not apply to providers of public accommodations or to

areas of employment, public services, public accommodations, transportation, telecommunications, and the activities of state and local governments.

Since its conception, the basis for and scope of the employment provisions (title I) have been the subject of considerable debate.⁶ Some employers and businesses covered lobbied Congress to limit the ADA's proposed remedies in employment discrimination cases to "make-whole relief," such as to back-pay and litigation costs.⁷ Similarly, employers in the small business sector expressed concern over what they characterize as vague and undefined terms and obligations of title I.⁸ The Small Business Administration has called generally for a "more realistic analysis" of the impact of the Act on small entities.⁹

As is the case with any major piece of new legislation, questions about the scope and implementation of the ADA are raised in terms of its actual impact on the citizens it is designed to serve ("consumers" of the Act) and on those responsible for complying with and carrying it out ("users" of the Act). But the ADA goes further. The Act includes an affirmative duty for its "users" (e.g., employers) to accommodate and provide equal employment opportunity for qualified persons with disabilities.¹⁰ This is why the development of empirical information relating to the implementation of the Act is crucial; this information will help define systematically the parameters of the rights and obligations under the Act.

The primary focus of this article is to explore empirically aspects of the employment provisions of the ADA from the perspectives of: (1) its consumers, based on a large sample of persons with disabilities, defined in this project as persons with mental retardation who, in some cases, are also physically challenged (Study I); and (2) its users, based on a smaller sample of employers and employment providers of persons with disabilities (Study II).

The article attempts to accomplish several tasks. Part II sets forth the conceptual and empirical bases for the project and their relation to exploring aspects of title I. This part describes how prior empirical study of persons with disabilities has shaped the design of this project.

The "descriptive" components of this article, parts III and IV, set forth a framework that may aid social and behavioral scientists, lawyers, and policy analysts in developing research

private-sector employers. See generally, Americans with Disabilities Act of 1990: Law and Explanation, 320 Lab.L.Rep. (CCH), No. 395 at 43 (July 31, 1990); Morin, Americans with Disabilities Act of 1990: Social Integration Through Employment, 40 Cath.U.L.Rev. 189, 201-02 (1990) (comparison of ADA with other legislation).

⁶ H.H. Perritt, *supra* note 2, at 1 (title I is the most significant labor and employment legislation in a decade).

⁷ See BNA Special Report The Americans with Disabilities Act: A Practical Legal Guide to Impact, Enforcement, and Compliance 35-36 (1990) [hereinafter BNA Report] (for example, the National Association of Manufacturers opposed provisions in an earlier version of the ADA that allowed juries and courts to find compensatory and punitive damages against employers guilty of intentional discrimination).

⁸ See Letter from M.S. Hayward, United States Small Business Administration, to Frances M. Hart (April 29, 1991) (comments on Proposed EEOC Regulations for title I of the ADA) (on file with author).

⁹ *Id.* at 1.

¹⁰ See Lavelle, The Duty to Accommodate: Will Title I of the Americans with Disabilities Act Emancipate Individuals with Disabilities Only to Disable Small Businesses?, 66 Notre Dame L.Rev. 1135, 1193 (1991) (suggesting it is this aspect of the ADA that causes controversy).

processes or methods for studying the ADA. Part III begins the discussion of the "process" of empirical research employed in this project. This part highlights what the description of the process of research itself can tell us about the ADA. This part also highlights many of the legal, methodological, and ethical issues that may be faced in developing field research on the ADA, including discussion of:

- (1) the organization of research logistics;
- (2) the assessment of the ethical considerations;
- (3) the methods for collecting empirical data; and
- (4) the follow-up concerns after the research is over.

The description of the process of study is developed through the analysis of interviews with the research project team members, such as with the project director, project manager, and with several of the field interviewers.¹¹

Parts III and IV together present in detail the strategy and design for conducting the project. The setting, participants, size of the sample, and sources of data are described.¹² The "exploratory" empirical component, part V, presents preliminary findings from:

- (1) the first year of a longitudinal empirical study that examines the potential impact of title I on a sample of consumers of the Act;¹³ and
- (2) the first year of a longitudinal empirical study that examines employers' and employment service providers' perspectives of their employment relationship with persons with disabilities.¹⁴

Part V also provides empirical information that may prove or disprove many of the myths or misconceptions about the ADA.¹⁵ A related goal is to begin the baseline empirical assessment so that subsequent questions may be addressed as to whether persons with disabilities are

¹¹ Qualitative interviews cited in this article are with Dennis Bean, Project Director for the State of Oklahoma Developmental Disabilities Services Division, April 3, 1991; Professor Lynn Atkinson, Project Manager, April 8, 1991; Yolanda Dow, Project Manager, Interviewer, and Quality Assurance Coordinator, April 11, 1991; Dan Broughton, Developmental Disabilities Project Administrator, June 29, 1991 [hereinafter Interview with Bean, Atkinson, Dow, or Broughton] (notes of interviews on file with author). For discussion of this method, see Hagner & Murphy, Closing the Shop on Sheltered Work: Case Studies of Organizational Change, 55(3) J. Rehabilitation 68, 69 (1989) (qualitative interview method focuses on understanding experiences and perspectives of people).

¹² The data collection sources--questionnaire, observation, and interview format--are available from the author. As part of the larger effort, more than 3,700 individuals who are developmentally disabled are interviewed, surveyed, and observed using many of the measures in this article. The data and analyses here are from a state-wide data base developed in Oklahoma by DDS. The data base is designed generally to assess the impact of and evaluate service and policy directed toward the developmentally disabled in Oklahoma. See *infra* notes 254-296 and accompanying text.

¹³ All information presented herein was collected prior to the effective date of the employment provisions. Follow-up studies will be conducted after the effective date of the Act. See Blanck, *infra* notes 173, 560.

¹⁴ Employment providers are brokers of employment services in the community. These agencies search for job opportunities for the clients with mental retardation they serve. Interview with Dow, *supra* note 11.

¹⁵ This project is an evaluation of a social experiment in the sense of Professor Campbell's influential article, Reforms as Experiments, *supra* note 2 at 409-29. See also J. Conroy & V. Bradley, The Pennhurst Longitudinal Study: A Report of Five Years of Research and Analysis 86 (1985) (classic study of social reforms in deinstitutionalization).

"better off" as a result of title I.¹⁶ This information is gathered as part of the larger longitudinal study exploring the lives of individuals with disabilities, and in particular those individuals with mental retardation.¹⁷ The empirical information is also "baseline" in that it is gathered at the time period immediately upon the enactment of the ADA, but before the effective date of title I.¹⁸ The collection of baseline data is an important first step in the development of a longitudinal empirical assessment of the employment provisions of the ADA. The baseline analyses are necessary for interpreting meaningfully subsequent data and results. The implications of the process of study and its initial findings are discussed in part VI.

II. DEVELOPING AN EMPIRICAL FRAMEWORK TO STUDY TITLE I OF THE ADA

The ADA has made explicit the national commitment to inclusion of persons with disabilities.¹⁹ The Act has heightened the awareness of the issues facing persons with disabilities and, at the same time, has created new expectations concerning opportunities for this group of citizens.²⁰ A main thesis of this article is that one primary means for enhancing awareness of the present and future issues facing persons with disabilities covered under the ADA is through empirical study.²¹

This part begins with an overview of the employment provisions of the ADA that are most relevant to the empirical analysis in this project. This part then describes how prior empirical study has impacted on the development and proposed implementation of title I.²² The development of the empirical framework is next linked to what may be learned about the potential impact, myths, and concerns surrounding the implementation of title I for persons with mental retardation.²³

¹⁶ For a related analysis, see Conroy, Lemanowicz, Feinstein & Bernotsky, 1990 Results of the CARC v. Thorne Longitudinal Study (Connecticut Applied Research Project, Report No. 10, Jan. 1991) (on file with author).

¹⁷ Data are included on those individuals with mental retardation residing in three large state-run institutions (ICFs/MR) in Oklahoma. These data are presented for comparison with the data on those individuals residing in the community. One of the large state institutions sampled is presently operating under a consent agreement to close and to place its residents into community living arrangements.

¹⁸ Title I of the ADA will be implemented in July of 1992 for businesses with more than 25 employees and in July of 1994 for businesses with more than 15 employees. 42 U.S.C.S. § 12111(5)(A) & (B) (Law.Co-op.Supp.1991). Effective date for public services and accommodations covered by title III was January, 1992. See §§ 12101(5) & 12108; § 12310(a).

¹⁹ See, e.g., Goldman, Right of Way: The Americans with Disabilities Act, 5(4) Wash.Law. 34, 40 (March/April 1991) (the ADA is "landmark legislation that has raised the consciousness of persons with disabilities and their potential employers and service providers").

²⁰ E.g., Findings of employers in Study II, *infra* notes 444-506 and accompanying text.

²¹ Cf. Saks, Turning Practice in Progress: Better Lawyering Through Experimentation, 66 Notre Dame L.Rev. 801 (1991) (program of empirical investigation would rapidly accelerate knowledge of the legal system).

²² This article uses the term empirical research to denote any systematic attempt to scientifically gather quantitative or qualitative information. This involves questionnaire, survey, interview, and observational data collection techniques. See *infra* notes 187-253 and accompanying text; Saks, *supra* note 21.

²³ Although this article focuses on the impact of empirical study on the development of title I, it is clear that other agendas contributed in different and complementary ways to the shaping of these provisions. This part limits its discussion to the import of empirical investigation in assessing title I.

A. Title I and its Impact on Persons with Mental Retardation

Title I affects the private employment relationship. This section highlights the empirical foundation on which title I rests, so that such bases may be assessed empirically in the present project for the participating sample of persons with mental retardation and their employers.²⁴ This approach is meant to complement the view that the primary parameters for interpreting title I will be developed on a case-by-case basis with reference to the Equal Employment Opportunity Commission ("EEOC") regulations, the Rehabilitation Act regulations, and case law.²⁵

The category of persons with disabilities defined by the ADA encompasses a wide range of individuals.²⁶ A person with a disability is one with "a physical or mental impairment that substantially limits that person in some major life activity," or has "a record of such a physical or mental impairment," or who is "regarded as having such an impairment."²⁷ Persons with mental retardation are considered to have a mental impairment that limits a major life activity, such as learning. This group is protected generally under the ADA's first prong of the definition of disability.²⁸ Mental retardation is considered a "disability" in court cases involving the definition of disability adopted in the ADA.²⁹ Many of the participants in the present project

²⁴ See *infra* notes 254-96 and accompanying text (sections relating to participants and methods).

²⁵ EEOC Regulations for title I are codified at 29 C.F.R. pt. 1630 (July 26, 1991). See also Lavelle, *supra* note 10, at 1142 (discussion of parameters for interpreting title I); cf. *E.E. Black, Ltd. v. Marshall*, 497 F.Supp. 1088 (D.Haw.1980), vacated sub nom. *E.E. Black, Ltd. v. Donovan*, 27 Empl.Prac.Dec. (CCH) 32, 199 (D.Haw.1981) (focus on job seeker and not on impairment necessitates a case-by-case determination of whether impairment of job seeker constitutes substantial disability).

²⁶ The ADA's definition of disability is the same as used in the Rehabilitation Act of 1973. See 29 U.S.C. §§ 791-796 (1988). For a review and comparison of the Rehabilitation Act, see H.H. Perritt, *supra* note 2, at 95-108; Lindsay, *Discrimination Against the Disabled: The Impact of The New Federal Legislation*, 15 *Emp.Rel.L.J.* 333, 334 (Winter 1989-90).

²⁷ 42 U.S.C.S. § 12102(2) (Law.Co-op.Supp.1991); 29 C.F.R. § 1630.2(g) (1991). Title I's employment provisions protect against discrimination on the basis of disability for any "qualified individual with a disability." See *infra* notes 45-94 and accompanying text; BNA Report, *supra* note 7, at 77. Title III's public accommodation provisions protect all individuals from discrimination "on the basis of disability." See *infra* note 107; BNA Report, *supra* note 7, at 77; see also H.R.Lab.Rep. No. 485, *infra* note 28, at 52 (a person with mental retardation has limitations on the major life activity of learning).

²⁸ Physical and mental impairment are defined in the section 504 regulations and are cited in the Senate and House Committee reports on the ADA. See BNA Report, *supra* note 7, at 78-79 (citing S.Rep. No. 116, 101st Cong., 1st Sess. 21 (1989) [hereinafter S.Rep. No. 116]; H.Rep. No. 485, 101st Cong., 2d Sess., pt. 2, at 51, pt. 3, at 28 (1990) [hereinafter H.R.Rep. No. 485]). An individual must satisfy at least one part of the definition to be considered an individual with a disability. 29 C.F.R. § 1630.2(g) (1991). For purposes of this project, the participants are persons with mental retardation of four degrees; (1) mild, (2) moderate, (3) severe, and (4) profound. See *infra* note 329 and accompanying text. Each level of retardation would be covered under the statutory definition of the ADA consistent with the definition of "major life activities" as "functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working." See BNA Report, *supra* note 7, at 80 (citing 45 C.F.R. § 84.3(j)(2)(ii), and verbatim definition in the Senate and House committee reports on the ADA, S.Rep. No. 116 at 22; H.Rep. No. 485, pt. 2, at 52, pt. 3, at 28).

²⁹ For a review of cases, see BNA Report, *supra* note 7, at 81-82 (covering mental retardation generally, as well as educable mental retardation, and profound or severe mental retardation). But see *School Board of Nassau County, Florida v. Arline*, 480 U.S. 273 (1987) (fear of contacting tuberculosis--underlying physical

are persons with mental retardation who also have a physical challenge that itself may be covered as a disability under the ADA.³⁰

1. Employment of Persons with Mental Retardation Under Title I

The major thrust of title I is to prevent discrimination against persons with disabilities. This is accomplished by enabling the persons covered by the Act to participate fully in employment opportunities.³¹ Title I obliges employers to reasonably accommodate the needs of qualified persons with disabilities so that they have equal opportunity to employment. This program of research explores a potential aspect of discrimination as defined by the ADA in which employers do not make reasonable accommodations or in which employers effectively deny employment opportunities because of the need to accommodate persons with disabilities.³² As mentioned earlier, the duty to provide reasonable accommodations for qualified persons with disabilities is an affirmative duty on the part of employers.³³ The empirical project provides preliminary information on when and what sort of accommodations employers may be obliged to provide for these participants with disabilities. The goal of the project is not to put employers on the defensive, but to provide a model for analysis so potential litigation may be avoided.

In summary, it is well settled that persons with mental retardation are protected under the ADA's definition of disability.³⁴ There are several issues, however, that will need to be clarified with regard to the scope of coverage under title I for persons with mental retardation. This part analyzes some of those issues and highlights how empirical study may begin to help address them.

illness--cannot be a basis for terminating an employee); Buss, Human Immunodeficiency Virus, the Legal Meaning of "Handicap" and Implications for Public Education Under Federal Statutory Law, 77 Iowa L.Rev. ---- (1992 forthcoming).

³⁰ The National Council on Disability has four general categories of disabilities that include (1) sensory, e.g., visual or hearing impairments, (2) cognitive, e.g., mental retardation or learning disabilities, (3) mental or emotional, e.g., mental illness, and (4) physical, e.g., deformity. See *infra* notes 510-11 and accompanying text (findings in Study II for employment providers regarding types of physical and sensory disabilities for the group of participants); see also BNA Report, *supra* note 7, at 79, 83 (citing National Council on the Handicapped, *Toward Independence*, at 1 (1986) [cited herein *infra* note 113 and accompanying text], and cases identifying multiple disabilities, such as mental retardation and physical disability); R.L. Burgdorf, Jr., *The Legal Rights of Handicapped Persons: Cases, Materials and Text*, 31-46 (1980) (dividing disabilities into 10 categories).

³¹ See BNA Report, *supra* note 7, at 114 (citing United States Comm'n on Civil Rights, *Accommodating the Spectrum of Individual Abilities*, at 102 (1983)).

³² See 42 U.S.C.S. § 12112(b) (Law.Co-op.Supp.1991).

³³ Cf. Lavelle, *supra* note 10, at 1137-38 (introducing this argument); Cooper, *Overcoming Barriers to Employment: The Meaning of Reasonable Accommodation and Undue Hardship in the Americans with Disabilities Act*, 139 U.Pa.L.Rev. 1423, 1430 (1991).

³⁴ In addition to the ADA's provisions, the employment rights of persons with mental retardation are protected in the Developmental Disabilities Assistance and Bill of Rights Act, Pub.L. No. 101-496, § 101, § 3, 104 Stat. 1191 (1990) (to be codified as amended at 42 U.S.C. 6000). This Act states in its findings that as of 1990, there are more than three million persons with developmental disabilities in the United States. *Id.* § 101(a)(1). It finds that public and private employers tend to be unaware of the capabilities of persons with developmental disabilities to be engaged in competitive work in integrated settings. *Id.* § 101(a)(8); see also BNA Report, *supra* note 7, at 18-19 (Act provides funding for care and treatment for persons with long-term developmental disabilities, such as mental retardation).

a. Disability

The EEOC's rules for the implementation of title I list a number of conditions that result in disability, including a mental disorder.³⁵ Nevertheless, the rules imply that a person with mental retardation will not "automatically" be considered an individual with a disability.³⁶ The rules suggest that a person with mental retardation will be considered an individual with a disability covered by the ADA to the degree that the disability "substantially limits" that individual's "major life activities."³⁷

The empirical information collected in Study I is designed to develop baseline information on the types of limitations persons with differing degrees of mental retardation may experience in employment. This information may help clarify the scope and applicability of the "substantially limiting" language of the EEOC regulations.³⁸ The EEOC regulations provide that the determination of whether an individual is substantially limited in the ability to work should be made only when the individual is not considered disabled in any other major life activity.³⁹ Moreover, the "substantially limiting" determination is to be made without regard to the availability of adaptive equipment, medical supports, or reasonable accommodation.⁴⁰ Still, in the absence of empirical study, case-by-case analysis will be required to determine if the degree of mental retardation is actually a "disabling" impairment for purposes of the ADA, especially for those persons with mild mental retardation who function well in society.⁴¹ The bases for

³⁵ 29 C.F.R. § 1630.2(h) (1991). See generally Feldblum, *The Americans with Disabilities Act Definition of Disability*, 7 Lab.Law. 11 (Winter 1991) (overview of Act).

³⁶ 29 C.F.R. § 1630.2(j) (1991).

³⁷ *Id.*; see also R.D. Fowler, *Comments on EEOC's Proposed Regulations For Title I of the ADA*, American Psychological Association, at 7 (April 29, 1991) (suggesting that the EEOC incorporate into the definition of major life activities those activities that are affected by mental disabilities such as remembering, concentrating, information processing and reasoning, and the ability to maintain social relationships). Such activities are relevant to the employment context for persons with mental retardation. See *infra* notes 444-506 and accompanying text (e.g., findings from Study II for employers). See generally Zappa, *The Americans with Disabilities Act of 1990: Improving Judicial Determinations of Whether an Individual is "Substantially Limited,"* 75 Minn.L.Rev. 1305 (1991).

³⁸ See *infra* notes 374-84 and accompanying text (data on persons with mental retardation service goals and plans). Also note that section 12102(b)(5)(A) requires employers to make reasonable accommodations in employment to "known" physical or mental limitations of a job applicant or employee. Thus, questions may arise as to the employer's required "knowledge" of the potential employee's level of retardation, and the impact of this on the hiring decision. Cf. J.A. Cook, *Comments on the EEOC's Proposed Regulations for Title I of the ADA*, Thresholds National Research and Training Center on Rehabilitation and Mental Illness, 1 (April 25, 1991) (also noting that the EEOC's description of "major life activities" should include activities relevant to persons with mental disabilities, such as reasoning, concentrating, and interacting with others).

³⁹ 29 C.F.R. § 1630.2(j) (1991) (analysis of comments).

⁴⁰ *Id.*; cf. R.H. Bruininks, *American Association on Mental Retardation ("AAMR") President, AAMR Comments to the EEOC on Title I of the ADA*, 1-2 (April 23, 1991). As AAMR points out, the rules do not explicitly state that persons with mental retardation are covered under the Act, even if they can perform major life activities, such as living independently and working. *Id.* at 2; see also *infra* notes 329-51 and accompanying text (e.g., adaptive behavior scores for persons residing in various community living arrangements); Lavelle, *supra* note 10, at 1144 (also noting if impairment limits individual in a way that brings that person to the level of an average individual, then the individual is not substantially limited (citing 29 C.F.R. § 1630.2(j) (1991))).

⁴¹ In defining persons with disabilities under the ADA, the individual must first show that he or she has some impairment that substantially limits a major life activity, or has a record of mild mental retardation, or is regarded as having mild mental retardation. See 42 U.S.C.S. § 12102(2) (Law.Co- op.Supp. Feb. 1991); 29

such individualized judgments without the benefit of comparative aggregate data could lead to extensive litigation on the subject.⁴² Generally, a person with mental retardation who is experiencing difficulty in securing or retaining a job would likely be considered "substantially limited."⁴³

b. Qualified Individuals with Disabilities

The analysis under section 101(8) of title I of the concept "qualified individual with a disability" may likewise be complicated for the population of persons with mental retardation covered under the ADA.⁴⁴ This may be, in part, because of the wide range of degree of mental retardation—ranging from mild to moderate, severe, and profound. Yet, no adequate data base is available to address this issue.

Title I prohibits discrimination in employment against "qualified individuals with disabilities."⁴⁵ The determination whether an individual with a disability is "qualified" will likely be made in two steps.⁴⁶ The determination of each step has implications for the coverage under title I for persons with mental retardation.

The first step is to determine if the person satisfies the prerequisites for the job, such as educational background or employment experience.⁴⁷ In the case of coverage of persons with mental retardation, this step enables employers to tailor the availability of "appropriate" jobs to the applicant's experience and skill level. But, historically, this decision has been based on the fears or myths of employers that employees with mental retardation may not be able to perform their jobs or become unable to perform their jobs in the future.⁴⁸ Study I describes the general

C.F.R. § 1630.2(j) (1991). In the case of an individual with mild mental retardation, the individual will then have to demonstrate that he or she can perform the essential functions of the job. See also H.H. Perritt, *supra* note 2, at 35 (noting a "Catch 22" in that persons with disabilities may not be "too disabled" or they cannot perform the essential functions of the job, and therefore might not be covered by the Act).

⁴² This point is not overstated, given that in the present empirical project most of the participants who were employed in competitive work environments were, in fact, those individuals who are more mildly retarded. But see *infra* notes 339-45 and accompanying text (level of adaptive behavior and type of employment).

⁴³ Cf. Lavelle, *supra* note 10, at 1145 (citing Department of Labor, Office of Federal Contract Compliance Programs, 41 C.F.R. § 60-741.2 and interpreting § 793 of the 1973 Rehabilitation Act).

⁴⁴ See *Southeastern Community College v. Davis*, 442 U.S. 397 (1979) (construing section 504 of the 1973 Rehabilitation Act so that colleges could consider legitimate physical requirements in making admission decisions as long as they are not discriminatory in nature). See generally Weirich, *Reasonable Accommodation under the Americans with Disabilities Act*, 7 *Lab.Law.* 27 (Winter 1991).

⁴⁵ Section 12102(a) of the ADA provides that no employer "shall discriminate against a qualified individual with a disability because of the disability of such individual in regard to job application procedures, the hiring, advancement, or discharge of employees, employee compensation, job training, and other terms, conditions, and privileges of employment." See 29 C.F.R. § 1630.2(m) (1991).

⁴⁶ 29 C.F.R. § 1630.2(m); see also *infra* notes 423-43 and accompanying text (modeling employee profiles using descriptive and multiple regression analyses).

⁴⁷ 29 C.F.R. § 1630.2(m) (citing S.Rep. No. 116, *supra* note 28, at 33; H.Rep. No. 485, *supra* note 28, at 64-65). This is analogous to the determination of whether the individual is "otherwise qualified" for the job under the 1973 Rehabilitation Act.

⁴⁸ Title I requires that decisions about the qualifications of a potential employee be made at the time of hiring. See Disability Rights Education Defense Fund, *Comments on the EEOC's Proposed Regulations for Title I*, at 4 (April 1991) (for example, employment decisions should not be based on anticipated health coverage, insurance, or worker's compensation costs) (citing H.R.Rep. 485, *supra* note 28, at 136).

level of functioning, medical, physical and other needs and concerns of potential employees with mental retardation.⁴⁹ Study II explores employer myths with regard to the employability of persons with mental retardation.⁵⁰

The second step in assessing whether a potential employee is otherwise qualified is to determine if the individual can perform the "essential functions" of the job "with or without reasonable accommodation."⁵¹ Essential functions are those which the employee must perform unaided or with the assistance of a reasonable accommodation.⁵² This second step is meant to ensure that persons with disabilities are not denied employment because they cannot perform "marginal functions" of the job.⁵³ Essential and marginal functions of a job, however, may prove difficult to assess, particularly for the determination of qualifications for persons with mental retardation. Study I begins the assessment of many employment-related skills, needs, and concerns for a group of persons with mental retardation.

⁵⁴

Title I provides that consideration is to be given to the employer's judgment as to what functions are essential.⁵⁵ This allows persons with disabilities to challenge an employer's contention that a function is essential to a job.⁵⁶ Yet the factors most relevant for the assessment of essential job functions may vary among persons with different disabilities and within the group of persons with mental retardation. Thus, essential and marginal job functions may be quite different for the same job performed by a person with mild rather than profound mental retardation. For instance, in a packaging job, a person with mild mental retardation may be able to box and pack while a person with profound mental retardation only may be able to pack the materials, yet both perform central aspects of the work task. At least in a large firm, eliminating the boxing function may not necessarily fundamentally alter the essential job requirements or force the hiring of a "shadow" employee (i.e., an individual who performs the majority of essential

⁴⁹ The descriptive analyses are not meant to suggest that a particular group of participants under study here are more or less qualified to perform a particular job. Rather, the descriptive and exploratory analyses set forth the types of needs, skills, and concerns of this large sample of persons with disabilities. In the long run, information of this type may be useful to employers and employees in tailoring jobs to fit the needs of otherwise qualified employees with disabilities. See *infra* notes 548-60 and accompanying text (implications of the present study and what empirical information might tell employees and employment providers about the employment relationship under title I).

⁵⁰ See *infra* notes 475-79 and accompanying text (employer attitudes about long-term employment of persons with disabilities).

⁵¹ 29 C.F.R. § 1630.2(m) (1991).

⁵² *Id.* § 1630.2(n) (providing the example that typing may be an essential function of a job if, in fact, the employer requires any employee in that particular position to type); see also S.Rep. No. 116, *supra* note 28, at 26; H.R.Rep. No. 485, *supra* note 28, pt. 2, at 55, pt. 3, at 33.

⁵³ 29 C.F.R. § 1630.2(n) (1991) (citing H.R.Rep. No. 485, *supra* note 28, at 55). The "essential function" concept is part of the original HEW regulations for the Rehabilitation Act. See BNA Report *supra* note 7, at 108 (citing 42 C.F.R. 22678, 22686, § 84.3(k)(1) (May 4, 1977)).

⁵⁴ The goal here is not to present prescriptive information about the employability of persons with mental retardation. The goal is to provide preliminary insight into a particular sample of persons with disabilities and to describe a method for assessing information relevant to the assessment of the ADA. See generally part V, *infra*.

⁵⁵ See 42 U.S.C.S. § 12101(8).

⁵⁶ BNA Report, *supra* note 7, at 109 (citing *School Bd. of Nassau County, Fla. v. Arline*, 480 U.S. at 288 (determination whether a person with a disability qualified involves individualized inquiry)).

functions of another employee with a disability).⁵⁷

The EEOC has set forth three factors to be used in determining whether a job function is essential.⁵⁸ These factors include: (1) the reason the job exists is primarily to perform that function; (2) the number of other employees available to perform that job function, suggesting that essential functions are related to the total number of employees and to business demands; and (3) the degree of skill required to perform the job function. These factors are to be considered in determining whether a job function is essential on a case-by-case basis.⁵⁹ The inquiry into essential job functions, however, is not meant to second-guess employer's business judgment.

Studies I and II provide information on how essential job functions may be viewed by employers, at least for persons with mental retardation.⁶⁰ Given that the determination of "qualified" employees will have to be made by employers at the time of the hiring decision, employers presently have little systematic information about how to assess essential and marginal job functions and how this assessment may vary with type of disability.⁶¹ Concerns by employers are not without merit because, in the absence of such empirical information, it will be difficult to determine who is an otherwise qualified individual with a disability and what constitutes a reasonable accommodation for that individual.⁶² Moreover, the goal of title I, and the view of the community of persons with mental retardation, is not to require employers to hire unqualified persons with mental retardation solely because of their disability.⁶³

c. Reasonable Accommodation

An individual is considered a "qualified individual with a disability" if he or she can perform the essential functions of the job with or without "reasonable accommodation."⁶⁴ This element obliges employers to make individualized adjustments to jobs that allow qualified persons with disabilities equal employment opportunities.⁶⁵ The EEOC has identified three basic categories of reasonable accommodation:⁶⁶ (1) ensure equal opportunity to the application process; (2)

⁵⁷ Cf. 29 C.F.R. § 1630.2(n) (1991) (but some functions could become essential if there is a limited number of employees to perform the task); see also Lavelle, *supra* note 10, at 1165 (citing cases); Shaller, "Reasonable Accommodation" under the Americans with Disabilities Act--What Does it Mean?, 16(4) *Employee Rel.L.J.* 431, 433 (Spring 1991).

⁵⁸ 29 C.F.R. § 1630.2(n) (1991).

⁵⁹ *Id.* (all relevant evidence will be considered, such as an established job description, work experience of past employees in the job or similar jobs, or time spent performing the particular job function) (citing *Hall v. Postal Service*, 857 F.2d 1073 (8th Cir.1988)). Section 12102(b)(6) of the ADA also limits the use of other qualification tests and criteria in that they must be job related and consistent with business necessity.

⁶⁰ See *infra* notes 464-74 and accompanying text (overall measure of job performance developed from the Employer Questionnaires and its relation to other variables).

⁶¹ 29 C.F.R. § 1630.2(m) (1991); cf. R.H. Bruininks, *supra* note 40, at 2.

⁶² Lavelle, *supra* note 10, at 1154 (suggesting employer fears about this issue).

⁶³ Cf. *id.* at 1162.

⁶⁴ 42 U.S.C.S. § 12102(b)(5); 29 C.F.R. § 1630.2(o) (1991); cf. *Coley v. Secretary of Army*, 689 F.Supp. 519, 521-22 (D.C.Md.1987) (holding under the 1973 Rehabilitation Act that a person who can perform essential functions of job with or without reasonable accommodation is a "qualified" individual with a disability).

⁶⁵ BNA Report, *supra* note 7, at 116 (citing H.R.Rep. No. 485, *supra* note 28, pt. 3, at 39 (stating that the reasonable accommodation requirement is "central to the non-discrimination mandate of the ADA")).

⁶⁶ See 29 C.F.R. § 1630.2(o) (1991).

enable employees with disabilities to perform essential job functions; and (3) enable employees with disabilities to enjoy the same benefits and privileges as employees without disabilities⁶⁷ But in the absence of empirical information on their scope and nature, potential accommodations may prove not relevant to the actual needs of employees with disabilities. This is why data are presented in Study I that are gathered from actual consumers of the ADA.⁶⁸

Many examples of accommodations have been discussed in the legislative history and summarized elsewhere.⁶⁹ Some of those most frequently mentioned include permitting the use of accrued paid leave, job restructuring of nonessential job functions, making employer provided transportation accessible, or providing personal assistants.⁷⁰ The scope of several of these accommodations is explored in Studies I and II below.

The determination of the appropriateness of an accommodation will involve a dialogue between employer and employee.⁷¹ These discussions will be ongoing because the needs, concerns and interests of the potential employees will likely change over time.⁷² Only after such discussion occurs should the determination be made whether the accommodation imposes an "undue hardship" on the business.⁷³ Study II explores potential topics for accommodation-related discussions, including the identification of barriers to employment and their reasonableness and effectiveness.⁷⁴ Others have argued also that a reasonable accommodation may be required for persons with mental disabilities that exist as a result of society's misunderstanding and stigmatization of these individuals.⁷⁵

There are several qualifications to the concept of reasonable accommodation that are relevant to

⁶⁷ Other types of accommodations are suggested from the findings in Studies I and II below (e.g., enhanced job coach training). See *infra* notes 297-547 and accompanying text.

⁶⁸ See, e.g., *infra* notes 385-92 and accompanying text (consumer information and composites on employment-related choices).

⁶⁹ See *infra* notes 497-500 and accompanying text; see also 29 C.F.R. § 1630.2(o) (1991) (citing House and Senate Reports); BNA Report, *supra* note 7, at 115-16. Employers are obligated to make reasonable accommodation for all services and programs connected with employment (e.g., counseling services) and all non-work facilities provided by the employer (e.g., cafeterias). Non-work services could include transportation provisions, and if so, they then must be accessible to all individuals. 29 C.F.R. § 1630.2(o) (1991) (other examples of non-work facilities provided would be lounges and auditoriums).

⁷⁰ 29 C.F.R. § 1630.2(o) (1991) (noting employer not required to reallocate essential job functions).

⁷¹ For review of informal guidelines for such discussions, see BNA Report, *supra* note 7, at 117-18.

⁷² The longitudinal nature of the present project will provide information on the changing needs and concerns of employees with mental retardation and their employers that are relevant to compliance with title I. To date, to the best of my knowledge no such large-scale effort has been conducted.

⁷³ 29 C.F.R. § 1630.2(o) (1991) (analysis of comments); see also R.H. Bruininks, *supra* note 40, at 3 (noting that the EEOC's proposed regulations modify incorrectly the definition of reasonable accommodation with the imposition of an examination of the potential undue hardship on the business entity); M.S. Hayward, *supra* note 8, at 5 (arguing that the EEOC's regulations rely heavily on the concept of "cost per accommodation" to estimate the burden of meeting title I).

⁷⁴ BNA Report, *supra* note 7, at 117-18.

⁷⁵ See R.D. Fowler, *supra* note 37, at 8 (suggesting that the concept of reasonable accommodation includes modifications to the characteristics of the workplace that could interfere with a person's ability to perform a job, such as co-workers' negative attitudes); see also *infra* notes 444-506 and accompanying text (results for employer surveys and suggestion of education strategies for co-workers without disabilities).

coverage under title I for persons with mental retardation. Generally, the obligation for employers to make reasonable accommodation is meant to apply to all aspects of the employment relationship.⁷⁶ This obligation may extend, for example, to the provision of personal assistants to help with specified duties related to a job.⁷⁷ Moreover, employers may be required to provide items that are customarily personal-use items where the items are specifically designed or required to meet job-related needs.⁷⁸ But the burden is on the person with a disability to show a "nexus" between the disability and the need for such accommodation.⁷⁹

For the population of persons with mental retardation (who may also have physical challenges) it may prove difficult to demonstrate the required nexus for job-related accommodations; that is, to separate job supports or accommodations that are not relevant directly to both personal and specified job-related interests. Thus, in many cases, the employer may not necessarily be obligated to provide an employee who uses a wheelchair a personal aide to help him or her perform toileting functions during the work day or provide a person with mental retardation the services of a job coach at times after the work day, unless it can be shown that such accommodations meet job-related needs.⁸⁰ Yet, for many persons with mental retardation, especially for those more than mildly retarded, personal and job-related training and accommodation needs are intimately linked. Employment training is part of a larger and more integrated plan for daily living, sometimes called an Individual Program Plan ("IPP") or Individual Habilitation Plan ("IHP"). The goals of such plans are not easily separated because daily skill development is necessary for employment skill development and visa versa.⁸¹

A crucial issue, therefore, for many persons with severe mental retardation, who may also have physical challenges, is that personal daily care goals and training (often referred to as daily attendant care or habilitation training) are linked closely to the ability to attain and retain employment.⁸² The analyses in part V illuminate the extent to which personal attendant care (e.g., toileting, eating, driving skills, etc.) may not always be solely for the personal benefit of

⁷⁶ 29 C.F.R. § 1630.9 (1991).

⁷⁷ *Id.* § 1630.2(o).

⁷⁸ *Id.* § 1630.9.

⁷⁹ *Id.* EEOC notes that employers may require individuals with disabilities to provide documentation of the need for reasonable accommodation when the need for a requested accommodation is not obvious. This requirement further underscores the importance of developing a data base on the magnitude and scope of requested reasonable accommodations.

⁸⁰ *Id.* (citing S.Rep. No. 116 supra note 28, at 31; H.R.Rep. No. 485, supra note 28, at 62). The appendix to the EEOC regulations list, among others, examples of accommodations that are not necessarily job-related such as wheelchairs or eyeglasses. *Id.* This article concludes that for many persons with severe disabilities, accommodations will be required to assist such individuals in both daily and job-related activities (e.g., a person serving as a page turner for an employee with a disability of the hands). See also Lutfiyya, Rogan & Shoultz, *Supported Employment: A Conceptual Overview*, Center on Human Policy Monographs, 2-3 (1991) (discussing relation of self-care and job-related accommodations for persons with severe disabilities).

⁸¹ See *infra* notes 374-84 and accompanying text (Study I measures service goals and delivery); cf. Lavelle, supra note 10, at 1175 (suggesting a more limited view of job-related accommodations).

⁸² R.H. Bruininks, supra note 40, at 3; see *infra* notes 278-81 and accompanying text (e.g., analysis of service planning and service delivery); see also Disability Rights Education Defense Fund, *Comments on the EEOC's Proposed Regulations for Title I of the ADA*, at 4 (April 29, 1991) (daily attendant care may be a reasonable accommodation) (citing S.Rep. No. 116, supra note 28, at 33; H.R.Rep. No. 485, supra note 28, at 64).

individuals with disabilities. The development of these issues empirically may prove important for those persons with severe mental retardation or with other severe disabilities for whom daily attendant care is required for job attainment and retention.⁸³

Also directly relevant to persons with mental retardation covered under title I, the EEOC rules state that the term "supported employment"⁸⁴ is not synonymous necessarily with reasonable accommodation. Supported employment programs, such as those discussed in this article, primarily assist persons with mental retardation in securing and retaining competitive employment.⁸⁵ The EEOC regulations provide that reasonable accommodation is to be considered on a case-by-case basis without regard to whether that assistance is referred to as "supported employment."⁸⁶ This means that an important component of job training for persons with mental retardation is not necessarily to be considered a reasonable accommodation for purposes of an employer's compliance with title I.

The findings of Studies I and II provide information on the types of potential reasonable accommodations for persons with mental retardation, including supported employment programs, modified training materials, restructuring of essential job functions, hiring an outside job coach to assist in job training, as well as in some cases, the provision of services for daily attendant care.⁸⁷ In addition, the project provides descriptive information as to when it might be appropriate or even required for employers to provide an employee with mental retardation certain job-related accommodations outside of the workplace, such as enrollment in employment-peer support groups.⁸⁸ The related issue is to what extent an employer is required to restructure the functions of a job to accommodate a person with mental retardation, as is done in some supported employment programs.⁸⁹ The EEOC's position may weaken substantially the import of title I for many persons with more than mild mental retardation requiring supported employment services.⁹⁰

⁸³ See also Disability Rights Education Defense Fund, *supra* note 82, at 4 (daily attendant care may be a reasonable accommodation for persons with severe disabilities and this issue is of the highest priority). As the findings below for this large sample of persons with mental retardation show, employees with a disability covered under the ADA often have more than one disability that may require several accommodations. M.S. Hayward, *supra* note 8, at 6 (citing Berkeley Planning Associate Survey Report, *A Survey of Accommodations Provided to Handicapped Employees by Federal Contractors*, Vol. 1: Study Findings, (cited at 29 C.F.R. § 1630.2(o) (1991))). Also, in its preliminary impact analysis of title III of the ADA, the Justice Department reports that 32% of persons with disabilities consider themselves to have multiple disabilities. See Preliminary Regulatory Impact Analysis of the Department of Justice Regulation Implementing Title III of the ADA, 28 C.F.R. § 36 (1991).

⁸⁴ See *infra* note 264 and accompanying text (definition and data on supported employment).

⁸⁵ See *infra* notes 261-66 and accompanying text (noting differences among employment types for the project participants).

⁸⁶ 29 C.F.R. § 1630.9 (1991) (not making reasonable accommodation).

⁸⁷ See *infra* notes 497-500 and accompanying text.

⁸⁸ See D.L. Jefferson, Comment on the EEOC's Proposed Title I Regulations for the ADA, Mental Health Advisory Board (April 23, 1991) (supported employment may be synonymous with reasonable accommodation for persons with mental illness where the transition of the person with the disability into the work force is supported by services, such as peer support groups, which are typically off site from the workplace).

⁸⁹ Cf. 29 C.F.R. § 1630.9 (1991). Such restructuring may not always be required under title I.

⁹⁰ An employer is not prohibited from providing voluntarily any personal-related modifications or to engage employees in supported employment programs. *Id.*

The EEOC suggests that reasonable accommodation is best understood as a means by which physical or structural barriers to "the equal employment opportunity of an individual with a disability are removed or alleviated."⁹¹ But the term "otherwise qualified" obliges employers to make reasonable accommodations only for an individual with a disability who satisfies the skill and experience to perform the essential functions of the job (i.e., "who is qualified").⁹² Moreover, although the accommodation must meet the job-related needs of the individual, it does not have to be the "best" available.⁹³

What this implies is that employers will have great discretion in the type of accommodation they may select for an individual. But employers have little systematic information to make such determinations. To the contrary, it is likely that persons with mental retardation, their families, or their service providers will have most of the information necessary to determine the appropriate accommodation.⁹⁴ The empirical analyses below are one resource for how to begin this sharing of information and how the EEOC approach may impact on employers and persons with mental retardation.

d. Undue Hardship

Title I limits the obligation for employers to provide reasonable accommodations through the concept of "undue hardship."⁹⁵ Undue hardship occurs when the employer has significant difficulty or expense in providing an accommodation.⁹⁶ This provision focuses primarily on the economic impact of a potential accommodation on covered firms.⁹⁷ One issue Study II seeks to explore is whether undue hardships are perceived by employers to be greater for smaller rather than larger business entities covered by title I, the argument being that smaller businesses have fewer resources to make accommodations.⁹⁸

⁹¹ Id. § 1630.2(o).

⁹² 29 C.F.R. § 1630.2(m) (1991) (reasonable accommodation is to provide qualified individual with a disability with an equal employment opportunity).

⁹³ 29 C.F.R. § 1630.2(o) (1991) (citing S.Rep., supra note 28, at 35; H.R.Rep. No. 485, supra note 28, at 68).

⁹⁴ See Lavelle, supra note 10, at 1172 (sharing of consumer information with employers during the phase-in period of title I should reduce transaction costs in hiring persons with disabilities) (citing S.Rep. No. 116, supra note 28, at 34-35). Also, states that employees may require a job applicant to describe or demonstrate how, with or without reasonable accommodation, the applicant will be able to perform job-related functions. 29 C.F.R. 1630.14(a) (1991). This is, in effect, an additional burden for potential employees covered by title I.

⁹⁵ 29 C.F.R. § 1630.2(p) (1991); see also BNA Report, supra note 7, at 118-120.

⁹⁶ See 42 U.S.C.S. § 12101(10)(A); 29 C.F.R. § 1630.2(p) (1991) (referring to accommodation that would be unduly costly, extensive, disruptive, or fundamentally alter the nature of the business). See generally Gardner & Campanella, The Undue Hardship Defense to the Reasonable Accommodation Requirement of the Americans with Disabilities Act of 1990, 7 Lab.Law. 37 (Winter 1991).

⁹⁷ BNA Report, supra note 7, at 119 (also listing factors on 42 U.S.C.S. § 12101(10)(B) including nature and cost of accommodation, overall financial resources and workforce of facility and of the parent entity, the composition of the workforce, and the relation between the facility and the parent entity). See Lavelle, supra note 10, at 1186 (arguing this is the most significant protection afforded small businesses by title I and noting that undue hardship likely means something less than threatened existence of the business).

⁹⁸ See infra notes 448-74 and accompanying text (Study II analysis of business size variable). Also note that currently, and more so in the past, a high proportion of persons with mental retardation are employed in franchised businesses (e.g., fast food chains). See infra notes 446-63 and accompanying text (demographic results of Study II). In defining undue hardship for a particular business in this setting, a determination will need

Even if an employer can show that the cost of an accommodation would impose an undue hardship, the employer is still required under title I to provide the accommodation if the funding for the accommodation is available from another source. For example, many of the participants in Study I receive ongoing job coaching supports from the State Developmental Disabilities Department Community Integrated Employment Programs.⁹⁹ Also, where the individual provides the accommodation or pays for that portion of the costs that constitute the undue hardship on the business, the employer is obligated to provide the accommodation.¹⁰⁰ But little empirical information is available on a national scale to help coordinate state and private sector efforts in ensuring equal opportunity for persons with disabilities. Moreover, employers' fear of the additional costs of dealing with state agencies or private providers in the hiring of persons with disabilities could actually be a disincentive to employers if the process is not coordinated or guided by systematic information sources.¹⁰¹

e. Summary

Title I prohibits discrimination by employers against a qualified individual with a disability.¹⁰² At the same time, title I is not intended to limit employers in choosing and maintaining a qualified workforce.¹⁰³ The statutory obligation for employers to enhance employment opportunity for persons with disabilities does not require that employers create jobs or award job preferences for potential employees with disabilities.¹⁰⁴ The understanding by employers of the basic obligations of title I are addressed in Study II below.¹⁰⁵

Title I also prohibits employers from restricting employment opportunities on the basis of

to be made as to the financial relationship between the franchisee and franchisor. For example, is the undue hardship burden different in circumstances where the franchise is independently owned and franchisee only makes payment of annual franchise fee? Are only the financial resources of the franchisee considered for purposes of undue hardship analysis in this example? See also 29 C.F.R. § 1630.2(p) (1991) (for similar examples).

⁹⁹ 29 C.F.R. § 1630.2(p) (1991) (or if federal, state, or local tax credits are available to offset the cost of the accommodation). To the extent that only partial monies are available to offset the cost of the accommodation, then only the net cost to the employer is considered in determining undue hardship. *Id.*; see also Disability Rights Education Defense Fund, *supra* note 82, at 5 (arguing for clarification in the regulations that even if a job coach--permanent or temporary--is an undue hardship for the employer, the employer may not refuse to allow an employee to use a job coach who has been paid for in another manner) (citing EEOC proposed regulations).

¹⁰⁰ 29 C.F.R. § 1630.2(p) (1991).

¹⁰¹ Cf. Lavelle, *supra* note 10, at 1188 (suggesting the number of persons requiring significant accommodations may be low so employers' concerns may be unfounded).

¹⁰² See H.H. Perritt, *supra* note 2, at 42 (citing H.R. Lab. Comm. Rep. stating that the core requirements of ADA are prohibiting disqualification of persons with disabilities from employment because of their inability to perform marginal functions, requiring employers to demonstrate business necessity of requirements that tend to screen out persons with disabilities from employment, and requiring employers to make reasonable accommodations to help persons with disabilities meet legitimate job criteria).

¹⁰³ The purpose of this article and project is not to describe or analyze all the provisions in title I (e.g., medical testing, defenses to undue hardship, etc.) and the reader is directed to other sources for this information.

¹⁰⁴ See Shaller, *supra* note 57, at 433 (summarizing general principles of title I).

¹⁰⁵ See *infra* notes 492-507 and accompanying text (results for question, "must employer always hire person with disability").

stereotypes and myths about persons with disabilities.¹⁰⁶ To this end, Studies I and II are designed to assess many of these myths.¹⁰⁷ Study II, which focuses more directly on employer perceptions, also explores the relationship of business size to the employment of persons with mental retardation.¹⁰⁸ Together, the empirical studies begin to focus on the meaning of employment opportunity and integration under title I for persons with disabilities.¹⁰⁹

A. Title I's Basis in Empirical Investigation

The previous section provided an overview of title I and its potential impact on a group of consumers it is designed to serve, persons with mental retardation. The passage of the ADA, like other major civil rights legislation, involved many aspects of the political process. The ADA's format reflects the Congressional intent that it be modeled on the Rehabilitation Act of 1973.

¹¹⁰ Therefore, at the time of the ADA's passage, some empirical study had been conducted on persons with disabilities with regard to the employment issues involving federal contractors or recipients of federal aid.¹¹¹ The majority of this information, however, was generated by telephone polling and survey research or by large scale analyses of census-like data.¹¹² This

¹⁰⁶ 29 C.F.R. § 1630.2(l) (1991).

¹⁰⁷ This article is related also to the study of title III of the ADA. Title III took effect on January 26, 1992. This title prohibits discrimination on the basis of disability by public accommodations and requires public accommodations and commercial facilities to be accessible to persons with disabilities. 28 C.F.R. § 36 (1991). The thrust of title III is to permit persons with disabilities to have full and equal enjoyment of public accommodations (but it does not mean that an individual must achieve an identical result or level of satisfaction as persons without disabilities). Public accommodations are to be offered to persons with disabilities "in the most integrated setting appropriate to the needs of the individual." 42 U.S.C.S. § 12302(b)(1)(B). Title III imposes an obligation on public accommodations to make reasonable modifications so that they may be accessible to persons with disabilities. Under section 301(9), such modifications may be "readily achievable." In balancing accessibility to public accommodations with the cost concerns of businesses, the ADA establishes a less rigorous standard for required modifications to existing facilities than for the building of new facilities. The definition of "undue burden" is analogous to the definition provided under 42 U.S.C.S. section 12101(10) of the employment section. Section 12301(10) covers public transportation provided by private entities (an example of such an operation relevant to the focus of this article is employee shuttle bus services operated by private companies or by employers).

The provisions of the ADA that are explored here attempt to understand the empirical bases for the concept of "integration." The concept of integration is fundamental to the purposes of the ADA. The ADA's provisions prohibit the segregation of persons with disabilities based on, among other things, presumptions, fears, and stereotypes about persons with disabilities. The provisions require the operators of public accommodations and employers to make "decisions based on facts applicable to individuals and not on the basis of presumptions as to what a class of individuals with disabilities can or cannot do." 28 C.F.R. § 36. The analyses begin to assess these myths and presumptions about persons with disabilities. See *infra* notes 393-421, 480-91 and accompanying text (findings as to accessibility needs in Study I and employer myths in Study II).

¹⁰⁸ See *infra* notes 446-63 and accompanying text (relevance of preliminary findings to argument by Small Business Administration that title I will have a disproportionate impact on small entities).

¹⁰⁹ See Rusch & Hughes, Overview of Supported Employment, 22 J. Applied Behavior Analysis 351, 358 (1989) (research needed on quality of life as a result of employment integration).

¹¹⁰ 29 C.F.R. § 1630.1(a) (1991).

¹¹¹ See Burgdorf, *supra* note 4, at 415-26 (overview of empirical study).

¹¹² See *infra* notes 254-96 and accompanying text (this project uses various data source instruments and measures that are gathered from actual consumers of the ADA, allowing for individualized responses).

section highlights the role that empirical information played in the passage of title I. It attempts to place in context the goals of the present project as a means for building on this earlier research.

1. Empirical Study in Support of the Passage of Title I

The effort to enact a federal law to ensure the rights of persons with disabilities began formally in 1986 with the publication of a policy and empirically-based report by the National Council on the Handicapped entitled *Toward Independence*.¹¹³ The report analyzed federal programs and presented legislative recommendations aimed at enhancing the quality of life of persons with disabilities.¹¹⁴ The National Council set forth three major conclusions from its analysis in *Toward Independence*:

- (1) Approximately two-thirds of working-age persons with disabilities did not receive Social Security or other public assistance income;
- (2) Federal disability programs reflected an overemphasis on income support and an underemphasis on initiatives for equal opportunity, independence, prevention, and self sufficiency; and
- (3) More emphasis was needed for federal programs to encourage and assist the private sector in promoting opportunities and independence for individuals with disabilities.¹¹⁵

These recommendations provide several avenues of study for this project. First, Study I explores the income levels of persons with mental retardation in various employment and living settings. The goal is to better understand strategies for reducing dependence on maintenance support programs and to enhance initiatives for equal employment opportunity, independence, and self sufficiency. Second, a goal of Study II is to understand ways to assist private employers to support employment opportunities for qualified individuals with disabilities. Third, a goal of both Study I and II is to provide information useful in the development of programs to increase employment among people with disabilities by enhancing supported employment programs, private sector initiatives, job training and development, and accessibility and placement programs.¹¹⁶

The recommendations set forth in *Toward Independence* are based, in part, on empirical information. The report concludes, however, that it is almost "impossible" to aggregate nationally much of the available data on persons with disabilities because of differing definitions of disabilities, divergent sources of data, and inconsistent survey methods.¹¹⁷ At the time the report was written, most existing studies of persons with disabilities involved one of

¹¹³ National Council on the Handicapped, *Toward Independence*, 18 (1986) [hereinafter *Toward Independence*]; *Toward Independence--Appendix: Topic Papers* (February 1986); see also BNA Report, *supra* note 7, at 2, 28 (National Council on the Handicapped is now called the National Council on Disability).

¹¹⁴ BNA Report, *supra* note 7, at 29. Discrimination was cited as the major problem facing individuals with disabilities. *Toward Independence*, *supra* note 113, at A-3 (appendix) (the report included an omnibus Americans with Disabilities Act).

¹¹⁵ *Toward Independence*, *supra* note 113, at vi.

¹¹⁶ *Id.* at vii.

¹¹⁷ *Id.* at 3.

two methodological approaches: (1) a "health conditions" approach that assesses the conditions that impair the health or functioning of an individual,¹¹⁸ and (2) a "work disability" approach that focuses on individual reports (and potentially employer interviews) about the disability that prevents them from working.¹¹⁹ Each approach has methodological strengths and weaknesses.¹²⁰ One of the recommendations in *Toward Independence* is that the Bureau of Census incorporate questions that assess the numbers and types of persons with disabilities, to provide a national data base for federal policy planning and service delivery.¹²¹ Also, the report calls for additional empirical data and better data collection methods on the actual behavior of individuals with disabilities and the attitudes and perceptions of individuals without disabilities (for example, of co-workers or employers).¹²² This is one of the major goals of the present project, albeit on a much smaller scale than anticipated by the Council some six years ago.

Coinciding with the publication *Toward Independence*, in 1986, the first nationwide telephone poll of individuals with disabilities was conducted by Louis Harris and Associates.¹²³ The purpose of the telephone survey was to gather information about how people cope with physical or mental disabilities and the barriers they face in everyday life.¹²⁴ No nationwide survey had sought to measure systematically the impact of disability, what persons with disabilities thought about being disabled, and what action they believed was necessary to enable them to participate fully as citizens.¹²⁵

The Harris Poll was based on 1,000 telephone interviews of non- institutionalized persons with

¹¹⁸ *Id.* (for example, health survey of types of health problems, but because of medical orientation of such studies, little adequate data is provided on such conditions as learning disabilities and mental conditions). This approach is analogous to Study I information.

¹¹⁹ *Id.* at 4 (noting problems with this empirical approach because such studies tend to underestimate the total numbers of people with disabilities and overestimate the unemployment of people with disabilities).

¹²⁰ See *infra* notes 173-253 and accompanying text (part III on the "process" of study).

¹²¹ *Toward Independence*, *supra* note 13, at 4. *Toward Independence* is accompanied by an Appendix that sets forth several topic papers related to the assessment of the laws and programs affecting persons with disabilities. One paper is devoted to increasing employment opportunities for persons with disabilities. *Id.* (Topic Paper B). This paper relies, in part, on census and survey data as the basis of its recommendations. *Id.* at B-1 (1980 census showed 15.1 million Americans have physical or mental disabilities that prevent them from working (citing Vachon, *Survey of Disability and Work* (1985), forecasting a 30% increase in the total number of individuals who are work disabled by the year 2000)); see also M.P. LaPlante, *Data on Disability from the National Health Interview Survey, 1983-1985*, National Institute on Disability and Rehabilitation Research, at 2 (1988) (data from national estimates from National Health Interview Survey for prevalence of work limitations as a result of disability).

¹²² *Toward Independence*, *supra* note 113, at 4 (the remainder of the report summarizes statistical information gleaned from existing empirical studies of individuals with disabilities that, in spite of the limitations noted in the report, are meant to provide a rough profile of the population of individuals with disabilities).

¹²³ *The ICD Survey of Disabled Americans: Bringing Disabled Americans into the Mainstream*. (Mar. 1986) (a nationwide telephone survey of 1,000 persons with disabilities) [hereinafter *Harris Poll*].

¹²⁴ *Id.* at i (questions about the impact of disability on quality of life, work, daily activities, education, and personal life).

¹²⁵ *Id.* at i-ii (the survey provided the first measure of (1) persons with disabilities' perceptions of how their life has changed in the past decade, (2) the impact of federal laws designed to enhance opportunities for the disabled, and (3) comparisons between persons with and without disabilities in terms of quality of life, work opportunities, and attitudes about disabilities).

disabilities ages sixteen and over.¹²⁶

The major employment-related results of the Harris Poll are summarized next and analogous findings for the present project are discussed in part V below.¹²⁷

Of the 1,000 persons with disabilities interviewed in the Harris Poll:

- 66% were not working;¹²⁸
- 66% of those not working would like to have a job;
- 25% said they had encountered job discrimination because of their disabilities;¹²⁹
- 47% who were not employed or not employed full time said an important reason for this status was that employers would not recognize that they were capable of holding a full time job because of their disability;¹³⁰
- 28% said that lack of access to transportation is an important barrier to their employment;¹³¹
- 23% of those not working or working part-time said they do not need adaptive equipment devices or accommodations to help them work or communicate with other workers;¹³²
- 33% of those employed said that their employer made some accommodation for their disability.

The pattern of employment-related findings of the Harris survey suggests that, at the time of the poll, the majority of persons with disabilities may have been jobless.¹³³ Study I explores the rate and type of employment for a large sample of persons with mental retardation. The Harris findings suggest further that persons with disabilities desire to work but there may exist a lack of adequate employment opportunities. Study II provides information from employment providers that may help shed light on this issue.

In 1987, the Harris organization conducted a follow-up telephone poll of 920 employers concerning their attitudes about employing persons with disabilities.¹³⁴ Like the 1986 survey, this was the first systematic nationwide survey of employers' (i.e., managers')¹³⁵ attitudes,

¹²⁶ The sampling is analogous to that of Study I, which focuses on persons 18 or over. See *infra* notes 299-443 and accompanying text.

¹²⁷ For other results for employment-related questions, see Harris Poll, *supra* note 123, at 4-8. See generally Burgdorf, *supra* note 4, at 415-26.

¹²⁸ Cf. findings in Study I of those not employed, *infra* notes 299-443 and accompanying text.

¹²⁹ *Id.*

¹³⁰ For a related review, see BNA Report, *supra* note 7, at 27-28.

¹³¹ *Id.*; National Council on Disability, *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, at 19 (Nov. 1988) (summary of Harris Poll findings); cf. Findings in Study I, *infra* notes 299-443 and accompanying text.

¹³² Cf. composite adaptive equipment needs measure for the sample in Study I, *infra* notes 321-28 and accompanying text.

¹³³ See also National Council on Disability, *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, *supra* note 131, at 27-29.

¹³⁴ Louis Harris and Associates, *The ICD Survey II: Employing Disabled Americans* (Mar., 1987) (nationwide survey of 920 employers) [hereinafter Harris Poll II]. Study II develops several analogous findings based on questionnaire responses.

¹³⁵ *Id.* at 3 (telephone interviews with 210 top managers, 301 EEOC managers, 210 department heads, and 210 top managers in small companies that employ 10-49 people); see *infra* notes 446-50 and accompanying text

policies, and experiences relating to the hiring, training, and job performance of persons with disabilities.¹³⁶

The major results for the 1987 poll of employers that are relevant to this project are:¹³⁷

- 90% rated employees with disabilities as excellent or good in their overall job performance;
- 79% rated employees with disabilities as willing to work harder or as hard as employees without disabilities;
- 81% rated employees with disabilities as more reliable or as reliable as employees without disabilities;
- 79% rated employees with disabilities as more punctual or as punctual as employees without disabilities;
- 77% rated employees with disabilities as more productive or as productive as employees without disabilities;
- 75% report that the average cost of employing persons with disabilities is about the same as employing persons without disabilities;
- 48% report that their company has made accommodations for employees with disabilities;
- 75% of employers reported that people with disabilities often encounter job discrimination from employers;
- 66% report that lack of qualified applicants is an important barrier to hiring persons with disabilities; and--larger companies were more likely to hire persons with disabilities.¹³⁸

Study II focuses primarily on employer and employer provider perceptions, attitudes, and myths about employees with mental retardation. Studies I and II expand the scope of the 1987 Harris Poll of employers by collecting data from persons with mental retardation who are employed and who are residing in institutions and in the community, and from employers and employment providers of these persons with disabilities. The comparison of the data from the present project with the 1986 and 1987 Harris Polls may enable a more detailed analysis of the current employment relationship for persons with disabilities.¹³⁹

In 1988, the National Council on Disability summarized the implications for federal policy of the Harris surveys.¹⁴⁰ Three major suggestions for future study are identified that are consistent with the descriptive and exploratory goals of the present project. First, the Council recognized

(analyses in Study II divided by small firms with less than 25 employees not covered by the ADA, small firms with 25 to 100 employees covered by the ADA, and larger firms with 100 or more employees covered by the ADA).

¹³⁶ Harris Poll II, *supra* note 134, at 1 (purpose of the poll was to learn what employers are doing and thinking, and to identify barriers that prevent employment, such as cost of accommodations).

¹³⁷ See *id.* at 7-16.

¹³⁸ *Id.* at 10 (52% of companies with at least 10,000 employees had hired persons with disabilities in the past year compared to 16% for companies with 10-49 employees).

¹³⁹ Cf. National Council on Disability, *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, *supra* note 131, at 61 (importance of developing linkages across data bases to provide more adequate data on persons with disabilities); Burgdorf, *supra* note 4, at 416 (noting prior to Harris Polls, most analyses were based on scholarly or anecdotal evidence).

¹⁴⁰ National Council on Disability, *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, *supra* note 131.

the need for future studies to employ different methodologies to develop the definitional criteria of disability employed in the Harris surveys so that more integrated research models and processes may be developed for assessing data about persons with disabilities.¹⁴¹ The next part describes one such research model and "process" of research.

Second, the Council identifies the need for the United States Bureau of the Census and other federal agencies to conduct demographic studies of persons with disabilities.¹⁴² Study I, on a smaller scale, provides demographic information on some 1,500 persons with mental retardation.

And third, the Council notes the inherent limits of the Harris telephone polling method, urging future researchers to allow persons with disabilities to speak for themselves on the issues.¹⁴³ As described in part V, interviews of actual consumers of the ADA are analyzed here, as opposed to census or interview information generated by others.

In accordance with the Council's suggestions, this project builds on the ground-breaking work of the Harris organization and others who have conducted earlier empirical studies of persons with disabilities.¹⁴⁴ This project explores information from a relatively large sample of persons with mental retardation and from a relatively smaller sample of their employers and providers.¹⁴⁵ The project attempts to replicate and extend over-time aspects of the Harris

¹⁴¹ Under the approach employed by the Harris ICD Survey, a person is defined as disabled if he or she (a) had a disability or health problem that prevented participation in major life activities, (b) had a physical, mental, learning, or emotional disability, and (c) considered him/herself to be a disabled person, or if he/she said that other people would consider him/her disabled. *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, supra note 131, at 6. This approach is similar to that adopted in the ADA. See supra notes 35-43 and accompanying text.

¹⁴² *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, supra note 131, at 11-12 (suggesting limited census data on persons with disabilities and calling for 1990 census to address the overall lack of empirical data on persons with disabilities by including questions to identify their numbers and geographic distribution, and calling for other federal agencies to do the same). This survey also suggests that, in the absence of more precise data, Harris data regarding types of disabilities should be considered a reasonable estimate of percentages of Americans with disabilities. *Id.* (estimating 3% of the population with mental retardation/developmental disabilities, but calling for more detailed data).

¹⁴³ *Id.* at 53-58 (recognizing the methodological limitations of their method, including non-representativeness of sample and small sample size, failure to use Telecommunication Devices for the Deaf ("TDDs"), high rate of responses by proxies (e.g., 17% of the interviews not conducted with the person with a disability but with member of the household), and limits of telephone survey method generally do not include actual observations of behavior). But cf. *Task Force on the Rights and Empowerment of Americans with Disabilities, Equality for 43 Million Americans with Disabilities: A Moral and Economic Imperative* (1990) (analysis based on public forums and anecdotal evidence).

¹⁴⁴ The legislative history of the ADA cites other studies relating the experiences of employers in hiring and accommodating workers with disabilities. See *Toward Independence*, supra note 113, at 13. One such highly cited study was conducted by the DuPont Corporation. *BNA Report*, supra note 7, at 3 (citing *DuPont de Nemours and Company, E.I. Equal to the Task: 1981 DuPont Survey of the Handicapped* (1982)). The DuPont survey explored employers/managers perceptions of employees with disabilities on job performance, attendance, and safety. *Id.*; cf. results presented in Study II, *infra* notes 444-506 and accompanying text. DuPont found that, for example, the job performance, safety records, and attendance of employees with disabilities were comparable to employees without disabilities. See *BNA Report*, supra note 7, at 3.

¹⁴⁵ See *infra* notes 173-253 and accompanying text (sections on research method and data collection techniques).

surveys with a different sample of persons with disabilities who were interviewed not on the telephone, but in person, including a comparison group of institutionalized persons with disabilities.¹⁴⁶

In 1988, the National Council on the Handicapped issued a report, *On the Threshold of Independence*, on the progress implementing the Council's recommendations in *Toward Independence*.¹⁴⁷ This report relies primarily on data from the Census Bureau, various national data banks, and the two Harris Polls as empirical support for the need for a comprehensive federal disabilities law.¹⁴⁸ Aside from the Harris surveys, the bulk of the data relied on in *On the Threshold of Independence* may be categorized as aggregated data compilations on the incidence and prevalence of disability.¹⁴⁹ Though these sources are important, the Council's policy recommendations appear to have been most influenced by the 1986 and 1987 Harris surveys.¹⁵⁰ Indeed, the idea for the Harris surveys evolved from the Council's explicit frustration with the lack of adequate data regarding the status and opinions of persons with disabilities.¹⁵¹ The goal of this project, therefore, is to supplement many of the issues raised by the earlier empirical attempts to explore the employment-related attitudes, needs, and experiences of persons with disabilities. As the next section describes, the EEOC also appears to have been influenced significantly by earlier empirical study in the promulgation of its regulations for title I.

2. Empirical Support Relied on in the EEOC's Rules for Title I

This section highlights empirical support relied upon by the EEOC in its regulations for title I.¹⁵² The EEOC rules rely on empirical information to support its conclusions regarding title I's potential economic impact on consumers (persons with disabilities in Study I) and users (employers of various sizes in Study II).¹⁵³

First, the EEOC estimates that positive economic effects are likely to result from title I; namely,

¹⁴⁶ See *infra* notes 254-89 and accompanying text; see also, *Implications for Federal Policy of the 1986 Harris Survey of Americans with Disabilities*, *supra* note 131, at 60 (call for research on persons with disabilities living in institutional and community settings).

¹⁴⁷ National Council on the Handicapped, *On the Threshold of Independence* (A. Farbman ed. 1988) (progress on legislative recommendations from *Toward Independence*).

¹⁴⁸ *Id.* at 9-18, 23 (citing Census Bureau Study, *Disability, Functional Limitation and Health Insurance Coverage: 1984/85* (Dec. 1986)). In 1988, the Social Security Administration had concluded in a study that SSA and other social programs supporting the estimated 43 million Americans with disabilities cost the taxpayers \$46.3 billion annually. BNA Report, *supra* note 7, at 2, 3, & 29-30 (the report revealed that the Council had drafted a law, the Americans with Disabilities Act of 1988, which was introduced in the 100th Congress by Representative Coelho and Senator Weicker; a bill by the same title introduced by Representative Coelho and Senator Harkin in the 101st Congress).

¹⁴⁹ E.g., *On the Threshold of Independence*, *supra* note 147, at 10 (citing "Digest of Data on Persons with Disabilities," "The Compilation of Statistical Sources on Adult Disability," and "The Summary of Data on Handicapped Children and Youth").

¹⁵⁰ *Id.* at 11; see also Mayerson, *The Americans with Disabilities Act--An Historic Overview*, 7 *Lab.Law.* 1, 4-5 (1991).

¹⁵¹ *On the Threshold of Independence*, *supra* note 147, at 11.

¹⁵² See 29 C.F.R. § 1630 (1991).

¹⁵³ 29 C.F.R. § 1630.2 (preliminary regulatory impact analysis). The EEOC, however, acknowledges the scarcity of relevant data for the development of an "ideal" application of a cost benefit analysis.

minimal cost to employers of reasonable accommodations,¹⁵⁴ increased productivity gains and tax revenues, and decreased support and social welfare payments.¹⁵⁵ Second, the EEOC concludes that title I is unlikely to have a significant impact on smaller businesses.¹⁵⁶ The argument is that because smaller entities employ fewer workers, the resulting chance that they will be required to make reasonable accommodations is low.¹⁵⁷ Nevertheless, the EEOC acknowledges that little systematic study is available to address this question.¹⁵⁸

In response to the EEOC's conclusions, the Small Business Administration ("SBA") argues that title I will have a significant impact on smaller entities and that there is a lack of available data for the analysis of this issue.¹⁵⁹ The SBA argues that the EEOC has miscalculated the impact of title I on small businesses by basing its conclusions on insufficient data regarding the national number of small firms and employees of small firms and of the characteristics and attitudes of small firms.¹⁶⁰

Study II explores how a sample of businesses of different sizes perceive the potential impact (or are actually impacted) by title I.¹⁶¹ Additional study is warranted though, because the EEOC's approach may, in fact, minimize the importance of the small business community's ongoing involvement and support of the employment of qualified persons with disabilities, thereby

¹⁵⁴ 56 Fed.Reg. 8583 (1991) (concluding the cost of most accommodations will be minimal, and citing the following: Equal to the task, 1981 DuPont Survey of Employment of the Handicapped 17-18 (1982), supra note 144 (concluding that more than 80 percent of all accommodations may cost less than \$500); Berkeley Planning Associates, A Study of Accommodations Provided to Handicapped Employees by Federal Contractors 29 (June 17, 1982) (conducted for the United States Dept. of Labor, Employment Standards Administration, concluding that less than a majority of workers--35% in Harris Poll--require some accommodation); Harris Poll, supra note 123); see also 56 Fed.Reg. 8584 (1991) (citing Finnegan, Reuter & Taff, The Costs and Benefits Associated with the Americans with Disabilities Act, Quality Planning Associates 38 (Sept. 11, 1989) (estimated average cost of accommodations is \$200, and 50% of accommodations require no cost)).

¹⁵⁵ 56 Fed.Reg. 8579 (1991) (reasonable accommodation expenses estimated approximately at \$16 million, productivity gains at more than \$164 million, and decreased support payments and increased tax revenue at \$222 million--estimated lost benefits of not promulgating rule could exceed \$400 million); cf. Sav, infra note 361, at 44.

¹⁵⁶ Cf. Study II results for size of firm, infra notes 448-63 and accompanying text.

¹⁵⁷ 56 Fed.Reg. 8579 (1991) (EEOC further notes that the availability of tax credits, the two year exemption period, and the lack of reporting requirements all reduce the economic effect on small businesses); cf. M.S. Hayward, supra note 8 (Small Business Administration reply).

¹⁵⁸ Exec.Order No. 1291, 56 Fed.Reg. 8578 (1991) (codified at 29 C.F.R. § 1630.2) (concluding there exists relative "paucity of data" on this issue and further analysis required).

¹⁵⁹ M.S. Hayward, supra note 8, at 2 ("based on the limited nature of the information available and the complexity of the [EEOC] proposal, it defies logic to conclude that this rule will not have a significant impact."). See generally Stuhlberg, Reasonable Accommodation Under the Americans with Disabilities Act: How Much Must One Do Before Hardship Turns Undue?, 59 U.Cinn.L.Rev. 1311, 1320-21 (1991).

¹⁶⁰ M.S. Hayward, supra note 8, at 2 (e.g., data cited by Small Business Administration indicated that in 1988 755,000 businesses had 15 to 500 employees and 613,000 had 25 to 500 employees versus data cited by EEOC indicating 56,100 businesses had 25 or more employees. The SBA also argues that the EEOC offers no data to support its assertion that the impact of the ADA is limited because a large number of employees are already covered by federal, state, and local statutes that require equal employment opportunity for the disabled).

¹⁶¹ Cf. 56 Fed.Reg. 8586 (1991) (proposed regulations concluding that vast majority of small businesses not expected to make an accommodation during a year).

potentially hindering the long-term effectiveness of the ADA.¹⁶²

Empirical information of the sort generated here may help encourage involvement and compliance by small and large businesses alike.¹⁶³

The EEOC's analysis of the impact of title I relies on other economic and social science empirical research. With respect to the analysis of wages of employees with disabilities, empirical research is cited showing that the real wages of employees with disabilities are only seventy-one percent of employees without disabilities with a comparable education.¹⁶⁴ These wage disparities become greater when educational levels are lower.¹⁶⁵ One empirical study cited estimates that thirty-five percent of the difference between the wages of persons with and without disabilities is due to discrimination.¹⁶⁶ Study I explores wage disparities within the population of persons with mental retardation, for example, for those residing in more or less integrated living arrangements.

The EEOC concludes that wage disparities result in higher unemployment rates for persons with disabilities.¹⁶⁷ In support, it cites a Congressional Research Service analysis of a 1978 Social Security Administration survey showing that persons with disabilities had a higher unemployment rate than persons without disabilities.¹⁶⁸ Also to bolster this point, the EEOC cites the 1986 Harris finding that two-thirds of persons with disabilities between the ages of sixteen and sixty-four are not working and that the majority of those individuals report that they want to work.¹⁶⁹ These issues are explored in Studies I and II.¹⁷⁰

This section highlighted the role of empirical study in the promulgation of title I guidelines by the EEOC. The present project builds on this information and suggests future interdisciplinary study of title I.¹⁷¹ Such study is warranted given that the phase-in period of title I enables baseline and longitudinal analysis of employees with disabilities and of their employers' attitudes, needs, and behavior before and after the effective date of title I.¹⁷² The next part

¹⁶² It is estimated that 14% of the workforce may be covered by the ADA and that, accordingly, 5.4 million individuals in firms with 15-500 employees may require accommodations under title I.M.S. Hayward, *supra* note 8, at 3 (citing C. Thornton, *How Many Persons with Disabilities Are There?--Evidence from SIPP*, Mathematica Policy Research, in *Selected Papers: 1990 Meetings of the American Statistical Association*, United States Department of Commerce (Feb. 1991)).

¹⁶³ See *infra* notes 448-63 (implications for employers by size of firm).

¹⁶⁴ 56 Fed.Reg. 8581 (1991) (citing Haveman & Wolfe, *The Economic Well-Being of the Disabled, 1962-1984*, 25 *J.Hum. Resources* 32-54 (1990); Johnson & Lambrinos, *Employment Discrimination*, *Soc'y* 47-50 (Mar./Apr. 1983)).

¹⁶⁵ 56 Fed.Reg. 8581 (citing Haveman & Wolfe, *supra* note 164, at 32- 54 (employees with disabilities with less than 12 years of education earned less than one-third earned by employees without disabilities)).

¹⁶⁶ *Id.* (citing Johnson & Lambrinos, *supra* note 164, at 47-50).

¹⁶⁷ *Id.*

¹⁶⁸ *Id.* (citing Congressional Research Service, *Digest of Data on Persons with Disabilities*, June 1984).

¹⁶⁹ *Id.* (citing Harris Poll, *supra* note 123).

¹⁷⁰ See generally *infra* notes 297-547 and accompanying text (Studies I and II results).

¹⁷¹ See, e.g., BNA Report, *supra* note 7

¹⁷² The longitudinal phase-in issues are relevant, for example, to the EEOC's cost estimates for compliance and to its suggestion that future expenses with regard to accommodations will be lower. 56 Fed.Reg. 8585 (1991) (accommodation costs lower as they can be used eventually for more than one person with a disability). This

describes this project's "process" for studying title I.

III. THE "PROCESS" OF STUDYING TITLE I

The previous part set forth much of the empirical information on which title I is based. This part begins the discussion of the "process" by which this project explores title I, in large part building on previous related empirical studies. This discussion is detailed for several reasons. First, it is becoming increasingly important for social, behavioral, and medical scientists to articulate in detail their philosophy, strategies, and methods of empirical field study.¹⁷³ As part II suggests, although many questions have been raised about the impact and implementation of the ADA, at this point relatively few answers to such questions are based on facts from actual consumers and users of the Act.

Second, there is an absence generally of explicit description of the methods on which the empirical bases underlying the focus of title I and the accompanying EEOC regulations may rest. Much of the information to date about employment-related issues are generated from the Harris telephone polls and not from face-to-face contact with actual participants.¹⁷⁴ Yet, the Harris surveys remain perhaps the most comprehensive national polls of persons with disabilities.¹⁷⁵ Moreover, insufficient study has been conducted since the Harris work on the longitudinal assessment of the lives of persons with disabilities.

Third, attention must be redirected toward the explicit processes and methods that social, medical, and behavioral scientists will employ in the coming years in studying the behavior, economic, and social status of persons with disabilities who will be affected by the ADA. Professor Campbell, in his classic article "Reforms as Experiments" writes:

Many of the difficulties [in the analysis of the effectiveness of social programs such as the ADA] lies in the intransigences of the research setting and in the presence of recurrent seductive pitfalls of interpretation.... What is ... essential [sic] is that the social scientist research advisor understand the political realities of the situation, and that he aid by helping create a public demand for hard-headed evaluation, by contributing to those political inventions that reduce the liability of honest evaluation, and by educating future administrators to the problems and possibilities.¹⁷⁶

This part is meant to make explicit many of the assumptions and values on which this project

project is longitudinal in nature and comparative data will be analyzed on an annual basis. Future analyses will address changes in employer perceptions of title I after its effective date or after experience in hiring and retaining employees with disabilities. Cf. Blanck, *infra* note 560 (future longitudinal study with this sample of persons with disabilities and employers).

¹⁷³ See, e.g., Blanck, *The "Process" of Field Research in the Courtroom*, 11 *Law & Hum.Behav.* 337 (1987) (in other contexts, the Supreme Court has highlighted this urgent need by emphasizing the value and legal relevance of studying actual real-world behavior).

¹⁷⁴ Harris Poll, *supra* note 123 and accompanying text.

¹⁷⁵ See, e.g., Taylor, Kagay & Leichenko, *The ICD Survey of Disabled Americans* (Louis Harris and Associates Study No. 854009, Mar. 1986).

¹⁷⁶ Campbell, *supra* note 2, at 409.

rests. It is not intended as a handbook or manual about how to conduct field research on the ADA.¹⁷⁷ This part demonstrates that the study of the ADA is perhaps best understood by undertaking research in the communities, homes, and work places of persons with disabilities. It attempts to describe and reflect on the experience of managing that undertaking.¹⁷⁸

A. *Building on the Work of the Legal Realists*

The emphasis on making explicit the methods, and to a lesser extent the values, of social science study is not new to legal scholars. These ideas were expressed at the turn of the century by legal realists, such as Pound and Llewellyn.¹⁷⁹ As the legal realists and more recently social scientists and critical legal studies scholars attest, research design and method are difficult to divorce from research values and processes, particularly when field study of social reform is involved.¹⁸⁰ Understanding these issues is relevant to appreciation of any research perspective.¹⁸¹

In terms of the values that impact on research process, this project seeks to document in the long-term how the reforms set forth in title I are helpful in eliminating discrimination against persons with disabilities in various aspects of their employment and daily lives.¹⁸² This approach may be contrasted with those who suggest, without reliance on any data, that the ADA will create insurmountable difficulties for employers trying to comply with the law and will become a source of frequent litigation.¹⁸³

No science is "value-free." The legal realists recognized this and noted that description of the process of study may aid in a more informed and objective evaluation of the results or proposed solutions embodied in social reform legislation. But, too little has been said by legal scholars

¹⁷⁷ Cf. *infra* notes 187-91 and accompanying text (the findings of this project are not meant to be prescriptive, rather they are meant to be descriptive and aid in theory-building).

¹⁷⁸ See generally Blanck, *supra* note 173 (the process of field research in the courtroom).

¹⁷⁹ Professor Llewellyn, in his classic passage, has described the importance of this approach as the "temporary divorce of Is and Ought for purposes of study." Llewellyn, *Some Realism About Realism--Responding to Dean Pound*, 44 *Harv.L.Rev.* 1222 (1931). Llewellyn described this view as:

By this I mean that whereas value judgments must always be appealed to in order to set objectives for inquiry, yet during the inquiry itself what Is, the observation, the description, and the establishment of relations between things described are to remain as largely as possible uncontaminated by the desires of the observer or by what he wishes might be or thinks ought (ethically) to be.... The argument is simply that no judgment of what Ought to be done in the future with respect to any part of the law can be intelligently made without knowing objectively, as far as possible, what that part of law is now doing. And realists believe that experience shows the intrusion of Ought-spectacles during the investigation of the facts to make it very difficult to see what is being done.

Id. at 1236-37 (emphasis in original).

¹⁸⁰ See generally *Interpersonal Expectations: Theory, Research and Applications* (P.D. Blanck ed. 1992) (importance of expectancy effects in determining social and research outcomes); Faigman, *To Have and Have Not: Assessing the Value of Social Science to the Law as Science and Policy*, 38 *Emory L.J.* 1005, 1026-27 (1989) (understanding potential bias of social science research is crucial).

¹⁸¹ Cf. Pound, *The Scope and Purpose of Sociological Jurisprudence*, 25 *Harv.L.Rev.* 489 (1912).

¹⁸² Cf. Campbell, *supra* note 2, at 409 (characteristic of policy evaluation research that specific reforms are advocated as though they were certain to be successful).

¹⁸³ See, e.g., Barnard, *The Americans with Disabilities Act: Nightmare for Employers and Dream for Lawyers?*, 64 *St. John's L.Rev.* 229, 230-31 (1990) (citing Harris Polls).

more recently concerning the "process" of studying legal and social reforms.¹⁸⁴ A decade ago, Derek Bok wrote that "[e]ven the most rudimentary facts about the legal system are unknown or misunderstood."¹⁸⁵ Recently, Professor Saks, a leading proponent of empirical study of the law, writes: "A major part of the problem [addressed by Bok] is that the legal system has no systematic methodology for producing knowledge about its task or about how well it is accomplishing that task."¹⁸⁶

This part is meant to help advance the discussion of the research process with regard to the analysis of title I. It might be argued that such discussion is better left as a separate article or as an appendix. But its inclusion here is meant to highlight the strengths and limitations of this project and to foster the replication of this research before any substantial generalizations can be applied to other populations of persons with disabilities covered by the provisions of the ADA.

B. The "Process" of Study

This section describes the process of studying title I.¹⁸⁷ Description is not hard-and-fast about how to conduct empirical field study. Nor is it meant to substitute for practical learning gained from first-hand research experience in the field. In fact, the process of field study does not lend itself to an extensive check-list of principles. Rather, the complexities of field study are often best understood upon reflection of such undertakings.¹⁸⁸

¹⁸⁴ To note one exception (and others are mentioned throughout this article), Professor Eisenberg explored empirically the "realities" of section 1983 litigation over a two year period in the Central District of California. Eisenberg, Section 1983: Doctrinal Foundations and an Empirical Study, 67 Cornell L.Rev. 482 (1982). Eisenberg concludes that "to the extent that the [Supreme] Court bases its decisions on perceptions about section 1983's operation," it should through empirical study "have an accurate picture of how the section works." *Id.* at 484. Eisenberg provides data that may help disprove or validate many of the myths or false impressions about section 1983 litigation. The study attempts to understand the underlying problems related to the raw increase in section 1983 cases, not as a problem in its own right demanding remedy, but as a process issue requiring exploration so that a court may have an appropriate and accurate understanding of the bases of such actions. *Id.* at 484, 523-24; cf. M. Kelman, A Guide to Critical Legal Studies (1987) (overview of critique of basic legal assumptions).

¹⁸⁵ D. Bok, Report to the Harvard Board of Overseers 1981-82, reprinted in Bok, A Flawed System of Law Practice and Training, 33 J. Legal Educ. 570, 581 (1983).

¹⁸⁶ Saks, *supra* note 21, at 808.

¹⁸⁷ Cf. Blanck, *supra* note 173 (process of field research); Blanck, *infra* note 194 (courtroom research process); Blanck, What Empirical Research Tells Us: Studying Judges' and Juries' Behavior, 40 Am.U.L.Rev. 775 (1991) (role of empirical study of the law); Grisso, Baldwin, Blanck, Rotheram-Borus, Schooler & Thompson, Standards in Research: APA's Mechanism for Monitoring the Challenges, 46 Amer. Psychologist 758 (1991) [hereinafter Grisso] (discussion of standards in research).

¹⁸⁸ See, e.g., W.F. Whyte, Street Corner Society (3d ed. 1981) (classic description of field study, see appendix). Also, one often cited example of empirical field study of a legal reform issue is where the Yale Law Journal studied the impact of Miranda on actual police behavior in New Haven. Wald, Ayres, Hess, Schantz & Whitebread, Interrogations in New Haven: The Impact of Miranda, 76 Yale L.J. 1519 (1967). The Yale effort involved stationing observers at the New Haven Police Headquarters around the clock to witness all interrogations conducted by the police. *Id.* at 1521-22. Researchers also conducted interviews on the impact of Miranda from the perspectives of the participants in the criminal process--detectives, lawyers, and suspects. *Id.* at 1522. Like the present project, the authors of the Miranda study focused their efforts on description of the process of research, believing such description crucial to the validity of their findings and the degree to which they could be generalized. *Id.* at 1523, 1527, 1637-43 (Appendices H & I).

The description of the research "process" highlights the importance of making explicit the methods on which social science findings rest so that other studying the impact and effectiveness of title I may have a clearer picture of the foundation on which the findings are based.¹⁸⁹ The benefits of describing the process of research is to gain an understanding of the totality of a real, ongoing and complex social situation that is impacted by the legal process.¹⁹⁰ Likewise, such description may prove helpful in clarifying subsequent legal disputes about the relevance of empirical information used to define the impact and meaning of title I.¹⁹¹ Finally, description of the process of research may importantly aid in the development of non-litigious solutions that are helpful to dispel myths about the potential impact of title I. The next four sub-sections highlight sequentially issues related to the "process" of research.

1. Developing and Pilot-Testing Research Focus

The overriding purpose of this project is to gain an in-depth understanding of the ongoing and complex relationship involving consumers and users of title I.¹⁹² The descriptive research focus is on the perceptions, myths, and realities of the social context on which title I will impact.¹⁹³ The exploratory focus is on describing that process of understanding. As the legal realists suggested, how description and interpretation vary with the setting and circumstances under study, and with the background and role of the researcher doing the studying, is of primary importance.¹⁹⁴

¹⁸⁹ H. Kalven & H. Zeisel, *The American Jury*, at 474-91 (1966) (classic description of field methodology in the courtroom). From the outset of any field research project, it is important to understand that the researcher's role may sometimes by necessity vary from that of "objective" observer to that of consultant, practitioner, change-agent, or interventionist. In certain circumstances the field researcher may be required to intervene to protect the legal or therapeutic rights of the research participants, perhaps in accordance with the requirements mandated by a court or legislation. Cf. J.P. Ryan, A. Ashman, B.D. Sales & S. Shane-DuBow, *American Trial Judges* (1980) (study of the American trial judges, demonstrating a heightened sensitivity to understanding and analyzing, from the researchers' and the participants' perspectives, method of study in the natural courtroom setting).

¹⁹⁰ We have called this "Gestalt" research elsewhere. See Blanck & Turner, *Gestalt Research: Clinical-Field-Research Approaches to Studying Organizations in Handbook of Organizational Behavior* (J.W. Lorsch ed. 1987).

¹⁹¹ Cf. *supra* notes 110-72 and accompanying text (disputes concerning the passage and empirical conclusions supporting the ADA and the EEOC regulations for title I); see also Blanck, *On Integrating Persons with Mental Retardation: The ADA and ADR*, 22 *N.M.L.Rev.* 259 (1992).

¹⁹² Blanck, *supra* note 173; Blanck & Turner, *supra* note 190.

¹⁹³ See *infra* notes 561-69 and accompanying text (generalizations of results to other populations or contexts, at least initially, are relatively less important).

¹⁹⁴ See *supra* notes 223-28 (research involvement and ethical considerations). Social science research in the real world can employ many of the procedural safeguards associated with more experimental scientific study; see Campbell, *supra* note 2, at 410-11 (comparison of field and experimental research designs). For example, such study may be high in "internal validity" or more accurately, in the precision of measurement while yielding externally valid or real-world results. Blanck, Rosenthal, Bernieri & Hart, *The Measure of the Judge: An Empirically-Based Framework for Exploring Trial Judges' Behavior*, 75 *Iowa L.Rev.* 653, 659-60 (1990) [hereinafter Blanck]. An important goal in field research is often not to avoid involvement with the setting, but to determine the appropriate level of involvement. This is true when the participants' legal rights are implicated. As discussed in the next section, randomization of client placement into the community was not always a methodological, nor even ethically permissible objective in our study. The research here is more concerned with the quality of the description of the individuals who participated in the project.

The description of the research process is more than a reference to data collection procedures. Rather, to a large extent, it reflects the beliefs and attitudes of the investigators, and, as discussed below, of the participants.¹⁹⁵ Only by studying actual behavior and attitudes, recognizing the inherent limitations of the research process, is it possible to begin to develop a body of research that may illuminate the impact that title I may have on its consumers and users.

After making explicit the research questions and choosing an array of potential measuring instruments, but before finalizing design, the interviewers in this project ventured into the field to test and refine the process of study.¹⁹⁶ The experience gained from this initial pre-test exposure helped in the selection of appropriate methods and in gaining the trust and consent required to conduct subsequent structured phases of the project. For example, in pilot-testing the questionnaires, surveys, and observational methods for the assessment of individuals with mental retardation (Study I measures described in part IV below), the research team sought feedback from the participants, providers of services to the participants, their families, and employers.

The research team attempted also to understand whether the questions and issues asked were in fact understood by the participants. For example, initially most direct care staff (individuals responsible for aiding in the daily care needs of the participants who were severely disabled and who provided much of the research information for these clients) did not understand that their clients may, in fact, be discriminated against because of their disabilities.¹⁹⁷ Many aides responded that "this is the way society treats these individuals, and this has always been the case." Or, "it is easier to take clients with mental retardation residing in the institutions to community activities in large groups by bus." And, many staff simply did not understand the meaning of integrated employment opportunity for the participants.¹⁹⁸

These and other attitudes suggested to the research team that the participants and staff held different views about discrimination, integration, potential employability, community and public accessibility, and other issues relevant to title I.¹⁹⁹ The pilot-testing phase demonstrated the need for the interviewers to take the time necessary to ensure that the participants understood the research process and methods. To aid in this learning process, videotapes of initial interview sessions and videotapes of mock interviews were conducted and reviewed by the research team to help standardize the interview process.²⁰⁰ Throughout the project, ongoing retraining of interviewers was also conducted, and measures were adapted as new experiences,

¹⁹⁵ See G. Sjöberg & R. Nett, *A Methodology for Social Science*, at 2 (1968).

¹⁹⁶ Interviewers are primarily graduate students in social work at the Oklahoma State University. See *infra* notes 230-38 and accompanying text. Measuring instruments are discussed in part IV, *infra*.

¹⁹⁷ Interview with Yolanda Dow, *supra* note 11.

¹⁹⁸ *Id.*

¹⁹⁹ Cf. findings for staff expectations for various participants; see *infra* note 422 and accompanying text.

²⁰⁰ Interview with Lynn Atkinson, *supra* note 11 (the interview team regularly critiques the actual and videotaped interviews, this is important for interview and observational methods that require impressionistic ratings by the interviewers--e.g., the physical quality scales noted *infra*).

issues, or challenges were faced by the team.²⁰¹

In the pilot-testing phase for the employers' project (Study II), the measures were developed in collaboration with staff at the Oklahoma Developmental Disabilities Services Division responsible for employment-related programs for persons with mental retardation. Feedback was provided to the researchers from the state agency on how to recruit employers for the project and how to focus the questions regarding the employment relationship. For example, it was suggested in contacting and recruiting employers to emphasize that no responses would be used against the employers in later contacts with the state agency.²⁰²

As part of the "initial immersion" phase of the project, the research team contacted the participants and their families and guardians who would participate in the project. In these discussions, the project was explained, and it was emphasized that more empirical knowledge about employment-related issues for persons with mental retardation was needed. Also, it was stressed that the development of knowledge in this area could be practically useful to the successful implementation of title I.²⁰³

Throughout the initial phase, the researchers approached the project as a collaborative effort. The participants themselves, sometimes through their guardians, helped define issues and ensure that their study had practical relevance and meaning.²⁰⁴ Over the course of the project, preliminary measures were evaluated and reevaluated, and new methods were invented to meet the demands and needs of the research project and of the participants. Flexibility of this sort was found to be crucial for the effective study of complex social and legal reform programs.²⁰⁵ Moreover, flexibility in research process is crucial in longitudinal projects, such as this one, because the relevant legal, social, and economic issues facing persons with disabilities likely change over the implementation period of title I.²⁰⁶

2. Involvement and the "Research Contract"

²⁰¹ Id. (interviewers kept field notes to share with the research team their experiences and frustrations; field notes were kept also to document any potentially serious behaviors, such as abusive behaviors, so that they might be transmitted to the proper authorities).

²⁰² See *infra* notes 229-53 and accompanying text.

²⁰³ Cf. J.P. Ryan, A. Ashman, B.D. Sales & S. Shane-DuBow, *supra* note 189 at 251.

²⁰⁴ This did not mean that the study was developed in a completely collaborative manner or that we did not proceed from pre-formulated hypotheses. Rather, on the basis of our pilot-testing and empirical framework, we attempted to accommodate the concerns and needs of the participants.

²⁰⁵ See Campbell, *supra* note 2; Blanck, *supra* note 173. Too often, it is tempting, easier, and "methodologically cleaner" to fight such natural data sources and input, resulting in the development of inappropriate methods that reduce the external validity of findings. See also Monahan & Loftus, *The Psychology of Law*, 33 *Ann.Rev. of Psychology* 441, 459-61 (1982).

²⁰⁶ The resistance in the research process may also reflect the unnecessary and unfounded distinction drawn between "soft" qualitative research and "hard" and "preplanned" quantitative methods. We proceeded from the assumption that qualitative (impressionistic ratings) and quantitative (behavioral tallies) methodologies represent different poles of the dimension of social science data-gathering methods. The qualitative methods are not necessarily less rigid, less internally valid (to an extent), or less precise. See also Interview with Yolanda Dow, *supra* note 11, ("important for researchers to learn to roll with the environment and needs of the clients, interview is a dynamic process, important to develop rapport and define terms--e.g., the meaning of employment itself.").

Gaining the trust, cooperation, and respect of the participants are some of the most difficult aspects of field research faced in the present project.²⁰⁷ Discussions are conducted with each participant and employer over their participation in the research project.²⁰⁸ The researchers emphasize to the participants that the project will be an experience from which all parties might receive value.²⁰⁹ It was explained to the participants that they might receive important benefits just from the special attention of involvement. For many of the participants with disabilities, it was the first time that they had been asked their opinion and views about their employment, living setting, and the quality of the services received from the state.²¹⁰ Similarly, the participating employers and employment providers were told that they might experience a more retrospective view of the employment relationship with persons with disabilities. When contacting employers, the researchers did not refer to the project as a way to promote the hiring of particular persons with disabilities, so as not to imply to current or potential employers any undue pressure in the hiring process.²¹¹

Developing a meaningful exchange of information between the participants and research team reinforces the trust and cooperation required to conduct this project.²¹² The exchange of information is not between adversarial parties; rather, the goal is to develop working relations in the context of reciprocity. From a practical point of view, this is important, given it will become increasingly difficult to track longitudinally the large number of participants in this project as they change residences and jobs.²¹³

One related methodological problem, a threat to the "internal validity" of the project, is that not all individuals with mental retardation and employers in the state chose to participate.²¹⁴ "Self-selection" problems are part of any large study and attempts were made to personally contact and recruit all individuals with mental retardation served by the Oklahoma Developmental Disabilities Services Division, either directly or through their families or guardians. Moreover, an attempt was made to contact most of the employers and employment providers of these individuals.²¹⁵

²⁰⁷ For classic description of these issues, see, e.g., Kahn & Mann, *Developing Research Partnerships*, 8(3) *J. Social Issues* 4-10 (1952); see also Interview with Yolanda Dow, *supra* note 11 (need "to get your foot in the door, important not to threaten the clients, or the staff, e.g., in terms of threat to their job").

²⁰⁸ See, e.g., G. McCall, *Observing the Law: Applications of Field Methods to the Study of the Criminal Justice System*, at 115-16 (1975).

²⁰⁹ Interview with Yolanda Dow, *supra* note 11 ("negotiating with each client about the meaning of the interview").

²¹⁰ *Id.* ("some of the participants were completely nonverbal and nobody had ever taken the time to ask their opinion of their surroundings").

²¹¹ See *infra* notes 223-28 and accompanying text (ethical considerations regarding recruitment of participants and coercion). Moreover, it was not suggested to the employers and providers that the data would be used for a state or federal survey of any treatment or employment programs. Interview with Yolanda Dow, *supra* note 11.

²¹² For discussions of rapport development and field relations in courtroom research, see G. McCall, *supra* note 208, at 16-18; J.P. Ryan, *supra* note 189, at 253-55.

²¹³ In some cases, the research team telephoned family and case workers to find participants, and this in itself raised the ethical dilemma of the degree to which the privacy rights of the participants are protected. Interview with Lynn Atkinson, *supra* note 11 (checking new phone numbers, and calling relatives and case workers).

²¹⁴ *Id.*

²¹⁵ Cf. *infra* notes 229-53 and accompanying text (part III, section B(3), noting ethical limitations for inducing participation and not conditioning any state benefits on participation).

After the recruiting phase, but before beginning any large-scale study, it was crucial to explain, in writing, the purpose and design of the project in simple language that would make sense to all the participants. This "research contract" documents the researchers' responsibilities to the field participants and the participants' responsibilities to the project. The writing is also a formal sign of the importance of the project, serving motivational and instructional purposes.

Letters to the participants and their families, employers, and service providers sent before the study began described the project, its purpose, and emphasized that all data would remain confidential and anonymous.²¹⁶ Before embarking in the field, the interviewers were made sensitive to the reality of possible stigma if information about the participants were leaked to neighbors, potential employers, or others in the community.²¹⁷

As part of a written research contract, the participants completed a consent agreement.²¹⁸ The consent agreement stated that participation would involve interviews and data collection about the participants' employment and living situation. It was made clear that research participation was completely voluntary. This statement is important, given that many of the participants rely on the state for services and any appearance of coercion to participate was meant to be avoided.²¹⁹ Individuals were assured also that refusal to participate would involve no penalty or loss of benefits to which they may be otherwise entitled.²²⁰ Research participation could be discontinued at any time and the consent form listed contact addresses and phone numbers so that participants could discuss problems that might arise. Additionally, the project director or project representative certified in writing to each participant that the elements of the consent form had been explained personally to each participant. Where appropriate, the consent agreement was also witnessed or signed by an advocate or guardian for the participant.

Each participant, or their guardian, received a signed copy of the consent agreement. In the end, approximately ten out of 1,900 individuals with mental retardation did not agree to participate in the project; the stated reason for not participating being related to their privacy rights.²²¹

²¹⁶ Interview with Yolanda Dow, *supra* note 11 ("the interviewers were expected and did not show up and surprise the participants"). *Id.* (the letter stated that the research team would be contacting the participants, and what information would be asked of them); see also Blanck, *Reflections on Ethical and Legal Issues of the Human Genome Initiative*, in *Genes and Human Self-Knowledge* (S. Lawrence & R. Weir eds. 1993) (forthcoming).

²¹⁷ *Id.* (discussion of interviewer training materials).

²¹⁸ Interview with Dennis Bean, *supra* note 11 (the consent agreement was primarily permission for the research team to publish, in aggregate form, the results of the project. During the second year of the project--data not reported here--for many service providers, consent for an "audit" of services became a part of their contract with the state Developmental Disabilities Services Division and, thereby, a condition of their state funding, raising other ethical concerns for the research team).

²¹⁹ The agreement stated expressly that "there is no penalty for refusal to participate." The consent form for the project is on file with the author. See also Conroy & Bradley, *supra* note 15, at 120-21 (ethical issues associated with this type of research).

²²⁰ See, e.g., *South Carolina Research Guidelines*, *infra* notes 223-28 and accompanying text.

²²¹ Interview with Dennis Bean, *supra* note 11 (high level of individual support and participation). Interview with Lynn Atkinson, *supra* note 11 (less emphasis on consent issues the second year of the longitudinal study, more emphasis on quality of services and DDS involvement in the monitoring of services; ethical question of need

The research process and contract thus became a mutual expression of the researchers' respect for the integrity of the participants in their living setting and of the participants' commitment to the project. For the researchers, this meant the relative freedom to collect information and communicate findings; for the participants, it meant freedom to pursue their private lives unencumbered.²²²

3. Ethical Considerations

Ethical decisions confronted the research team at every stage of the project. Ethical and legal considerations were made explicit via the research contract. This provided guidelines not only for the participants and the researchers, but for other researchers and the public to evaluate the methods and results of the project.²²³ Emphasis was placed on the ethical principle of genuine respect for participants, requiring actions by the research team that foster the autonomy, integrity, privacy, and dignity of individuals.²²⁴

The research contract and informed consent agreements reinforced the view that participants are entitled to make their own decisions on crucial matters affecting their lives. Because of the sensitive nature of the issues under study, the team believes strongly that the research must be conducted, in every way, so as to avoid harm or embarrassment to any participant, under conditions of complete informed consent. In this regard, for example, the interviews with persons with mental retardation are often conducted in a private room or setting under quiet conditions.²²⁵

The research process involves taking all steps possible to safeguard the welfare, rights, and privacy of the participants.²²⁶ In the past, the rights of individuals with disabilities and with

for consent over time, however, is a dilemma in this kind of social research, see *infra* notes 227-28 and accompanying text).

²²² See, e.g., L. Schatzman & A.L. Strauss, *Field Research: Strategies for a Natural Sociology* 29 (1973).

²²³ See Blanck, *supra* note 173 (process of field research); G. Sjoberg & R. Nett, *supra* note 195. Many of the participants also knew that the state system had been subjected to a lawsuit regarding the conditions at its facilities. No linkage was made between the state's obligations arising from the settlement of the lawsuit and participation in the current project. Interview with Yolanda Dow, *supra* note 11.

²²⁴ See, e.g., J.G. Adair, *The Human Subject: The Social Psychology of the Psychological Experiment* (1973); American Psychological Association (APA), *Ethical Principles of Psychologists*, 36 *Amer. Psychologist* 633-38 (1981) (Principle 9 evaluating the ethical acceptability of research with human participants); Blanck, Bellack, Borus-Rotheram, Rosnow & Schooler, *Scientific Rewards and Conflicts of Ethical Choices in Human Subjects Research*, 47 *Amer. Psychologist* (1992); Grisso, Baldwin, Blanck, Borus-Rotheram & Thompson, *supra* note 187, at 758; Kelman, *Privacy and Research with Human Beings*, 33(3) *J. Social Issues* 169-95 (1977).

²²⁵ Interview with Yolanda Dow, *supra* note 11. The project followed the approach for addressing similar ethical issues set forth by the work of Conroy and Bradley in the Pennhurst Longitudinal Study. J. Conroy & V. Bradley, *supra* note 15, at 120. Like the Pennhurst study, individuals were included in the present project if: (1) the individual or his or her representative stated explicitly that he/she was willing to be interviewed or observed; (2) the individual appeared to be capable of responding (either themselves or through an aide); (3) the individual was judged not to be at risk of any harm by the study; and (4) the individual or his or her representative signed the consent agreement.

²²⁶ Cf. J. Conroy & V. Bradley, *supra* note 15, at 121 (for example, noting in the past that people living in institutional settings have been part of studies that never would have been approved if the participants had not been labeled mentally retarded).

mental retardation have received little attention in the research context.²²⁷ Despite the precautionary measures, difficult ethical issues remain throughout the study. Issues such as what constitutes valid and informed consent for persons with mental retardation without advocates or guardians, or for persons with severe disabilities, remain apparent.²²⁸

4. Data Gathering and Follow-Up

There are many reviews of data-gathering techniques in empirical field research.²²⁹ The methods highlighted below are those employed in the project, including the use of (a) surveys, questionnaires, and interviews, and (b) general observation techniques.

a. Surveys, Questionnaires, and Interviews

Surveys, questionnaires, and interviews conducted in person and by mail are employed to gather the data for this project.²³⁰ In Study I, graduate students were hired to interview all individuals with mental retardation receiving funding or services from the State of Oklahoma.²³¹ The interviews lasted approximately forty to fifty minutes. In Study II, employers and employment providers completed questionnaires about aspects of their employment relationship with individuals with disabilities.²³²

²²⁷ See also South Carolina Dept. of Mental Retardation, Review and Approval of Research Involving Individuals Receiving Services from the South Carolina Department of Mental Retardation, at 2 (Sept. 21, 1990) (reference number 535-09-DD). The South Carolina Guidelines incorporate the federal guidelines for the protection of human subjects, see 45 C.F.R. § 46 (1983) (Health and Human Services guidelines). The South Carolina guidelines cover three categories of research activities, depending upon the level of risk involved, including, (1) data collection from existing data, documents, or records that are not publicly available, where individual research participants are not used directly in the gathering of information; (2) data collection that involves minimal or everyday risk to the research participants, such as through interviews, general observation, or surveys (minimal risk means any potential harm from the research is not greater than that ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests); and (3) data collection that involves risks to the participants that are greater than those encountered from customary everyday activities, such as any form of medical procedures or physical body intrusion. This project employs categories 1 and 2 data collection procedures. Consistent with the South Carolina guidelines, the investigators of the present study provide that the use of any non-public information will remain confidential and anonymous. See *supra* notes 223-25 and accompanying text.

²²⁸ See Letter from J. Conroy to P.D. Blanck (Nov. 1990) (questioning under what conditions generally is it appropriate to include persons with mental retardation in scientific study) (on file with author). For example, to make the process as simple as possible, the interviewers were told to describe confidential information as views that will be kept "secret" and not be told to others. Interview with Yolanda Dow, *supra* note 11 ("the interviewers would keep all information secret"). See also J. Conroy & V. Bradley, *supra* note 15, at 225; Grisso, *supra* note 187, at 762-63.

²²⁹ For a review, see Blanck, *supra* note 173 (process of field research and multi-method approach to study).

²³⁰ For reviews of these methods, see Blanck, *supra* note 173 (citing classic approaches). Subsequent follow-up studies may involve telephone polling or large-scale survey techniques where assessments are conducted of large numbers of individuals without disabilities residing in the community. Interview with Yolanda Dow, *supra* note 11 (future community attitudes study under development).

²³¹ See *supra* notes 254-89 and accompanying text (roughly 3,000 individuals with mental retardation participated in the project during the baseline year).

²³² The data collection formats, surveys, and questionnaires are presented in part IV, *infra*. Cf. Latimer, Current Attitudes Toward Mental Retardation, 8 *Mental Retardation* 30 (1970) (survey of persons without disabilities' views about persons with mental retardation concluding that misinformation exists between the two groups). The employer questionnaires were mailed from the state Developmental Disabilities Office and returned by the

Studies I and II employed "structured" or "directed" questions, with such questions requiring a narrow set of responses (e.g., satisfaction with services provided) and "open-ended" questions, in which the participants are able to expand on the directive questions. Many participants supplemented the structured question format, providing important additional views. When it appeared that the question format did not allow participants to answer "in their own words," more likely than not, it was found that such questions were likely to generate little interest or motivation to reply thoughtfully.²³³

Where appropriate, communication assistance devices were employed so that participants with verbal disabilities could interact directly with the interviewer.²³⁴ In addition, where appropriate, interviewers or staff employed sign language to communicate with nonverbal participants.²³⁵ There are many other practical difficulties in interviewing participants with disabilities.²³⁶ For example, because many of the participants with mental retardation are nonverbal, it is possible that responses to the interviews could, in some instances, more accurately assess the views of the interviewers than that of the participants themselves.²³⁷

The descriptive and exploratory studies in this project focused on the participants' views and attitudes concerning their living arrangements, employment, and other aspects central to their lives. The project balanced the methodological concerns of the reliability and validity of the measures with generating meaningful expressions of the lives of the participants with mental retardation.²³⁸

b. Observation Techniques

Observational methods are used in Study I to assess the physical quality of the participants' environment.²³⁹ The researchers are trained to collect observational data on the physical quality and accessibility of the living settings. A compelling ethical justification for proceeding with extreme caution when observing participants relates to their privacy rights.²⁴⁰ Some observations provide information that ordinarily might not be permanently recorded or that is

participants to that office. Dan Broughton and John Smallwood of the Oklahoma DDSD assumed primary responsibility for the collection and monitoring of employer responses.

²³³ Interview with Yolanda Dow, supra note 11 (tailoring the questions to the interests and abilities of the participants).

²³⁴ Id. (this is true when the participants already had their own communication devices).

²³⁵ In one instance, a participant had developed a language of her own that only her roommate of 18 years understood; in that case, the roommate acted as interpreter for the interviewer. Interview with Yolanda Dow, supra note 11 (the individual with her own language was moderately retarded).

²³⁶ Cf. J. Conroy & V. Bradley, supra note 15, at 119.

²³⁷ See id. (citing studies). Prior studies also suggest that individuals with mental retardation often have difficulty in expressing themselves in a consistent fashion. Id.

²³⁸ Interview with Lynn Atkinson, supra note 11 (tension to keep methods consistent among the various interviewers while retaining richness of the information collected).

²³⁹ See infra notes 393-443 and accompanying text (physical quality measure); see also S.J. Taylor & R. Bogdan, *Observing Community Residences*, Center on Human Policy Monographs, Syracuse Univ. (1991) (guide to observe and monitor residences).

²⁴⁰ See supra notes 223-28 and accompanying text (ethical considerations).

considered too personal by the participants or their families.²⁴¹ For this reason, physical quality and accessibility observational ratings are not regularly recorded in family home settings, where unsupervised general observation into the family home was thought to be overly intrusive.²⁴² Many observations, however, are regularly made of the participants own living areas at the invitation of the participants themselves. The research team is careful to follow the ethical principles of the right to privacy and complete informed consent in these situations. Thus, all observational data gathering techniques are left flexible enough to meet the needs of the participants and of the project.²⁴³ Again, from a practical perspective, the research process involves weighing one method against another in terms of informational accessibility, accuracy and relevance, economy of resources, and ethical considerations in data collection.²⁴⁴

In summary, the goals of the data collection methods in this project are:

- (1) to study employment/living settings, needs, and concerns by collecting information on the physical and social setting through interviewing and observational methods of participants and employers;
- (2) to study the background characteristics and demographics of the participants, employers, and employment providers by collecting information through questionnaires and pencil and paper measures;
- (3) to assess and understand the more subjective beliefs and attitudes of the participants and the employers by collecting information through in- person interviewing and questionnaires;
- (4) to study actual behavior of participants by collecting information through direct observation; and
- (5) to study outcomes in employment and living arrangement by collecting baseline and follow-up data through questionnaire, interview, and archival data sources (such as the state records).²⁴⁵

After data are gathered, data confidentiality, usefulness, and clearance considerations persist.²⁴⁶ This is true with regard to the longitudinal aspect of this project, involving the long-term development of trust between researcher and participant. Likewise, the project raises questions about the ethical limitations of the subsequent use of the data by state administrators or employers in enhancing service delivery and employment opportunity for persons with mental

²⁴¹ Interview with Yolanda Dow, supra note 11 (interviewers trained to respect privacy rights of participants).

²⁴² Id. (interviewers and observers told not to press the families into letting them observe all aspects of the household).

²⁴³ See D.T. Campbell & J.C. Stanley, *Experimental and Quasi- Experimental Designs for Research* (1966); D.T. Cook & D.T. Campbell, *Quasi- Experimentation: Design and Analysis Issues for Field Settings* (1979); E.J. Webb, D.T. Campbell, R.D. Schwartz, R.D. Seachrest & J. Grove, *Nonreactive Measures in the Social Sciences* (1981); E.J. Webb, D.T. Campbell, R.D. Schwartz & R.D. Seachrest, *Unobtrusive Measures: Nonreactive Research in the Social Sciences* (1966).

²⁴⁴ See generally Blanck, supra note 173 (process of field research); G. McCall, supra note 208, at 9-10.

²⁴⁵ But see Campbell, supra note 2, at 415 (those who advocate use of archival measures as social indicators must be aware of their high degree of error and systematic bias and that politically motivated (or court ordered) changes in record keeping may follow their use as social indicators).

²⁴⁶ Interview with Yolanda Dow, supra note 11 (questions from the participants persisted regarding the uses of the information collected).

retardation.²⁴⁷ Nevertheless, analyses of the data are made available to state administrators and research team members to evaluate any immediate health or program needs of the participants.²⁴⁸

But as mentioned above, protecting assured confidentiality of the participants requires excising certain identifying information from the questionnaire, observational, and interview data.²⁴⁹ The research contract helped to clarify who would have access to which pieces of information.²⁵⁰

The research team agreed to provide a final research report to the participants and to the state administrators. This was done as a check on the accuracy of the conclusions and findings. A distinction was made, however, between the participants' perceived accuracy of reported results and the researchers' interpretation of their significance. It was agreed that the participants would have a greater right to question reported facts than to veto the interpretation of their importance.²⁵¹ When there was very strong disagreement over interpretation, the nature of the disagreement could be reported in the published results as data interesting in their own right.²⁵² Differences about release and publication may almost always be reconciled without violating the participants' legitimate claim to privacy, or the researchers' right to reach and publish conclusions.²⁵³

IV. THE EMPIRICAL STUDY: METHOD AND DESIGN

Previously, part II described the empirical bases for this project and part III the process by which title I will be explored. This part presents information on the specific methods and procedures used in the project, separately for Studies I and II.

²⁴⁷ Interview with Dennis Bean, *supra* note 11 (annual meetings with service providers are conducted to share information, to provide feedback, and to retain interest in the project).

²⁴⁸ The data collected are designed also to provide immediate feedback on issues of concern to the individuals served by the state. For example, a variety of responses to the interviews were identified that might reveal potential health or program risks to the participants. A committee composed of state staff, the research team, and consumers assessed the risks presented by various responses, resulting in the designation of certain indicators for program action. See Oklahoma DHS, DDS Quality Assurance System Plan, at 18-19 (July 1, 1990); see also Interview with Dennis Bean, *supra* note 11 (feedback of this sort was important to retain the trust and participation of the service providers).

²⁴⁹ Interview with Yolanda Dow, *supra* note 11 (names and identifying information stricken from the data and only identification numbers left. No participant has access to the data of another participant).

²⁵⁰ As planned, we made available, prior to publication, the results of the research to the principal participants and to the state agency. This was done for several reasons: as an additional check on external validity, to obtain final clearance for publication, to check for errors of fact, and to disguise information that could be harmful if published in undisguised form. Interview with Yolanda Dow, *supra* note 11.

²⁵¹ Interview with Yolanda Dow, *supra* note 11 (importance of feedback from participants on external validity of data).

²⁵² Cf. Colvard, Interaction and Identification in Reporting Field Research: A Critical Reconsideration of Protective Measures, 319-58, in *Ethics, Politics, and Social Research* (G. Sjoberg ed. 1967).

²⁵³ Interview with Yolanda Dow, *supra* note 11 (permission requested from the state DDS program staff before final publication of any report. In addition, data could be presented only in aggregate form without any identifying information as to any particular individual participant). See also Interview with Lynn Atkinson, *supra* note 11 (general difficulties in social reform research where governmental record keeping systems and political priorities shift over time); Campbell, *supra* note 2.

To recap, Study I explores the potential needs and concerns of a sample of individuals with mental retardation who, in many cases, have other physical challenges. Study I builds on prior empirical assessments of the behavior and attitudes of persons with disabilities. Study II explores employers and employment providers. Like Study I, this study builds on the survey work of the Harris organization with emphasis on attitudes, myths, and concerns relating to the employment relationship involving persons with mental retardation.

A. Study I--Persons with Mental Retardation

Study I is conducted as part of a larger longitudinal project by the Oklahoma Developmental Disabilities Services Division. The study explores empirically the lives and experiences of citizens with mental retardation.²⁵⁴ Baseline data were collected in 1989 and 1990. The longitudinal project involves several activities, including the assessment of:

- (1) the mechanisms for employment and service delivery for persons with mental retardation;
- (2) the degree to which employers and state and community providers meet the employment needs and expectations of persons with mental retardation; and
- (3) the information necessary to enhance integrated employment and living opportunities for persons with mental retardation living in the community and institutional settings.²⁵⁵ The data for Study I are derived from questionnaire, survey, interview, and observational measures collected on an annual basis.²⁵⁶

1. Participants

Study I is based on data collected on 1,255 adults with mental retardation (approximately 60% are male and 40% female) residing in various living arrangements in Oklahoma.²⁵⁷ Many of these individuals also have physical challenges. Of the 1,255 participants, 458 lived in various types of living arrangements in communities around the state. Data are presented also on 797 adults with mental retardation residing in three large state-run facilities in Oklahoma for persons with mental retardation.²⁵⁸

The empirical analysis of Study I is organized primarily by the type and degree of integrated living arrangements and employment activities of the participants. The analyses in Study I are designed to generate information about the 1,255 adult participants residing in four types of living arrangements that are arranged from less to more integrated as follows:

²⁵⁴ See Oklahoma DHS, DDS Quality Assurance System, *supra* note 248. The assessments made in this study are conducted under the general supervision of a DDS coordinating body called the Quality Assurance Advisory Committee ("QAAC"). The author is a member of the QAAC, providing advice on legal and methodological issues. The QAAC also consists of consumers of state services, DDS personnel, OSU project staff, and outside consultants for methodological and project development issues.

²⁵⁵ The Oklahoma project draws on the Pennhurst Longitudinal Study which explores the lives of persons with mental retardation as they transition from institutional to community living. See J. Conroy & V. Bradley, *supra* note 15 (Pennhurst Longitudinal Study assessed court-ordered deinstitutionalization).

²⁵⁶ See *supra* notes 187-253 and accompanying text (description of data collection methods).

²⁵⁷ For purposes of the analyses, the study defines adult as an individual 18 years of age or over.

²⁵⁸ The three large state facilities are each certified as Intermediate Care Facilities for the Mentally Retarded ("ICF/MRs"). The services provided at the facilities are required to be at federally-mandated levels in order to receive federal funds to support their activities. See generally J. Conroy & V. Bradley, *supra* note 15.

- (1) institutional residences--participants residing in the three large state-run facilities in Oklahoma;²⁵⁹
- (2) family homes--participants residing in their birth home, a relative's home, or in an adult companion home (foster care);
- (3) group homes--participants residing with four to twelve other adults with mental retardation (average number of six residents) living in a structured setting, receiving varying levels of support from state and private agencies; and
- (4) semi-independent/supported living homes--participants residing in their own home individually, receiving varying levels of support from state and private agencies.²⁶⁰

The empirical tables presented in part V are arranged so that the four types of residential settings are arrayed in rows from the relatively less to more independent or integrated community living arrangements.²⁶¹ The columns of the tables are arrayed by four levels of employment involvement, ranging from less to more integrated types of involvement.²⁶²

Employment type ranges from:

- (1) no employment;
- (2) sheltered workshop employment;²⁶³

²⁵⁹ The three large state facilities included in this sample comprise all such facilities in the state. The facilities serve 252, 278, and 289 individuals with mental retardation. There are also some 23 private ICF/MRs in the state, ranging in size from 15 to 300 beds.

²⁶⁰ For purposes of the analyses here, individuals living in homes with one or two other people (e.g., with roommates) are considered to be living in independent living situations. Interview with Dennis Bean, *supra* note 11 (as Director Oklahoma DDSD Quality Assurance Programs).

²⁶¹ Degree of integration of residence is defined with regard to this adult sample. See *supra* notes 257-58 and accompanying text.

²⁶² Cf. 34 C.F.R. §§ 252, 254 ch. III pt. 23 (7-1-88 Edition)--The State Supported Employment Services Program (integrated work setting means job sites where most co-workers are not disabled and individuals with disabilities are not part of a work group of other individuals with disabilities). Many of the employment-related services provided by Oklahoma (as in many other states) are supported by the Medicaid home and community-based waiver program (HBC Waiver Program). Section 1915(c) of the Social Security Act as part of the Omnibus Budget Reconciliation Act of 1981 (section 2176, Pub.L. No. 97-35). Several types of employment and daily living services offered by the state for persons with mental retardation (who previously resided in institutions) are supplemented by matching federal funds under the HBC Waiver Program. These services include: prevocational services, supported employment, assistive/adaptive aids, transportation, case management, day habilitation, residential services, personal care/in-home supports, respite care, therapies/specialty services, and home modifications. For a review of the waiver program, see G.A. Smith & R.M. Gettings, *The HBC Waiver Program and Services: For People with Developmental Disabilities: An Update* (Jan. 1991) (by National Association of State Mental Retardation Program Directors). The above-listed services are supplemented also by State Rehabilitation Services or Supported Employment Programs (e.g., in Study II, employer and provider questionnaires).

²⁶³ See *infra* notes 279-81; see also H.H. Perritt, *supra* note 2, at 6 (paragraphs 2 & 3 of section 102(b) of the ADA, derived from the Rehabilitation Act, are not intended to diminish the viability of sheltered workshops as a program for persons with severe mental retardation or disabilities); M.S. Shafer, et al., *infra* note 502, at 103 (sheltered workshops available in all 50 states, citing research suggesting that more than 25,000 individuals with severe disabilities have entered the labor market as a result of supported employment). Public Law 99-508 mandates that supported employment must be provided by vocational rehabilitation and mental retardation agencies.

- (3) supported employment;²⁶⁴ and
- (4) competitive employment.²⁶⁵

Using this analytical framework, a master table is developed showing the degree of integration in residence and employment for the participants. Outcome or dependent measures are arrayed in the various "cells" and "margins" of the tables.²⁶⁶ The table format allows for more detailed analyses of the provisions of title I.

2. Data Sources

The primary data collection instruments for Study I include seven measures designed to explore the needs, behaviors, and attitudes of persons with mental retardation in the following areas:

- (1) adaptive equipment needs;
- (2) adaptive behavior scores;
- (3) general medical needs;
- (4) financial information, citizenship, and advocacy;
- (5) service planning and delivery;
- (6) consumer satisfaction with employment and daily living services; and
- (7) general accessibility in living and community settings and physical quality of settings.

These data source instruments are discussed next in turn.²⁶⁷

a. Adaptive Equipment Needs²⁶⁸

This measure explores several physical equipment aids that are needed or used by the participants. The questions reflect the long-term purpose to understand the potential types of accommodations that may be needed for this group of persons with disabilities in their employment settings. The physical equipment needs assessed include:

- (1) wheelchairs, walkers, braces, and canes;
- (2) communication devices;²⁶⁹

²⁶⁴ See *infra* notes 279-81 (discussion of supported employment as work model providing for direct training of the participant at the work site); see also Revell, Wehmad & Arnold, Supported Work Model of Competitive Employment for Persons with Mental Retardation: Implications for Rehabilitative Services, 53 *J. Rehabilitation* 33 (Fall 1984) [hereinafter Revell] (stating support can involve placement in competitive work settings).

²⁶⁵ See *infra* notes 279-81 (discussion of employment types). The underlying principles of supported competitive employment include integrated work settings, paid employment, ongoing support, and service provision to people with severe disabilities. See also Rogan & Murphy, Supported Employment and Vocational Rehabilitation: Merger or Misadventure, 56 *J. Rehabilitation* 39, 40 (Spring 1991).

²⁶⁶ Study I is part of the larger attempt, coordinated by Oklahoma Department of Human Services (with information collected by the Oklahoma State University), to explore the lives of several thousand individuals with mental retardation residing in state institutional settings and in various community living arrangements.

²⁶⁷ The goal of the project is to understand the basic life style, medical, social needs, and barriers faced by this sample of adults with mental retardation. The data source instruments have been employed by Oklahoma DDS to provide immediate feedback on issues of concern to individuals served by the state. For example, upon collection, the sources are fed into a computer and any responses showing a potential health or medical risk to the participant may be identified and assessed. Immediate health risks are reported to the state office. DDS Quality Assurance System, *supra* note 248, at 18-20. The various data sources are analyzed here to different degrees, depending upon their relation to employment issues.

²⁶⁸ This term is also related to the concept of "assistive technology services," set forth in The Developmental Disabilities Assistance and Bill of Rights Act, 42 U.S.C.A. § 6000d (1990).

- (3) hearing aids; and
- (4) eye glasses.

Based on more descriptive analyses of these individual measures, a composite measure of adaptive equipment needs for the participants is developed.²⁷⁰

b. Adaptive Behavior Scores

The adaptive behavior scale contains fifty-four interview items that measure individual functioning and developmental growth.²⁷¹ A general adaptive behavior score for each participant is developed as a measure of their overall abilities and skills.²⁷² The general adaptive behavior index reflects the participants' abilities in employment-related and self-care activities, their personal and environmental mobility, their communication and interpersonal skills, and their opportunities for interaction with family, friends, and the general population. It also includes information on the participants' civic and political involvement.²⁷³

The measures from the adaptive behavior score that are particularly relevant to the study of title I include abilities at: walking, body balance, toileting, sense of direction, money handling, purchasing, writing, verbal and pre-verbal communication, reading, comprehension of instructions, time and numbers, job complexity, table clearing, food preparation, attention, initiative, interaction with others, and participation in groups.

Because some researchers measuring adaptive behavior find that a single measure of adaptive behavior best reflects individual scores on this measure,²⁷⁴ a summed score or index of adaptive behavior on the above- listed measures is used for analytical purposes. The single score of adaptive behavior is used as one index of level of functioning and measure of employment-related abilities.²⁷⁵ Part V presents two other composite scores of adaptive

²⁶⁹ Also assessed was the need for protective helmets, which are designed for participants who have a history of challenging behaviors. These analyses are not included here.

²⁷⁰ The composite measure of adaptive equipment needs is a general additive index of certain adaptive equipment needs for these participants. This index may prove to be related to other adaptive equipment needs. An employer is not necessarily required, however, to provide solely personal use items such as hearing aids or eye glasses as part of its obligation to provide reasonable accommodations. Shaller, *supra* note 57, at 436. This issue was raised earlier with particular reference to those persons with severe disabilities.

²⁷¹ The adaptive behavior questions are a modified version of the Behavior Development Survey used by Conroy and Bradley, *supra* note 15, at 92- 93, in the Pennhurst Longitudinal Study. The adaptive behavior total (or sum) score in this study ranged from 1-100, with 1 being a low score and 100 a high score. Conroy and Bradley have reported the adaptive behavior to be highly reliable, with test-retest reliability of .96, and inter-rater reliability of .94. *Id.* at 93. See generally S. Devlin, *Reliability Assessment of the Instruments Used to Monitor the Pennhurst Plaintiff Class Members*, Temple University Developmental Disabilities Center/UAP (paper submitted in partial fulfillment requirements for degree of Doctor of Philosophy) (March 1989) (on file with author).

²⁷² Adaptive behavior scores are assessed by in-person interviews conducted with the participating adults, and, in some cases, with their support personnel, where appropriate. See *supra* notes 187-253 (process of research).

²⁷³ See Oklahoma DHS, DDS Quality Assurance System, *supra* note 248.

²⁷⁴ See, e.g., Arndt, *A General Measure of Adaptive Behavior*, 85(5) *Amer.J. of Mental Deficiency* 554 (1981) (conclusion that adaptive behavior is better and more reliably measured using a single general score).

²⁷⁵ Cf. Aanes & Moen, *Adaptive Behavior Changes of Group Homes Residents*, 14 *Mental Retardation* 36, 40 (1976) (discussing implications of adaptive behavior scores in individual programming and evaluation of community services). The score of adaptive behavior here is not necessarily meant to provide information to employers for predicting the employability of persons with mental retardation.

behavior that are more directly related to employment and to self-care abilities.²⁷⁶

c. Medical Needs

These measures explore the general medical needs of the participants. The questions reflect an attempt to explore the potential needs for medically-related accommodations in employment and community settings. The medical needs assessed included: (1) general urgency of need for medical care, (2) prior contact with medical personnel, and (3) prior difficulty in receiving medical services.²⁷⁷ A composite measure of general medical need is developed and employed for analytical purposes.

d. Financial Information, Citizenship, and Advocacy

This information covers several areas related to employment. The participants' average monthly income from employment or other sources (e.g., SSI) is explored. Also, issues related to guardianship, advocacy, and legal assistance are explored. These measures assess the participants' civic involvement and citizenship-oriented activities. Issues addressed include whether the participant has a guardian appointed by a court, is involved with organizations promoting self-advocacy for persons with mental retardation or civic organizations, and has sought legal advice to assist with civil rights, entitlements, or other service delivery matters.

e. Service Planning and Delivery

These measures explore the scope of supported services the participants receive to enhance employment or community living opportunities. The measures identify the number of service planning goals set to support employment and community living. For example, behavioral goals are measured for employment skill areas such as food service, machine operation, maintenance, construction, and delivery. Other employment-related task goals are measured, including those related to employee attendance, punctuality, productivity, task accuracy, and independence. Also, behavioral goals are assessed for community-related living skills, such as the use of money, telling time, use of public transportation, communicating with others, and use of the telephone.

Information is next collected regarding the average number of hours, for the month prior to the data collection period, that the participants received training in occupational therapy, pre-vocational skills, work and employment activities, and other social, physical, and employment related skills. These measures also explore the participants' level of involvement in various types of employment settings. Consistent with the goals of the Developmental Disabilities Assistance and Bill of Rights Act,²⁷⁸ the measures explore the degree to which the participants receive training designed to increase their independence, productivity, and integration in employment settings.

²⁷⁶ See *infra* notes 330-52 and accompanying text (development of two factor measures--social/employment skills and self-care skills).

²⁷⁷ The researchers also collected data on the participants' history and frequency of seizure activity, medication schedule, and medication management. These data are not analyzed for purposes of this article. Cf. Uehara, Silverstein, Davis & Geron, *Assessment of Needs of Adults with Developmental Disabilities in Skilled Nursing and Intermediate Care Facilities in Illinois*, 29 *Mental Retardation* 223, 229 (1991) (finding high frequency of chronic health problems).

²⁷⁸ 42 U.S.C.A. § 6000d (1990).

Information is arrayed and analyzed by the level of integration in the employment setting for participants in:

- (1) no employment--no actual employment and minimal employment training;
- (2) sheltered employment--program of work or work related training provided by a sheltered workshop (e.g., a non-integrated group setting), wages are paid but they are usually half of the minimum wage;²⁷⁹
- (3) supported employment--individual job placement supported with services of a job coach,²⁸⁰ at least minimum wages are paid; and
- (4) competitive employment--job placement is made primarily without the services of a job coach, at least minimum wages are paid.²⁸¹ Competitive employment is most often found in private industry where the worker with a disability is relatively independent of any support or habilitative service.

f. Consumer Satisfaction and Choice

²⁷⁹ Interview with Yolanda Dow, supra note 11 (jobs found in the participating sheltered workshops include pamphlet folding, trash pickup, greenhouse work, and fiber processing of wool fiber); see also *Toward Independence--Appendix*, supra note 113, at B-75 to 76 (sheltered employment as primarily noncompetitive and nonintegrated work setting). Most sheltered workshops provide vocational and rehabilitation services such as evaluation, training and placement services. *Id.* at B-81. Sheltered workshops are allowed under the Fair Labor Standards Act to pay persons with disabilities at a lower rate than the statutory minimum wage (but not less than 50% of minimum wage unless specifically exempted). *Id.* at B-85.

²⁸⁰ The job coaches' responsibilities include job placement, job training, on-going skills assessment, and assistance in job retention. See *NISH Newsl.*, infra note 281, at 5 (citing Wehman, 1987). Interview with Yolanda Dow, supra note 11, (job coaches start one-on-one with the client--for example, teaching food preparation--and slowly fade out allowing the client to develop independent work skills). See generally *Toward Independence--Appendix*, supra note 113, at B-30 (discussion of supported work program approach).

²⁸¹ The Federal Office of Special Education and Rehabilitative Services ("OSERS"), Final Regulations (May 12, 1988) defines the following terms: "Supported employment" as "competitive work in an integrated work setting with on-going support services for individuals with severe handicaps for whom competitive employment (a) has not traditionally occurred; or (b) has been interrupted or intermittent as a result of severe handicaps...." "Competitive work," as used in the definition of supported employment--"work that is performed on a full-time basis or on a part-time basis, averaging at least 20 hours per week for each pay period, and for which an individual is compensated in accordance with the Fair Labor Standards Act."

"Integrated work settings" as used in the definition of supported employment are job sites where: "(i)(a) most co-workers are not handicapped; and (b) individuals with handicaps are not part of a work group of other individuals with handicaps; or (ii)(a) most co-workers are not handicapped; [or] (b) individuals with handicaps are part of a small work group of not more than eight individuals with handicaps; or (iii) If there are no co-workers or the only co-workers are members of a small work group of not more than eight individuals, all of whom have handicaps, individuals with handicaps have regular contact with non-handicapped individuals, other than personnel providing support services, in the immediate work setting."

"On-going support services" as used in the definition of supported employment as "continuous or periodic job skill training services provided at least twice monthly at the work site throughout the term of employment to enable the individual to perform work. The term also includes other supported services provided at or away from the work site, such as transportation, personal care services, and counseling to family members, if skill training services are also needed by, and provided to, that individual at the work site." Federal Office of Special Educ. and Rehab. Servs. Final Regs. (May 12, 1988); see also *The Developmental Disabilities Assistance and Bill of Rights Act*, 42 U.S.C.A. § 6000 (1990); *National Industries for the Severely Handicapped (NISH) Newsl.*, vol. XIV, No. 4, Apr. 1989, at 4-5 (citing Wehman, 1987) (review of work settings).

This measure allows the participants to respond for themselves about their employment and daily living needs, concerns and opportunities. Satisfaction is assessed through the use of a standardized consumer interview.²⁸² This direct interview measure assesses the participants' impressions of their living situation, social interaction, use of public facilities, and employment.²⁸³

The questions in the consumer interview include, among others, whether the participant:

- (1) liked the activities during the day;
- (2) made money;
- (3) choose how their money was spent;
- (4) used transportation that other people without disabilities use;
- (5) felt appropriately dressed; and
- (6) felt clean and groomed.

These and other questions are combined to form two indices of satisfaction or choice; one for employment-related satisfaction and choice, and one for self-care and daily living satisfaction and choice. The composite measures of participant satisfaction are then related to other measures in the study.²⁸⁴

g. General Accessibility in Living and Community Settings and Physical Quality of Settings

These measures explore whether the participants are denied or limited access to community or employment opportunities because of their disability. The interviewers explore whether the participants' opportunities are limited on the basis of a disability in the following areas:

- (1) physical access to buildings;
- (2) access to employment services;
- (3) access to educational services;
- (4) access to human services;
- (5) access to transportation;
- (6) interactions with neighbors and friends without disabilities;

²⁸² The Consumer Interview was developed as part of the Pennhurst Longitudinal Study. See J. Conroy & V. Bradley, *supra* note 15, at 119-26; see also Atkinson, Project for Quality of Life Improvement of Oklahomans with Developmental Disabilities, Grant Proposal, May 1, 1990, at 11; D.A. Goode, Quality of Life Research: A Change Agent for Persons with Disabilities, Presentation at Amer. Association on Mental Retardation National Meeting, May 20-23, 1991 (citing studies).

²⁸³ See *supra* notes 192-206 (discussion of the methodological difficulties in interviewing persons with mental retardation). The methodological difficulties with a consumer satisfaction measure for this sample are great. J. Conroy & V. Bradley, *supra* note 15, at 119. For example, communication patterns vary tremendously between participant and researcher across this sample of participants. Also, the problem of the participants' acquiescence with the researcher has been noted in interview studies of persons with mental retardation. For a review, see J. Conroy & V. Bradley, *supra* note 15, at 126 (studies showing that persons with mental retardation in interview setting are likely to say "yes" to any question that is not clear, concrete or immediate, and providing methods for assessing level of acquiescence). For this reason, consumer questions were asked in several ways and in different formats. For example, early question is "How do you feel about the food here?" and later question is "Please let me check--Did you say the food is bad or good?"

²⁸⁴ See *infra* notes 426-43 and accompanying text (discussion of regression analyses).

- (7) access to civic events; and
- (8) access to recreation and leisure activities.

Observations are made also on the general quality and accessibility of the participants' living environment. This measure is completed by each site interviewer while touring the participants' residences.²⁸⁵ Although there may be no generally accepted measure of quality and accessibility of living environment, these measures are designed to begin this analysis for the participants, many of whom are employed or will be entering the workforce.²⁸⁶

Several of the accessibility measures relate to employment issues. For example, accessibility in the home may relate to the participants' ability to adapt to accommodations in the work setting.²⁸⁷ The degree of living accessibility may be related also to feelings of satisfaction in daily life and in employment opportunities.²⁸⁸ As with the earlier measures, composite variables are developed with regard to general accessibility in daily life.²⁸⁹

A. Study II--Employers and Employment Providers

Study II is designed to collect baseline information about the employment practices of employers and employment providers (the "users" of the ADA) of the participants in Study I.²⁹⁰ The empirical information in Study II is collected from these two sources, from the employers themselves (managers and supervisors), and from the employment providers (executive recruiters of employment for the participants).²⁹¹

Study II explores the perceptions and attitudes of the participating employers and providers with regard to employment issues currently facing individuals with mental retardation. The baseline data for Study II was collected in 1990 and 1991. The study explores employers' and

²⁸⁵ The physical quality/accessibility measure in this study is a modified version of that employed by Conroy and his associates that was originally developed by Professor Seltzer. See Lemanowicz, Conroy & Feinstein, 1989 Results of the Longitudinal Study of CARC v. Thorne, The Connecticut Applied Research Project, Report No. 8 (October 1989). The interviewers, primarily graduate students in social work, are trained by state program staff and Jim Conroy and Celia Feinstein (investigators of the Pennhurst Longitudinal Study). See also supra notes 239-44 and accompanying text (discussion of privacy issues).

²⁸⁶ Cf. J. Conroy & V. Bradley, supra note 15, at 143. An additional access issue for future study relevant to the ADA relates to availability of alternate forms of communication (e.g., sign, TDD, braille, large print, or computer synthesized reader or voice).

²⁸⁷ Id. at 155-56 (environmental measures not correlated with functioning in the environment but other measures are, such as number of residents in a particular setting).

²⁸⁸ Id. at 147 (two basic dimensions in community living for these participants may be degree of autonomy and activity).

²⁸⁹ The ratings made by the site observers on the physical quality and accessibility measures include, among others: attractiveness of neighborhood and residence and handicapped accessibility to the site grounds and in the residence (overall and on a room-by-room basis). Many of the environmental measures employed here are sensitive to the characteristics of the participants living in the residence being rated. See id. at 159. The same conclusion may be true for ratings of the physical quality of the employment setting.

²⁹⁰ For an overview of Oklahoma's efforts in this area, see DDSD, Rehabilitation Services Division, Employment Services: Planning Report Update (June 29, 1990).

²⁹¹ See supra notes 134-39 and accompanying text. Harris Poll II questioned employers and not employment providers. Employment providers will become increasingly important players in the recruitment of and training for jobs for persons with disabilities. See infra notes 507-47 and accompanying text.

employment providers':

- (1) attitudes and expectations for the employment relationship with persons with mental retardation;
- (2) satisfaction with employees with mental retardation;
- (3) needs for information and support services necessary to enhance the employment relationship with persons with mental retardation; and
- (4) knowledge of the ADA and its potential impact on the employment relationship with persons with mental retardation.

Like Study I, the present information is generated from the first year of a longitudinal study on the employment relationship involving persons with disabilities. The long-term goal is to assess the attitudes and practices of employers and providers over the implementation period of title I.²⁹²

1. Participants

Forty-seven employers participated. The employers ranged in size from small family businesses to large corporate firms. Thirteen employment providers participated, serving several hundred persons with mental retardation and providing support services in the areas of job coaching and in job recruitment. All the baseline interviews and questionnaires were conducted before the effective date of title I.

2. Data Sources

a. Employers

To assess the potential impact of title I on the employment practices of employers, several types of information are gathered, including:

- (1) the number of individuals employed with and without disabilities;
- (2) the average length of tenure for employees with and without disabilities;
- (3) the jobs in which individuals with mental retardation are employed;
- (4) the level of satisfaction of employees with mental retardation, in the areas of attendance, productivity, customer and co-worker interaction, initiative, and dedication to work;
- (5) the average hours worked and hourly wages of employees with and without disabilities;
- (6) the job coaching supports available to employees with mental retardation, including assessment of the employers' general level of satisfaction with job support services;
- (7) the factors relevant to employers for increasing the number of employees with mental retardation, including improved local economy, increased number of referrals, increased assistance in work place and transportation accessibility, improved and increased job coach and support services, and expanded financial incentives to accommodate employees with disabilities;
- (8) knowledge of the ADA and perceptions of how the Act impacts on the employment

²⁹² Cf. C. Goldman, *Disability Rights Guide: Practical Solutions to Problems Affecting People with Disabilities* (1987) (framework to approach attitudinal barriers, employment, accessibility, and transportation issues affecting persons with disabilities).

relationship; and

(9) views on the myths of employing persons with disabilities, including attitudes regarding turnover, absenteeism, job performance, safety risks, accommodation needs, acceptance by customers, funding sources available to help pay for accommodations, and insurance needs.²⁹³

b. Employment Providers

To assess the potential impact of title I on the job recruiting and support services of employment providers, information is gathered including:

- (1) the number of individuals with mental retardation served who are currently employed, and their tenure in integrated job sites;
- (2) the number of individuals with mental retardation projected to be employed in integrated job sites by the effective date of the ADA;
- (3) the average length of employment, weekly hours, and hourly wage for individuals served in integrated employment settings;
- (4) the number and level of functioning of individuals with mental retardation served in integrated employment settings;²⁹⁴
- (5) the number of employees with mental retardation in particular jobs (e.g., customer service, food preparation, and product assembly);
- (6) the types of barriers to integrated employment facing individuals with mental retardation, such as
 - limited availability of jobs;
 - community bias against hiring individuals with disabilities;
 - employer concerns about productivity, safety, and accessibility of and transportation to the work place;
 - lack of economic incentives for employers;
 - perceived expense of providing accommodations at the workplace;
 - availability of job coaches;
 - support to employers from state agencies in terms of funds and training; and
 - concerns by employers about the availability of job coaching supports for employees with mental retardation; and
 - resistance of family members;
- (7) the knowledge of the ADA and perceptions of how the Act impacts on the employment relationship;
- (8) future estimates of the number of individuals served in various job support models (e.g.,

²⁹³ Several of the questions are based on summary of prevalent myths presented in BNA Report, supra note 7, at 171-72. In the EEOC's proposed rules for title I, the Commission requested guidance from interested parties on several questions concerning the implementation of the ADA, including: (1) the relationship between insurance risks and costs, (2) the application of worker's compensation rules to persons with disabilities, and (3) the effect of particular accommodations on collective bargaining agreements. 56 Fed.Reg. 8578, 8579 (1991), 29 C.F.R. § 1630 (1991). Several aspects of these issues are assessed preliminarily through the employers' responses.

²⁹⁴ The providers are asked to estimate the level of retardation of the individuals they serve (mild, moderate, severe, and profound) and their disabilities (aggressive or injurious behavior, physical, visual, or hearing disabilities).

- individual job coach, work enclave, entrepreneurial)²⁹⁵ and the role of job coaches in the various employment models;
- (9) the sizes and characteristics of businesses that have been most receptive to the employment of individuals with mental retardation; and
- (10) the level of involvement in local activities to promote the employment of individuals with disabilities.²⁹⁶

Together, information on employers and employment providers is explored and evaluated in the context of the findings of Study I and as part of the longitudinal study of employment practices under title I. The next part begins the description of the empirical findings.

V. PRELIMINARY EMPIRICAL FINDINGS

This part sets forth the preliminary findings of Studies I and II. The findings are "descriptive" in that they present a view of aspects of the participants' backgrounds, attitudes, and behaviors that may prove relevant to analysis of title I. The findings are "exploratory" in that they search for relationships among the various employment and daily living measures. The analyses are not focused primarily on the assessment of statistically "significant" results, but rather on the general magnitude and direction of trends in the data.²⁹⁷ Where appropriate, statistical testing techniques are suggested and demonstrated to provide an estimate of the relationship among the measures of interest.²⁹⁸

A. Study I--Persons with Mental Retardation and Title I

The analyses and findings for Study I are arranged in several standard table formats. One standard table format is to present a "4 by 5" column by row cell table. Across the top of this table, the columns are defined as the degree of integration of employment, ranging from less integrated to more integrated.²⁹⁹ Integration in employment is operationalized as: no employment (not integrated) to sheltered, supported, and competitive employment (most integrated).

Across the side of the table, the rows are defined as the type of living arrangement for these participants. Living arrangements are categorized by their degree of integration--ranging from institutional (not integrated), foster/family, group home, to supported/semi-independent living

²⁹⁵ See supra note 281 (description of various employment models).

²⁹⁶ Employers and employment providers are also given the opportunity to answer open-ended questions about their views on the employment relationship with individuals with disabilities. See supra notes 232-36 and accompanying text (importance of open-ended and forced format questions in this area of study).

²⁹⁷ See, e.g., Rosenthal & Rubin, A Simple, General Purpose Display of Magnitude of Experimental Effect, 74 J. Educ. Psychology 166 (1982) (use of BESD to display the increase in predictive power and to display the real-world importance and practical validity of results).

²⁹⁸ Correlational and regression analyses do not isolate the "causes" and "effects" of that relationship. Blanck, supra note 194, at 669 (discussion of the use of correlational analyses in field research); see also infra notes 426-43 and accompanying text.

²⁹⁹ See supra notes 24-109 and accompanying text (discussion of integration in employment).

arrangements (most integrated community setting).³⁰⁰ The empirical information within the tables is presented either by absolute numbers of responses or by weighted percentages of the responses, as appropriate.³⁰¹ Several statistical analyses are performed on the various dependent measures, including: simple correlational analyses,³⁰² a principle components factor analysis to reduce the fifty-four adaptive behavior scores to a single measure and to two subscales,³⁰³ Chi Square tests, and multiple regression and partial correlation analyses that model the impact of various measures on the participants' level of integrated employment and income levels.³⁰⁴

³⁰⁰ See supra notes 259-60 and accompanying text (for the analyses involving employment issues for the adult sample of persons with mental retardation, small group home living was hypothesized generally to be more integrated than foster/family living arrangements).

³⁰¹ Absolute raw number is the tally for that particular variable. Both raw numbers and percentages are presented for a particular cell. The marginals are weighted by the number of responses for a particular cell. Weighted percentages provide a more accurate assessment of the impact of a particular set of responses based on the number of responses for that cell.

³⁰² Where appropriate, statistical significance is indexed by a probability value that an observation would have been found if, in the population from which we had sampled, the true correlation were zero. We present probability values (p) of .10 or smaller because these values are often useful in assessing field-based variables. See Blanck, supra note 194, at 669.

The correlation coefficient (r) can take on values between -1.00 and +1.00. A value of -1.00 means that there is a perfect negative relationship, a value of +1.00 means there is a perfect positive relationship, and a value of .00 means there is no linear relationship between the two variables. Id. at 669-71.

³⁰³ See infra notes 333-35 and accompanying text (results for the selected scores are tested for statistical significance).

³⁰⁴ Several data analytic problems should be highlighted: one problem in conducting a large scale interview and observational study of this sort is that it is logistically difficult to collect all the empirical information for all the participants; that is why some of the sample sizes of the cells ("ns") will vary from table to table on different variables. Interview with Lynn Atkinson, supra note 11 (discussion of missing data). Thus, the researchers are often faced with the problem of missing data for some of the participants. See supra note 11 (Interviews with Lynn Atkinson and Yolanda Dow on logistics of data collection). Data was missing for a variety of reasons, including lost information, oversight in collection, and participant unwillingness to share certain information. There is no reason to believe, however, that there is any systematic pattern of missing data; that is, missing data appears to be randomly distributed across all the participants. Cf. Schallock, infra note 306, at 86 (approximately 55% missing data in national employment survey).

In fact, only 33 of the 1288 participants (2.6%) are eliminated from the analyses because of missing data on employment status. Two general patterns are noted with regard to missing data: (1) items near the end of the questionnaire for persons with mental retardation were more likely to have non-responses (e.g., 66% for some items on the consumer measures versus 2.6% for adaptive behavior measures), and (2) non-respondents were somewhat older than responders. Differences in the type of living arrangement between responders and non-respondents varied with the type of item being measured and differences in adaptive behavior scores (an important measure of general functioning) are not substantial. The 33 non-responders did not differ significantly from the 1255 responders with regard to adaptive behavior scores ($p = .20$), but averaged three years older ($p = .007$). Because the sample is relatively large, statistical testing is not of paramount importance, and, where appropriate, the cell percentages are weighted by the sample size for that cell, there is little reason to suspect that there exists systematic error in the data collection procedures and analyses that bias the preliminary interpretation of the results.

A second data analytic issue relates to the concepts of statistical "reliability" and "validity" of the various measures. Reliability represents the degree to which the interviewers and observers agree in their ratings of the same behaviors. To assess reliability, a sample of data from different raters for the interviews and observations was compared and the result of this rater-reliability test is high, $r = .85$, for the adaptive behavior score. Absolute difference among raters ranged from 1 to 22, with a median absolute difference of 8 points. The largest differences are found for the higher functioning individuals, indicating that care must be taken in assessing this

1. Demographics of the Participants

a. Sample Sizes

Table 1 shows the cell sizes for grouping of the participants in the standard table format.

TABLE 1
Participant
Sample Sizes
Degree of Integration in Employment

Living Arrangement	None	Sheltered	Supported	Competitive	
Institution	346	418	19	14	797 64%
Community	75	308	37	38	458 36%
	421 34%	726 58%	56 4%	52 4%	Total 1255
CLA*					
Foster/Family	49	32	3	5	89 19%
Group Home	22	258	31	29	340 74%
Supported/Semi Independent	4	18	3	4	29 6%
	75 16%	308 67%	37 8%	38 8%	Total 458

The total number of participants is 1,255. Of this total, 458 of the participants reside in community living arrangements (36% of the total) and 797 reside in institutional settings (64% of the total).³⁰⁵ The 458 participants residing in the community are grouped further by the three

score when targeting these higher functioning individuals. Undoubtedly, some of the measures will show a higher degree of reliability than others and longitudinal and repeated uses of the measures will need to be employed to more adequately address this issue. Validity is the degree to which the measures actually assess what they are intended to assess. Part IV has described the conceptual development of the various measures (e.g., to ensure the "internal validity" of the measures, research team training sessions are held). External validity has to do with the generalizability of the results to other samples of persons with mental retardation or populations of persons with disabilities. See infra notes 561-63 and accompanying text.

* Community Living Arrangements

³⁰⁵ The sample size is relatively large for this type of intensive interview, questionnaire, and observational research. Even with such a large total sample, many of the analytical cells or groupings are relatively small.

types of community living arrangements; namely, 89 residing in foster/family settings, 340 residing in group homes, and 29 residing in supported and semi-independent living arrangements.

The columns of Table 1 show the cell sizes for the participants in each of the four employment settings. The majority of participants residing in institutional settings are either not employed (346 of 797, 43%) or employed in sheltered workshops (418 of 797, 52%).³⁰⁶ Thus, most adult individuals residing in institutional settings are not engaged in integrated employment activities. Put differently, of participants residing in institutional settings, only 2% are employed in supported and 2% in competitive employment. This finding underscores the need to provide institutional participants (at least while they reside there) opportunities in integrated work settings, preferably coinciding with their placement in appropriate community residential settings. The findings do reflect a weak trend toward movement into nonsheltered employment settings.³⁰⁷

The distribution for participants residing in the community settings is more varied with regard to degree of integration in employment type. The majority of these participants, however, are also either not employed (75 of 458, 16%) or participate in sheltered workshop employment programs (308 of 458, 67%). Of the participants residing in the community, 75 individuals (16%) are in supported or competitive employment settings.

The distribution for the employment of participants within the three community living arrangements suggests several trends worthy of future study. First, the majority of participants living in foster/family settings are not engaged in any employment (55%) or are engaged in sheltered workshop programs (36%). Of this group, only 3% worked in supported employment settings and 6% in competitive settings. It will become increasingly important to develop strategies to support foster/family living programs to enhance these participants' integration in employment opportunities. In support of such efforts, Senator Bradley has introduced a measure that would establish a new federal grant program to assist families caring for a family member with a disability at home.³⁰⁸ Similarly, Senator Harkin and others have introduced a package of legislation entitled "Prevention First" to begin the process of disability prevention and health promotion.³⁰⁹

Therefore, consistent with the descriptive and exploratory focus of this project, the findings must be interpreted with great caution. See *infra* notes 561-69 and accompanying text.

³⁰⁶ This finding is consistent with earlier empirical study. See Schalock, McGaughey & Kiernan, Placement into Nonsheltered Employment: Findings From National Employment Surveys, 94 *J. Mental Retardation* 80, 83 (1989) [hereinafter Schalock] (approximately 63% of some 130,000 persons with mental retardation surveyed in sheltered employment).

³⁰⁷ *Id.* at 85.

³⁰⁸ Family Caregiver Support Act of 1991, S. 972, 102d Cong., 2d Sess., 137 Cong.Rec. § 5137 (1991) (authorizing HHS secretary to reimburse states with approved family caregiver support plans for 100% of the cost of certain services to families, up to an annual per-family pay limit); see also AAMR Testifies on Family Support, 4(4) AAMR News and Notes at 1, 5 (July/Aug. 1991) (testimony of Valerie Bradley).

³⁰⁹ Family Caregiver Support Act of 1991, S. 972, 102d Cong., 2d Sess., 137 Cong.Rec. § 5137 (1991) (authorizing HHS secretary to reimburse states with approved family caregiver support plans for 100% of the cost of certain services to families, up to an annual per-family pay limit); see also AAMR Testifies on Family Support, 4(4) AAMR News and Notes at 1, 5 (July/Aug. 1991) (testimony of Valerie Bradley).

Second, the majority of participants (58%), and particularly the participants residing in group homes (76%), are employed in sheltered workshop programs. Efforts are needed to help sheltered workshop programs graduate qualified participants to integrated employment settings.³¹⁰ Third, potential information for those participants residing in supported/semi-independent living arrangements is just emerging (6% of the community participants live in this arrangement) and therefore the findings must be interpreted with extreme caution.³¹¹ For this group, the majority is, like the other groups, employed in sheltered workshops (18 of 29, 62%), with 14% (4 of 29) not employed, 10% (3 of 29) in supported, and 14% (4 of 29) in competitive employment.

The basic distribution of the cell sizes by living arrangement and employment type suggests three trends:

- (1) that approximately one-third of all the participants (421 of 1255) are unemployed;
- (2) that non-integrated sheltered employment programs will need to refocus their efforts to prepare large numbers of qualified participants for entry into the competitive workforce;³¹² and
- (3) that state and federal programs will need to be developed and funded to support the entry of qualified participants into the private sector competitive workforce.

These trends in the baseline information suggest that subsequent longitudinal study is needed to track the movement of the participants from their first less integrated employment opportunity to more integrated employment settings. Subsequent study may examine how the magnitude and speed of the movement toward integrated employment for participants is related to the phase- in implementation period of title I. Thus, much work remains to be done with regard to developing opportunities for the placement of qualified participants in integrated employment settings, consistent with the goals of title I. Two- thirds of the participants, however, are engaged in some form of employment or training program. This finding is to be contrasted with the Harris Poll for persons with disabilities in which it was found that two-thirds of the persons surveyed were unemployed.³¹³

b. Age

³¹⁰ But the relative percentage of individuals residing in group homes in supported employment (9%) and in competitive employment (9%) is predictably higher than for those participants residing in family/foster care settings. Cf. Revell, *supra* note 264, at 34 (majority of persons with mental retardation employed in sheltered workshops do not move to competitive level jobs); McCuller, Moore & Salzberg, *Programming for Vocational Competence in Sheltered Workshops*, 56(3) *J. Rehabilitation* at 41 (1990) (sheltered workshops will need to shift their focus from extended sheltered placement to placement to integrated jobs in the community).

³¹¹ This result is due, in part, to the recent trend in Oklahoma to encourage individuals with mental retardation receiving services from the state to reside in their own community living arrangements. These numbers are also expected to increase in subsequent years as one of the facilities is under court order to close and to place its clients in a relatively higher number of supported/semi-independent and independent community living arrangements. Too often, however, participants considered the "easiest" are placed first in more integrated settings. See Rogan & Murphy, *supra* note 265, at 44.

³¹² But cf. Revell, *supra* note 264, at 34.

³¹³ See Harris Poll, *supra* note 123. Note also that this study's findings are influenced by the fact that the majority of participants sampled reside currently in non-integrated institutional settings.

The cell size distribution of the ages of the participating adults is set forth in Table 2.

TABLE 2
Participant
Age
(In years)

Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	Mean=26.3 N=346	Mean=28.5 N=418	Mean=24.4 N=19	Mean=28/3 N=14	Mean=27.4 N=797
Community	Mean=28.2 N=75	Mean=31.1 N=308	Mean=31.2 N=37	Mean=33.1 N=38	Mean=30.8 N=458
	Mean=26.6 N=421	Mean=29.6 N=726	Mean=28.9 N=56	Mean=31.8 N=52	Total 28.6 N=1255
CLA*					
Foster/Family	Mean=25.0 N=49	Mean=26.4 N=32	Mean=22.7 N=3	Mean=24.0 N=5	Mean=25.4 N=89
Group Home	Mean=34.3 N=22	Mean=31.7 N=258	Mean=32.2 N=31	Mean=35.7 N=29	Mean=32.3 N=340
Supported/Semi Independent	Mean=34.0 N=4	Mean=30.8 N=18	Mean=29.3 N=3	Mean=25.2 N=4	Mean=30.3 N=29
					Total 30.8 N=458

The ages of the participants residing in the three institutional facilities range from 18 to 66 years. The average age of the participants residing in the institutional facilities was 27.4 years. Relatively older participants are engaged in sheltered workshops and, to a lesser extent, in

* Community Living Arrangement.

competitive programs. The relation between age and employment is explored more fully in multiple regression analyses in section 10 below.

The ages of the participants residing in community residences range from 18 to 68 years. The average age of the community participants was 30.8 years. The average age of those individuals residing in the community is significantly higher than of those individuals residing in institutional settings.³¹⁴ This trend will be interesting to track in subsequent longitudinal study and may have implications for understanding the nature of the emerging and aging workforce comprised of persons with mental retardation.

Closer examination of the cells displaying the three community living arrangements are helpful in understanding the relation between age, living type, and employment type. Table 2 suggests that relatively younger participants reside in foster/family care settings (mean age 25.4 years), compared to the average age for those residing in group homes (mean age 32.3 years) and in supported/semi-independent living arrangements (mean age 30.3 years).³¹⁵ Put differently, older participants appear to reside in more integrated living arrangements. The average age of the small group of participants in the most integrated cell (independent living and competitive employment), however, is comparable to the average age of those living in foster/family care. A closer look at this group reveals that for those residing in supported/semi-independent living arrangements, average age decreased as their employment became more integrated, going from 34.0, 30.8, 29.3 to 25.2, respectively. This finding may be contrasted with Schalock's national employment survey findings, showing slightly younger persons (ages 28 to 30 years) are being placed with greater frequency into competitive employment.³¹⁶

c. Gender

The distribution for the gender of the participants is presented in Table 3.³¹⁷

TABLE 3
Participant Gender
(PERCENT MALES)
Highest Employment Category

Living Arrangement	None	Sheltered	Supported	Competitive	
Institution	60.5%	59.0%	73.7%	92.3%	60.5%

³¹⁴ Test of statistical significance: $t(1252) = 7.37, p < .001$.

³¹⁵ A series of one way analysis of variance statistical tests on employment category for each type of living arrangement did not prove statistically significant: $F(3, 85) = 0.58$ for family/foster care; $F(3, 335) = 1.96, p = .12$ (close to significance level) for group home; $F(3, 25) = 0.66$ for supported/semi-independent living. These tests suggest that for each type of community residence, there are no differences between the groups of individuals in the various employment categories.

³¹⁶ See Schalock, *supra* note 306, at 84-85; see also Lewin, *As the Retarded Live Longer Anxiety Grips Aging Parents*, N.Y. Times, Oct. 28, 1980, at 1, col. 3, and at 13, col. 2 (suggesting generational changes in views of persons with mental retardation); cf. Interview with Dan Broughton, *supra* note 11 (hypothesizing that new generation of parents with young adults with disabilities have higher expectations for their children and encourage integrated activities at a younger age).

³¹⁷ The findings on gender must be interpreted with caution as a high percentage of missing data exists for this variable. See *supra* note 304. The findings are presented here only for heuristic purposes.

Community	208/344	243/412	14/19	12/13	477/788
	47.6%	49.7%	64.7%	48.0%	50.2%
	20/42	99/199	11/17	12.25	142/238
	59.1%	56.0%	69.4%	63.2%	Total 57.8%
	228/386	342/611	25/36	24/38	619/1071
CLA*					
Foster/Family	50.0%	80.0%	100.0%	100.0%	65.3%
	13/26	16/20	1/1	2/2	32/49
Group Home	35.7%	42.8%	62.5%	45.5%	44.0%
	5/14	71/166	10/16	10/22	96/218
Supported/Semi Independent	100.0%	92.3%	-%	0.0%	87.5%
	2/2	12/13	0/0	0/1	14/16
					Total 50.2%
					142/283

The participants residing in the institutional settings are approximately 60% male and 40% female.³¹⁸ For this group, a relatively larger percentage of males work in supported and competitive employment settings (74% and 92%, respectively). A somewhat smaller percentage of males are involved in sheltered workshop programs (59%). More males than females (61%) are unemployed, though this result is due somewhat to the fact that overall there are more males in the institutions. These findings for the participants residing in institutions suggest that males, relative to females, may be placed in more integrated employment settings. These preliminary findings call for future demographic study of persons with disabilities to consider gender as a variable related to employment opportunities under title I.

In the three community living settings, a somewhat higher percentage of unemployed persons are females (52%). Males in foster/family care are involved in more integrated employment activities, but this result is more mixed for those residing in group homes. Other potential patterns seem worthy of study. For example, participants living in family or in foster care settings who are working in some capacity--either in sheltered, supported, or competitive employment settings--tend to be male rather than female. Additionally, most participants in independent living are male (88%).

Traditional gender-roles and related employment opportunities may extend to persons with mental retardation. This suggestion is consistent with other findings that male employees with mental retardation work more hours per week in competitive employment settings and earn higher wages per hour.³¹⁹ Finally, the findings generally support the trends of a 1989 report of the Census Bureau showing in 1988 that only 23% of men and 13% of women with disabilities worked full time.³²⁰ The Census Bureau results together with those here suggest that women

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³¹⁸ Males generally have a higher prevalence of mental retardation than do females. Interview with Dennis Bean, supra note 11.

³¹⁹ See Schalock, supra note 306, at 86 (citing other studies); Interview with Dennis Bean, supra note 11 (noting trend consistent with societal norms for males employment patterns).

³²⁰ See Tucker, *The Americans with Disabilities Act: An Overview*, 4 U.Ill.L.Rev. 923, 926 (1989) (citing studies and results); F. Bowe, *President's Committee on Employment of the Handicapped, Disabled Women in America: A Statistical Report Drawn From Census Data* (1984) (study showing disparity in employment opportunity and wages for men and women with disabilities); R. Traustadottir, Syracuse University Center on

with disabilities may presently have particularly little employment opportunity.

2. Adaptive Equipment Needs

A primary goal of title I is for employers to reasonably accommodate employees' needs.³²¹ But, as suggested earlier, little attention has been devoted to assessing empirically the nature and magnitude of potential accommodations. As a result, employers have inadequate information about the employment-related adaptive equipment needs of employees with disabilities. The data in this section, though limited in scope, begin to develop that body of information for these participants. The information is meant to replace unsubstantiated myths and/or misconceptions with empirical information for this sample of participants, many of whom are only now beginning to enter more integrated employment settings, as suggested by the information in Table 1 above.

This section presents an exploratory composite score of adaptive equipment needs that may be useful eventually in understanding the potential scope and magnitude of accommodations in the employment relationship. The measure is based on a needs-assessment for the following four types of adaptive equipment: wheelchair/walker/brace/cane, communication device, hearing aid, and eye glasses.³²² Admittedly, the adaptive equipment studied represents only an approximation of other equipment types that the participants may need to have available for employment purposes.³²³ Also, it is not the intent to suggest that employers are required under title I to provide employees with the adaptive equipment studied. Rather, the purpose is to begin the analysis of the types of equipment accommodations that may be needed for these participants.

The composite adaptive equipment needs distribution is presented in Table 4.

TABLE 4
Composite Adaptive Equipment Needs
(PERCENT IN NEED)
Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	4.3% 15/346	3.8% 16/418	5.3% 1/19	14.3% 2/14	4.3% 34/797
Community	28.0% 21/75	6.2% 20/308	18.9% 7/37	5.3% 2/38	10/7% 49/458
	8.6%	4.8%	14.3%	7.7%	Total 6.6%

Human Policy Monographs, Employment, Equality, and Gender (1991) (review showing women with disabilities significantly worse off compared to men with comparable disabilities and arguing that research on employment opportunity for women with developmental disabilities is lacking).

³²¹ See supra notes 64-94 and accompanying text (reasonable accommodation requirements).

³²² For purposes of these analyses, adaptive equipment does not include the information collected in this project on the need for protective helmets. See supra notes 267-70 and accompanying text.

³²³ See supra notes 267-70 and accompanying text (question format for adaptive equipment needs was "Needs but does not have" or "Has or does not need"). Upon reflection, a better format would have been "Needs," "Has," or "Does not need."

	36/421	35/726	8/56	4/52	83/1255
CLA*					
Foster/Family	36.7% 18/49	12.5% 4/32	33.3% 1/3	0.0% 0/5	27.0% 24/89
Group Home	13.6% 3/22	5.4% 14/258	16.1% 5/31	3.4% 1/29	6.8% 23/340
Supported/Semi Independent	0.0% 0/4	5.6% 1/18	33.3% 1/3	25.0% ¼	10.3% 3/29
					Total 10.7% 49/458

Table 4 suggests that the participants' overall adaptive equipment needs are, in the large majority, met (adaptive equipment needed by only 7% of the participants). Only 83 of 1,255 participants require adaptive equipment (of the kind assessed here) that they are not presently receiving. This finding is to be compared with that of the Harris Poll showing almost one quarter of those surveyed not working or working part-time did not need adaptive equipment accommodations to help them work.³²⁴

For the participants residing in the institutions, 34 of 797 (4%) require some adaptive equipment. As the first row of Table 4 shows, participants residing in institutions who are not employed, in sheltered or in supported employment have relatively low adaptive equipment needs (4%, 4%, and 5%, respectively). Although based on a very small sample, participants residing at the large institutions and who were competitively employed have the highest percentage of adaptive equipment needs (14%--at least relative to the other three employment categories on the institutional line which average 4%). The trend suggests that greater attention may need to be placed on the needs of institutional residents as they venture into the community, so as to ensure integrated opportunities in employment. It also suggests that the nature of institutional settings themselves may foster less integrated equipment needs for these participants who are otherwise engaged in integrated employment.³²⁵ Overall, although for the types of adaptive equipment studied those participants residing in the institutions appear to be relatively well served, arguably, it should be that all individuals in this category (i.e., in supervised facilities) should have most if not all of their adaptive equipment needs met.

The second row of Table 4 shows that participants residing in the community display a relatively higher percentage of adaptive equipment needs (49 of 458, average of 11%) compared to those residing in institutions. This is true for those participants not employed (21 of 75, or 28%) and in supported employment (7 of 37, or 19%). This trend warrants future study, given that with the deinstitutionalization of persons with mental retardation and their continued entry into the competitive workforce, there may need to be enhanced safeguards for assuring adaptive equipment needs are met when participants reside in more integrated community residences.

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³²⁴ See Harris Poll, supra note 123

³²⁵ Interview with Dan Broughton, supra note 11 (emphasizing that demand characteristics of institutional settings and staff expectations may influence degree of participants' integration in community and employment activities).

Adaptive equipment needs may also be examined separately within the three community living arrangements. The general trend appears to be that adaptive equipment needs decrease as living type becomes more integrated and are lowest for group home residents.³²⁶ Of participants residing with their birth families or in foster care, more than one-quarter show some adaptive equipment needs (27%, or 24 of 89 participants). This finding is more pronounced for those individuals living in family settings who are not employed (37% required adaptive equipment). This suggests that the subset of participants living at home or in foster care settings who are not working may be most in need of supportive services or accommodations when they enter the employment setting.³²⁷ No suggestion is made at this point that employers will be responsible, under title I, for providing such equipment. But if this group is to be provided integrated employment opportunities under title I, closer examination is needed.

Adaptive equipment needs for the participants residing in group homes (7%) and in supported/semi-independent living (10%, but based on small sample sizes) appear relatively better met.³²⁸ Thus, although the participants' overall adaptive equipment needs appear well met, future study is needed to track the changing needs of qualified persons as they enter the employment relationship.

³²⁶ This finding may be confounded with the fact that less involved persons tend to be placed in more integrated settings. Subsequent analyses are being conducted to address this point. See *infra* notes 226-443 and accompanying text (regression analyses and partial correlation analyses). There is no reason to suspect that this pattern is based on the same individuals needing all types of adaptive equipment, as many individuals required different types of equipment. Interview with Dennis Bean, *supra* note 11.

³²⁷ Interview with Dan Broughton, *supra* note 11 (noting provision of services for this group in community settings is relatively new).

³²⁸ Other analyses explore more closely the particular types of adaptive equipment:

Wheelchair/Walker/Brace/Cane. A relatively equal percentage of participants residing in the institutions, as compared to those residing in the community, require or did not have appropriate movement aids (1% or 8 out of 796 versus 2% or 9 out of 458, respectively). The one group relatively most in need are those individuals residing in family/foster settings who are not working (highest relative percentage of 8%).

Hearing Aid. Those participants residing in the institutional setting do not show a need for hearing aids (average 1%). Those participants residing in the community have a relatively higher need for hearing aids (average 3% or 14 out of 457). With regard to the three community living setting types, none of the participants in supported/semi-independent living required but did not have hearing aids. The numbers for foster/family living and group home living are relatively low, although those participants residing in foster/family settings with no employment have relatively higher percentage needs (8%).

Communication Device. For this more complicated adaptive equipment type, participants residing at the institutions and in the community appear to have their communication equipment needs met (2% versus 4%, respectfully). The one group most in need may be those participants residing in foster care or family settings not working (22% or 11 out of 49).

Eye Glasses. For those participants residing at the institution, relatively few participants need eye glasses who did not have them (only 1%, 11 out of 796). For those participants residing in the community, eye glass needs are met relatively well, but more needs are apparent than for the institutional group (4% versus 1%). A higher percentage of need is shown for those participants who are not employed (10% or 7 out of 74). With regard to the type of community living arrangement, a pattern of need emerges for those residing in family and foster care settings--these participants' needs are highest when they are not employed (12%) or involved in sheltered workshops (9%).

Overall, although the cell numbers are too small to make any robust conclusions, it appears that those residing in group homes are relatively well served (2%), at least compared to those residing in supported/semi-independent living (10%).

3. Adaptive Behavior Scores

There are many individual skill dimensions to the general adaptive behavior indices developed in this section. These dimensions include abilities such as communication, writing, and reading.³²⁹ Adaptive behavior is analyzed as a general index of these and other individual dimensions. The individual dimensions include skills related to job complexity, money handling, etc., and are used in the analysis because they reflect employment and independent living skills for these participants.

To describe further and delineate employment-related and daily-living skill aspects of adaptive behavior, a principal components factor analysis is employed. This form of factor analysis is a practical way to reduce the number of variables required to describe behavior.³³⁰ This type of analysis is applicable to studies of complex behavior in which the goal is to generate hypotheses and descriptions in the spirit of exploratory data analyses. After exploring the results of the factor analysis, the resulting composites or "factor loadings" are used as dependent measures in subsequent analyses below.³³¹

The factor loading resulting from the principle components analysis of the individual adaptive behavior dimensions is presented in Table 5.

TABLE 5
Adaptive Behaviors
Principal Components Factor Analysis: Varimax Rotation

Variable	Employment/Social Skill	Self-Care Skill
Numbers	.843	
Reading	.832	
Interaction with Others	.829	
Time	.821	
Awareness of Others	.797	
Eating in Public	.786	
Money Handling	.785	

³²⁹ The measures of Study I do not approach data on the participants' solely from the perspective of level of mental retardation in terms of the four categorized degrees of mental retardation (i.e., mild, moderate, severe, and profound). Emphasis is refocused on level of intellectual, employment, and social skill, estimated in two ways: first, for all the participants, by assessing a functional measure of adaptive behavior score that has been suggested to be related to level of retardation. Second, for the participants in employment settings, by extrapolating from the employment providers findings on the proportion of individuals they served with the varying levels of retardation. See infra notes 507-47 and accompanying text (discussion of Study II, employment provider data). Based on extrapolations from the employment provider data, it is estimated that these participants' distribution of level of retardation is: 52% mild, 29% moderate, 15% severe, and 4% profound.

³³⁰ See Blanck, supra note 194, at 660 (principle components analysis of trial judges' behavior); Uehara, supra note 277, at 228 (applying factor analysis and finding single factor for general adaptive behavioral competence).

³³¹ As is common with this type of factor analysis, the data matrix is "rotated" (varimax rotation) to maximize the ability to interpret the resulting factors or components. Blanck, supra note 194, at 660.

Purchasing	.785	
Attention	.784	
Writing	.783	
Sentences	.776	
Food Preparations	.736	
Pre-Verbal Expressions	.734	
Participation/Group	.706	
Complex Instructions	.694	
Initiative	.662	
Sense of Direction	.660	
Job Complexity	.594	
Walking/Running		.905
Body Balance		.891
Drinking		.848
Self-Care/Toileting		.818
Toileting		.806
Use of Table Utensils		.792
Dressing		.784
Shoes		.745
Washing Hands and Face		.712
Table Clearing		.707
Care of Clothing		.693
Bathing		.675
Room Cleaning		.668
Personal Belongings		.588

Table 5 shows that the factor analysis results in two general factors or composites of behavior. The first factor is labeled Employment/Social Skill and appears in the center column of the table.³³² A participant scoring high on this factor shows the following pattern of employment/social abilities and skills:

- numbers: does simple addition or subtraction;
- reading: reads books at nine year old level or older;
- interaction with others: interacts for more than five minutes;
- time: tells time by watch or clock correctly;
- awareness of others: recognizes and knows information about family, friends, and co-workers;
- eating in public: orders complete meals in restaurants;
- money handling: uses money with little or no assistance;
- purchasing: chooses and buys own clothing without help;
- attention: pays attention to purposeful activities for more than twenty minutes;
- writing: writes lists, memos, and letters;

³³² This factor accounted for 55% of the variance. Eigenvalues of the reduced correlation matrix are 25.03 for the first factor, 1.62 for the second, .72 for the third, and .48 for the fourth, supporting the two factor interpretation. Eigenvalues are sum of squared factor loadings. See Rosenthal & Rosnow, *infra* note 339.

- sentences: sometimes uses complex sentences;
- food preparation: prepares complete meals;
- pre-verbal expression: can sign or say at least a few words;
- participation in groups: initiates or participates in group activities;
- complex instructions: understands instructions about placement of items, order in which things must be done, or requiring a decision;
- initiative: initiates most of own activities;
- sense of direction: goes several blocks from residence without getting lost; and
- job complexity: involved with competitive or supported employment or goes to workshop.

A participant scoring high on the Employment/Social factor may be considered to have a high level of adaptive behavior related to the above-listed employment tasks.

A second factor is labeled Self-Care Skill and appears in the right column of the table.³³³ A participant scoring high on this factor shows the following pattern of abilities and skills:

- walking/running: walks, runs alone;
- body balance: can stand on tiptoes for ten seconds;
- drinking: drinks without spilling, holds glass in one hand;
- self-care at toilet: cares for self at toilet without help;
- toileting: never has toilet accidents;
- use of table utensils: uses utensils correctly;
- dressing: completely dresses self;
- shoes: puts on shoes correctly without assistance;
- washing hands and face: washes with soap and water;
- table clearing: clears meal table without help;
- care of clothing: cleans, hangs, and washes clothing;
- bathing: bathes unaided;
- room cleaning: sweep, vacuum, and tidy room; and
- personal belongings: dependable in taking care of belongings.

The delineation of the two composite adaptive behavior measures (Employment/Social Skill and Self-Care Skill) may be useful for several reasons.³³⁴ First, the analyses show practical, interpretable, and externally-valid means for measuring behavior. Such analyses may be useful, for example, in analyzing the complex relationship between the self-care skills of qualified persons with severe disabilities and employers' obligation under title I to provide job-related accommodations. Some advocates argue that unless employers provide personal assistance (e.g., self-care toileting skills studied here) to qualified employees with severe disabilities, these workers will not be able to retain their jobs.³³⁵ The delineation of the composites of adaptive behavior begins the more fine-grained analysis of the nexus among abilities that are related to employment or self-care and the extent to which they must be considered by employers in

³³³ The factor accounts for 45% of the variance. See *supra* note 332.

³³⁴ Cf. Blanck, *supra* note 194, at 666 (noting precision of ratings of behavior as an advantage of this method).

³³⁵ Holmes, *Advocates of Disabled Workers Say New Rules Don't Do Enough*, N.Y. Times, July 26, 1991, § A, at 10, col. 5 (citing advocate, "I would argue that if a person cannot go to the bathroom during the day, then the accommodation is job-related").

making the decision to provide reasonable accommodations.

Second, unlike prior empirical research, the composites may enhance the understanding of other variables assessed in this project that are relevant to the description of employment of self-care abilities of persons with mental retardation.³³⁶ In the following analyses, the general index and the two composites of adaptive behavior are explored.³³⁷

a. General Index of Adaptive Behavior

This analysis explores the relationship between the index of adaptive behavior with employment and living arrangement type.³³⁸ Table 6 presents these relationships.³³⁹

TABLE 6
General Index of
Adaptive Behavior
Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	Mean=25.9 N=346	Mean=48.2 N=418	Mean=77.5 N=19	Mean=73.7 N=14	Mean=39.7 N=797
Community	Mean=55.8 N=75	Mean=81.3 N=308	Mean=87.7 N=37	Mean=91.7 N=38	Mean=78.5 N=458
	Mean=31.2 N=421	Mean=66.2 N=726	Mean=84.2 N=56	Mean=86.9 N=52	Total 53.9 N=1255
CLA*					
Foster/Family	Mean=50.2 N=49	Mean=77.5 N=32	Mean=84.1 N=3	Mean=93.0 N=5	Mean=63.6 N=89
Group Home	Mean=54.0 N=22	Mean=81.4 N=258	Mean=87.4 N=31	Mean=91.6 N=29	Mean=82.0 N=340
Supported/Semi Independent	Mean=88.5 N=4	Mean=79.3 N=18	Mean=91.9 N=3	Mean=93.0 N=4	Mean=83.8 N=29
					Total 78.5 N=458

Table 6 shows that the index of adaptive behavior is related to employment and living type. First, the findings show that adaptive behavior scores increase substantially (almost linearly) as

³³⁶ Similar behavioral composites could be developed for persons with other types of disabilities covered under title I, and then used to predict aspects of the employment relationship.

³³⁷ Each of the two factor-based variables of adaptive behavior are defined as the mean of the variables included on that factor with the sign of the loading taken into account. Standardizing of the variables was not employed prior to computing the means of the two factors because the variables were relatively homogeneous. See Blanck, supra note 194, at 666 n. 62 (the measure of judges' factor-based behavior).

³³⁸ The participants' skill levels on the individual adaptive score items are on file with the author. Adaptive behavior scores on the general index will range from 0 to 100. The two composite measures (Employment/Social and Self-Care skill) add to 100.

³³⁹ Analysis of Variance ("ANOVA") is also used to test the significance of the difference between the cell means. See R. Rosenthal & R.L. Rosnow, *Essentials of Behavioral Research: Methods and Data Analysis* 268 (2d ed. 1990).

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employment type becomes more integrated (mean adaptive behavior scores, respectively, 31 for those not employed, 66 for those in sheltered workshops, 84 for those in supported employment, and 87 for those in competitive employment). This finding is true regardless of living type.³⁴⁰ This result suggests a strong relationship between general adaptive skill and the placement of participants in integrated employment.

Second, the findings show that type of living arrangement is related to overall adaptive behavior scores. General adaptive behavior scores increase as living arrangement becomes more integrated (the mean scores are 40 in institutional, 64 in foster/family, 82 in group homes, and 84 in supported/semi-independent living settings). This result is substantial and statistically significant.³⁴¹ The findings are also dramatic when comparing just the institutional average for the index of adaptive behavior to the average of the community living settings (means = 40 versus 78, respectively).³⁴²

The two basic findings, that general adaptive behavior skill is related to placement of these participants in more integrated employment and living settings suggests, but does not prove, that higher functioning participants (persons with more mild disabilities) may have more integrated employment and living opportunities available to them. The question remains, however, to what extent the protections of title I will alleviate access problems for the potentially segregated group of qualified persons with more complex disabilities (persons of lower functioning abilities). This issue is revisited below in light of the affirmative goal of title I to increase employment opportunities for those most in need of its protections, that is, qualified persons with complex disabilities.

There are other important relationships suggested in Table 6 among general adaptive behavior and employment and living type. For example, general adaptive behavior scores are the lowest for those participants not employed (overall mean = 31.2), particularly for those who live in institutional, family/foster care, and group home settings. Scores are substantially higher for those in competitive employment (for all participants mean = 86.9). This is particularly true for those residing in the community (mean = 91.7).

Another potentially important finding relates to those participants in supported and competitive employment residing in institutions. These groups show relatively high scores within the sample of participants residing in institutions (mean = 77.5 and 73.7, respectively). The encouraging (and potentially de-stigmatizing) finding implies that this qualified group is employed successfully in integrated settings even though their average scores are substantially lower than those similarly employed participants who reside in the community. Of course, this finding may be influenced by the type of competitive employment placements available to institutional versus community participants and further study is warranted.³⁴³

Finally, the foster/family and group home settings show strong increases in adaptive behavior scores as employment level increases. Yet, participants in supported/semi-independent settings

³⁴⁰ In terms of the ANOVA test, $F(3, 1241) = 113.63, p < .001$.

³⁴¹ $F(3, 1241) = 154.52, p < .001$.

³⁴² Two group t-test-- $t(1252) = 26.6, p < .001$.

³⁴³ Two group t-test-- $t(1252) = 26.6, p < .001$.

show relatively high adaptive behavior scores even when not employed. This finding suggests that something other than adaptive skill may be preventing some of these individuals from being employed (e.g., physical barriers to integrated employment).³⁴⁴ Future study is warranted to understand the needs and motivations of this employable group of participants and the protections that title I may afford them in seeking such opportunities.³⁴⁵ This idea is revisited in section 5 below, which explores issues related to income and financial incentives to work.

b. Composites of Adaptive Behavior

These analyses highlight the relationship between each of the two factor- based measures of adaptive behavior--Employment/Social Skill and Self-Care Skill--and the degree of integration in employment and living type. Many of the results are consistent with the findings for the general index of adaptive behavior and will not be repeated.

Table 7 presents the mean scores for the Employment/Social Skill composite.

TABLE 7
Adaptive Behavior
Employment/Social Behavioral Composite
Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	Mean=11.2	Mean=21.2	Mean=35.6	Mean=31.2	Mean=17.4

³⁴⁴ See infra notes 426-43 and accompanying text (regression analyses). In the ANOVAs performed, for the overall adaptive behavior score, the statistical interaction between living arrangement and type of employment is significant ($F(9, 1147) = 2.61, p = .006$). Therefore, the analyses can also be described within each type of living arrangement as follows: for persons residing in the institutions, level of employment rises dramatically with adaptive behavior scores; this group also has the lowest overall scores, especially those not employed. Scheffe follow-up tests reveal that those not employed have the lowest scores, with those in sheltered employment moderately higher, and those in supported and competitive employment at the highest levels (mean scores = 25 for not employed, 49 for sheltered workshops, 78 for supported, and 74 for competitive employment; $F(3, 793) = 80.58, p < .001$).

For persons residing in the group homes or in foster/family care, level of employment increases with adaptive behavior scores at comparable rates ($F(3, 373) = 1.09, p = .35$), so the scores for these two groups may be compared together (for two groups, mean scores = 54 for not employed, 81 for sheltered workshops, 87 for supported, and 92 for competitive employment; $F(3, 424) = 36.33, p < .001$). There is a difference, however, between foster/family care and group home residents in overall adaptive behavior score ($F(1, 426) = 6.87, p = .01$). Persons in group homes show higher adaptive behavior scores. Scheffe follow-up tests reveal that persons not employed have the lowest scores. Sheltered, supported, and competitive employment show sequentially higher scores. Of these last three groups, only sheltered and competitive employment groups differ significantly at the $p < .05$ level. For persons living in supported/semi-independent living settings, adaptive behavior scores do not increase uniformly with employment level. Thus, those persons in supported/semi-independent living with no employment appear to be different (showing higher scores) in adaptive behavior than would be predicted. Further study of this group is warranted.

Finally, it is important to note that level of general adaptive behavior scores for those in supported and competitive employment ranged from 31 to 100 and 45 to 100, respectively. This suggests that persons with relatively lower adaptive behavior scores can be successfully employed in more integrated employment settings. Analogous analyses for the two composite measures have been conducted.

³⁴⁵ When persons not employed are eliminated from the analysis of participants in supported/semi-independent living, the predicted linear relationship between general adaptive skill and level of employment integration is apparent. In terms of the ANOVA tests, $F(2,222) = 4.30, p = .03$.

Community	Mean=27.4 N=75	Mean=39.6 N=303	Mean=44.1 N=37	Mean=46.8 N=38	N=788 Mean=38.9 N=453 Total 25.2 N=1241
	Mean=14.1 N=418	Mean=30.0 N=715	Mean=41.2 N=56	Mean=42.6 N=52	
	Mean=25.0 N=49	Mean=38.3 N=32	Mean=44.5 N=3	Mean=49.1 N=5	
Foster/Family	Mean=29.7 N=22	Mean=40.0 N=253	Mean=43.7 N=31	Mean=46.3 N=29	Mean=40.2 N=335
Group Home	Mean=43.6 N=4	Mean=37.4 N=18	Mean=47.1 N=3	Mean=47.5 N=4	Mean=40.7 N=29
Supported/Semi Independent					Total 38.9 N=453

Predictably, Table 7 shows that Employment/Social Skill is higher for those in more integrated employment settings (means = 14.1, 30.0, 41.2, and 42.6, respectively).³⁴⁶ Likewise, Employment/Social Skill is related to community living type, with higher scores apparent in more integrated living arrangements (means = 17.4, 31.8, 40.2, and 40.7, respectively).³⁴⁷ The lowest scores are shown for those not employed and living in institutional settings (mean = 11.2). Highest scores are shown generally for those in supported and competitive employment, regardless of living type (means = 41.2 and 42.6, respectively). Institutional versus community groups differ significantly on the Employment/Social Skill composite.³⁴⁸

Table 8 presents the mean scores for the Self-Care Skill composite.

TABLE 8
Adaptive Behavior
Self-Care Behavioral Composite
Highest Employment Category

Living Arrangement	None	Sheltered	Supported	Competitive	
Institution	Mean=14.6 N=342	Mean=27.1 N=414	Mean=41.9 N=19	Mean=42.4 N=14	Mean=22.3 N=789
Community	Mean=28.2 N=73	Mean=41.7 N=306	Mean=43.6 N=37	Mean=45.1 N=37	Mean=40.0 N=453
	Mean=17.0 N=415	Mean=33.3 N=720	Mean=43.0 N=56	Mean=44.1 N=51	Total 28.8 N=1242
CLA*					
Foster/Family	Mean=24.9 N=48	Mean=39.2 N=32	Mean=39.6 N=3	Mean=43.9 N=5	Mean=31.7 N=88
Group Home	Mean=32.6 N=21	Mean=42.0 N=256	Mean=43.9 N=31	Mean=45.2 N=28	Mean=41.9 N=336
Supported/Semi	Mean=44.9 N=4	Mean=41.9 N=18	Mean=44.8 N=3	Mean=45.5 N=4	Mean=43.1 N=29

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³⁴⁶ This trend is statistically significant, $F(3, 1224) = 100.4, p < .001$.

³⁴⁷ $F(3, 1224) = 205.6, p < .001$.

³⁴⁸ $t(1238) = 28.5, p < .001$.

* Community Living Arrangements

Independent

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Total 40.0
N=453

Table 8 shows that Self-Care Skill is higher for those in more integrated employment settings (means = 17.0, 33.3, 43.0, and 44.1, respectively).³⁴⁹ Likewise, Self-Care Skill is related to community living type, with higher scores apparent in more integrated living arrangements (means = 22.3, 31.7, 41.9, and 43.1, respectively).³⁵⁰ The lowest scores are shown for those not employed and living in institutional settings (mean = 14.6). As might be expected, higher scores are shown generally for those in community settings as compared to institutional settings (means = 40.0 versus 22.3, respectively).³⁵¹

Together, the analyses of the index and two factor-based measures of adaptive behavior suggest several avenues for future research. First, additional analyses of the three measures are necessary to understand how they predict the placement and long-term success of qualified persons with disabilities in varying types of employment. Second, a major implication of the findings is that higher adaptive behavior scores alone do not necessarily predict placement in more integrated work settings. In fact, many of the participants with relatively lower scores appear to be placed (presumably successfully) in both supported and competitive employment settings. Conversely, several participants with relatively higher adaptive behavior scores are not employed. Understanding of the needs, skills, and incentives related to employment may reduce stigma by employers against employing persons with different levels of abilities, as well as enhance employment opportunity generally for qualified persons with disabilities. These issues are examined further in the multiple regression analyses in section 10 below and in Study II.

4. Medical Needs

The composite measure in this section explores the general medical needs for these participants. The medical needs assessed include: (1) general urgency of need for medical care, (2) prior contact with medical personnel, and (3) prior difficulty in receiving medical services.³⁵² Table 9 shows the results for the composite measure of medical needs.

TABLE 9
General Medical Needs
(NUMBER NEEDED)
Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	Mean=2.8 N=345	Mean=2.6 N=417	Mean=3.3 N=19	Mean=2.9 N=14	Mean=2.7 N=795
Community	Mean=1.8 N=74	Mean+1.2 N=306	Mean=0.9 N=37	Mean=0.9 N=37	Mean+1.2 N=454

³⁴⁹ F(3, 1226) = 101.1, p < .001.

³⁵⁰ F(3, 1226) = 104.0, p < .001. Compare this finding with notes 335- 37 supra and accompanying text (nexus between employment and self-care skills and needs).

³⁵¹ t(1240) = 21.5, p < .001.

³⁵² A higher score indicates a relatively greater general need for medical services.

	Mean=2.6 N=419	Mean=2.0 N=723	Mean=1.7 N=56	Mean=1.4 N=51	Total 2.2 N=1249
CLA*					
Foster/Family	Mean=1.8 N=49	Mean=1.3 N=31	Mean=0.3 N=3	Mean=0.8 N=5	Mean=1.5 N=88
Group Home	Mean=1.9 N=21	Mean=1.2 N=257	Mean=1.1 N=31	Mean=0.9 N=28	Mean=1.2 N=337
Supported/Semi Independent	Mean=1.0 N=4	Mean=1.1 N=18	Mean=0.0 N=3	Mean=0.8 N=4	Mean=.9 N=29
					Total 1.2 N=454

Those participants residing in the institutions show greater medical needs than those residing in the community (mean for institution is 2.7 versus mean for community is 1.2).³⁵³ As community living arrangement becomes more integrated, general medical needs decrease substantially: mean for foster/family care is 1.5, for group homes is 1.2, and for supported/semi-independent living is .9.³⁵⁴ This finding is consistent with the historic trend to place persons with more severe and complex medical needs in less integrated living arrangements.³⁵⁵

The question remains whether persons with less pressing medical needs have greater opportunity for integrated employment and living. The findings show that as employment type becomes more integrated, medical needs decrease somewhat for all participants (means = 2.6, 2.0, 1.7, 1.4, respectively).³⁵⁶ It is not apparent from this analysis, however, that persons with fewer medical needs necessarily have more opportunities for integrated employment. Several participants residing in institutions are competitively employed, yet show the highest level of medical needs (mean = 2.9). The findings suggest that the degree of medical needs alone may

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³⁵³ Difference between the means is significant, $t(1275) = 13.67, p < .001$.

³⁵⁴ $F(1, 451) = 4.03, p = .05$.

³⁵⁵ Interview with Dan Broughton, supra note 11 (historical trend still prevalent in many states).

³⁵⁶ $F(3, 1244) = 13.46, p < .0001$. The individual components of the composite measure are also interesting to mention. For example, the majority of participants did not show an urgent (life-threatening) need for medical care (88% overall, 84% for those residing in institutions, and 96% for those residing in the community). For all participants, more integrated levels of employment are related to relatively less urgent need for medical care: 82% for those not employed, 90% for those in sheltered workshops, 96% for those in supported employment, and 96% for those in competitive employment. In addition, for all three types of community settings, there was not a general urgency for medical care: 92% in foster/family settings, 97% in group homes, and 97% in supported/semi-independent living. Also examined are the degree of prior contact with medical personnel; specifically, how often these participants need to see a doctor or nurse during the week. A much higher percentage of participants residing in the institutions see a doctor or nurse regularly (32%) than those residing in the community (5%). Future study is warranted to explore access to medical services based on living type. For all participants, more integrated levels of employment are related to less frequent visits to a doctor or nurse: 30% for those not employed, 19% for those in sheltered workshops, 21% for those in supported employment, and 14% for those in competitive employment. Another important issue is whether the participants have difficulty in receiving medical services. As might be expected, restricted access to medical care was somewhat less for those participants residing in the institutions (.9%) than for those residing in the community (5%). Overall, access to medical care is very good, with only 30 out of 1249 (2%) participants expressing some trouble receiving medical care. No participants in competitive employment reported any trouble receiving medical services (0 out of 51 or 0%).

not predict integrated employment opportunities for these participants.

The measures of general medical needs are basic, preliminary, and limited in their scope. Nevertheless, little adequate data are available about the general medical needs of persons with disabilities, and particularly how such needs may impact on the employment relationship. For example, advocates for persons with disabilities and the EEOC itself are considering whether some large employers with medical departments might be required to provide self-care and medically related accommodations for their qualified employees with disabilities.³⁵⁷ As employed below in regression analyses, the composite measure of medical needs (or others like it) may be one way to help organize medical information as a predictor of employment opportunity and to assess potential level of need for accommodation required under title I.

5. Financial Information, Citizenship, and Advocacy

This section explores various types of financial and citizenship information that may prove useful in the analysis of title I and other issues related to the ADA.

a. Income

Table 10 displays average monthly income for the participants, broken down by their type of employment and living arrangement.

TABLE 10
Average Monthly Income (in rounded dollars)
Highest Employment Category

Living Arrangement

	None	Sheltered	Supported	Competitive	
Institution	Mean=113 N=333	Mean=145 N=402	Mean=163 N=18	Mean=233 N=14	Mean=133 N=767
Community	Mean=334 N=73	Mean=416 N=276	Mean=440 N=24	Mean=472 N=35	Mean=407 N=408
	Mean=153 N=406	Mean=255 N=678	Mean=322 N=42	Mean=404 N=49	Total 228 N=1175
CLA*					
Foster/Family	Mean=351 N=49	Mean=387 N=30	Mean=402 N=3	Mean=351 N=5	Mean=365 N=87
Group Home	Mean=284 N=20	Mean=421 N=228	Mean=479 N=18	Mean=480 N=27	Mean=421 N=293
Supported/Semi Independent	Mean=381 N=4	Mean=398 N=4	Mean=247 N=3	Mean=600 N=3	Mean=401 N=28
					Total 407 N=408

There is a wide disparity in the average monthly income of participants residing in institutions and of those residing in the community (\$133 versus \$407, respectively).³⁵⁸ There is also a trend showing that as living type becomes more integrated, average monthly income rises (means =

³⁵⁷ See Holmes, supra note 335, at 10, col. 5.

* Community Living Arrangements

³⁵⁸ The disparity is statistically significant, $t(1200) = 20.02, p < .001$.

\$133, \$365, \$421, and \$401, respectively).³⁵⁹ Living arrangement is thus related directly to income for these participants. Participants residing in the institutions who are not employed likely only receive Social Security Income ("SSI") benefits as their primary monthly income (average of \$113).³⁶⁰ At the same time, persons residing in the community who are not employed receive almost three times the average monthly income (average of \$334) of those residing in institutions.

More study is needed to understand the apparent disparity in income for those residing in various degrees of integrated living. And, more work is needed to understand how this disparity may act as a disincentive to work for those residing in the community.³⁶¹ A shortcoming of the analysis in Table 10 is that, without controlling for severity of disability, it is not clear whether income disparity and related unemployment are due to disincentives in the disability benefit system or to the functional limitations of the participants.³⁶² The regression and partial correlational analyses in section 10 below begin to address this issue by controlling for the independent effects of behavioral skill in modeling the degree of integration in employment for these participants.

Consistent with the findings of Toward Independence described above, income levels and related disability support programs may reflect an overemphasis on income support and an underemphasis on initiatives for independence and self-sufficiency for those residing in the community.³⁶³ The wage disparity results also echo the EEOC's findings in its proposed regulations for title I.³⁶⁴ The EEOC concludes that wage disparities result in higher unemployment for persons with disabilities. Further study of this issue for this population of persons with disabilities seems warranted and the longitudinal follow-up studies of this project may begin to shed light on this issue.

In the community settings, participants' average monthly income in foster/family care settings is \$365, in group homes is \$421, and in supported/semi-independent settings is \$401. The higher average for those in group homes appears to be due primarily to the large number of individuals in this group who are receiving relatively higher income in sheltered workshops.

³⁵⁹ $F(1, 1173) = 364.93; r = .49, p < .0001.$

³⁶⁰ Interview with Dennis Bean, *supra* note 11.

³⁶¹ Cf. Harris Poll results, *supra* note 123 and accompanying text (66% of those persons with disabilities interviewed who were not working would like to have a job); see also Poole, Competitive Employment of Persons With Severe Physical Disabilities: A Multivariate Analysis, 53 *J. Rehabilitation* 20 (1987) (noting Supplemental Security Income ("SSI") and Social Security Disability Insurance ("SSDI") reduce or eliminate motivation of a beneficiary to work); Sav, Benefit-Cost Analysis of Transitional Employment Programs, 55(2) *J. Rehabilitation* 44 (1989) (placement of persons with disabilities into competitive employment generates direct and indirect benefits for participants and society).

³⁶² See Poole, *supra* note 361, at 20.

³⁶³ See *supra* notes 306-13 and accompanying text (noting more emphasis also needed by private sector to promote opportunities and independence for individuals with disabilities); see also tenBroek & Matson, The Disabled and the Law of Welfare, 54 *Cal.L.Rev.* 809, 830 (1966) (casting welfare support as a system of governmental paternalism over persons with disabilities).

³⁶⁴ See *supra* notes 306-13 and accompanying text (persons with disabilities had higher unemployment rate than persons without disabilities).

The findings in the columns of Table 10 are predictable; that is, average monthly income increases as employment type becomes more integrated.³⁶⁵ For this sample, those 406 participants not employed earned an average of \$153 per month (putting aside the disparity between institutional and community residents). Those working in sheltered workshops earned an average of \$255 per month (again this average lower for those residing in the institutional versus the community setting--\$145 versus \$416 per month).³⁶⁶ Those in supported employment earned an average of \$322 per month (this average lower for those residing in institutions than in the community-- \$163 versus \$440 per month). Those in competitive employment earned an average of \$404 per month (this average income is again substantially lower for those residing in the institutions than in the community--\$233 versus \$472 per month).

The findings for income are based on results with varying cell sizes and require more fine-grain investigation. But clearly the group with the highest monthly income is comprised of those participants residing in the most integrated setting (supported/semi-independent living) who are also competitively employed (average income of \$600 per month). Still, this result is based on only three individuals. More empirical work is needed to understand the financial limits, incentives, and benefits available to persons with mental retardation and the implication funding streams have for enhancing employment opportunity under title I.³⁶⁷ A related issue may involve the extent to which fiscal incentives for service providers of persons with disabilities vary with the degree of integration in living arrangements. A recent comprehensive study of wages and turnover of direct care staff workers in residential programs for persons with mental retardation reveals significant differences in compensation and turnover rates between staff employed in publicly-operated institutions and those working in more integrated community

³⁶⁵ Statistical test for this trend is significant: $F(3, 1171) = 24.34, p < .001; r = .24, p < .0001$. See also Kregel, Wehman & Banks, *The Effects of Consumer Characteristics and Type of Employment Model on Individual Outcomes in Supported Employment*, 22 *J. Applied Behavior Analysis* 407, 413 (1989) (longitudinal data showing higher wages in more integrated employment).

³⁶⁶ See Revell, *supra* note 264, at 34 (average earnings in sheltered work leave participants financially dependent on government participation, usually require reliance on public subsidy).

³⁶⁷ The project also measured the participants' average expenses per month for services (likely tabulated as a function of SSI and SSDI benefits). The pay per month for services for those residing in the institutions and those residing in the community is relatively the same (\$176 versus \$199). Therefore, the income disparities may not alone be a function of enhanced pay for services by those residing in less integrated settings. But for those not employed, pay per month is greater for those residing in the institution than for those residing in the community (\$166 versus \$111). For those residing in the community who are in some form of employment program (sheltered, supported or competitive), however, their monthly pay is consistently higher than for those residing in the institution. For example, pay per day is \$161 for institutionalized participants in competitive employment and \$201 for community participants in competitive employment.

When the community living arrangement data are explored, those participants residing in foster/family care settings have the lowest monthly pay for services (average per day of \$80). Those in group homes have \$226 and those in supported/semi-independent living have \$141 pay for services per month. More study is needed to understand the relation of the relative cost of support services for persons with disabilities to varying degrees of integrated employment and living types. See D. Braddock, *Public Policy Monograph Series, No. 2, Federal Spending for Mental Retardation and Developmental Disabilities* (1985) (estimating that 581,000 persons with developmental disabilities received SSI payments in 1984 and another 362,000 persons received SSDI payments that year).

settings.³⁶⁸ Thus, participant and support staff income levels (e.g., fiscal incentives) may be related to the degree of integration in living settings.

The findings for these participants' income levels highlight the need for study of the relation among employment opportunity, individual incentive to work, and governmental support programs for persons with disabilities. As tenBroek and Matson suggested some twenty-five years ago, to the extent that such efforts can be "committed to the goals of integration--that is, of economic opportunity, social equality, and personal dignity," they will capture the spirit of title I.³⁶⁹

b. Citizenship and Advocacy

Participants residing in institutions are more likely to have a court appointed guardian (77% or 576 of 747), compared to those residing in the community (26% or 115 of 445). This finding is true for residents of the institutions regardless of their degree of integration in employment. This finding may flag a potential procedural barrier to employment for qualified participants in institutional settings.

Almost half of those participants residing in foster/family settings have a court appointed guardian (48%). Those individuals residing in group homes and supported/semi-independent living are less likely to have guardians appointed (21% and 24%, respectively). With regard to the employment types, those individuals in some form of employment (excluding persons living in institutions) are less likely to have court appointed guardians (22% for sheltered, 22% for supported, and 24% for competitive employment), relative to the those not employed (average of 45%).³⁷⁰ Thus, participants residing in the community appear to have a more direct voice in their employment and daily care opportunities, at least in the sense that they are less likely to have a guardian. For many of the participants residing in institutions (but who in the future may reside in the community), future emphasis will need to be placed on educating the participants or their guardians on employment opportunities under title I.

The information in this section also explores the participants' level of involvement in self-advocacy groups. The level of advocacy participation of those residing in the institutions is relatively low (8%, or 56 out of 746 participants). This conclusion is apparent when compared to the level of advocacy participation by those residing in the community (36% participation, or 158 of 440 participants). When advocacy participation is examined by community living arrangement, those in supported/semi-independent living arrangements (the most integrated living setting) show the relative lowest level (21%), those in foster/family settings show a 25% level, and those with the highest level of participation reside in group homes (40%).

One finding that may be helpful for understanding employment opportunities under title I is that employment type appears to be related to level of advocacy participation for all participants. For participants living in the community, level of advocacy involvement increases linearly with the degree of employment integration: 28% for those not employed, 36% for those in sheltered

³⁶⁸ D. Mitchell, *Research on Wages and Turnover of Direct Care Staff in Residential Facilities for People with Developmental Disabilities: An Annotated Bibliography*, Monograph #52, UAP in DD (1991).

³⁶⁹ tenBroek & Matson, *supra* note 363, at 840.

³⁷⁰ Cf. Interview with Dan Broughton, *supra* note 11 (historically higher functioning individuals more likely to be employed).

employment, 38% for those in supported employment, and 49% for those in competitive employment.³⁷¹ Thus, employment integration may be related to (or enhance) involvement by participants in self-advocacy groups or vice versa. This link warrants further longitudinal analysis and suggests promising possibilities for developing strategies for enhancing equal employment opportunity as guaranteed by title I.

Along similar lines, "People First" self-advocacy groups for persons with development disabilities have organized in almost every state.³⁷² For example, in Washington State, People First is a self-advocacy group made up of individuals with and without developmental disabilities. The group aids people with developmental disabilities in making choices about daily living and employment issues. The appropriate sharing of information between employers and self-advocacy groups like People First will likely prove an important link in enhancing employment opportunity for persons with disabilities.

The project also explores two issues related to the exercise of legal citizenship rights: (1) whether the participant sought legal assistance in the past year generally, and (2) whether the participant sought legal assistance in the past year related to his or her civil rights. The level of legal assistance sought in the past year is relatively low (4% for all the participants, 3% for institutional, and 6% for community participants). Comparative information for persons without disabilities is required to assess the relative magnitude of these trends. The one group that shows a relatively high level of legal assistance are those individuals residing in foster/family settings who not employed (19%, or 9 out of 48 participants). All participants, however, show a slight trend that level of legal assistance increases as employment type becomes more integrated: 3% for not employed, 4% for those in sheltered workshops, 7% for those in supported employment, and 6% for those in competitive employment.³⁷³ Subsequent analysis is required of the type of legal assistance sought and its potential relevance to employment issues. This analysis may help dispel employer's concerns about the "liability" of employing persons with disabilities. Study II below explores this issue further.

The level of legal assistance sought in the past year on civil rights issues is also relatively low for all the participants (average 6% seeking assistance). This finding is relatively higher for those residing in the institutions (7%) as compared to those in the community (3%). This result supports the view that civil rights issues (e.g., those most likely related to institutional living) are more frequently raised in larger aggregate care facilities. But noteworthy is the finding that for the small sample of individuals in the most integrated living setting (twenty-nine persons in supported/semi-independent living), no civil rights issues were raised in the past year. The tracking and monitoring of legal concerns and the rate type, and success of of filings of claims related to title I may provide a useful tool for assessing the effectiveness of the Act.

6. Service Planning and Delivery

The measures in this section highlight levels of (1) service planning goals related primarily to training in employment skills for these participants, and (2) programing and training actually

³⁷¹ This trend is statistically significant, $F(1, 442) = 5.35, p = .03$.

³⁷² New Directions: People First of Washington Provides Informed Choice and Advocacy, 21(6) Pub. Nat'l Association of State Mental Retardation Program Directors 1, 2 (June 1991).

³⁷³ $F(1, 223) = 2.20, p = .14$.

received for these service goals.³⁷⁴ These measures explore the extent to which education and training programs translate into employment services for these participants.

Like earlier analyses, a composite of degree of service planning is developed. The composite describes the average number of employment-related service planning goals for the participants, consisting of measures of training opportunity for work abilities, communication, attendance, and citizenship skills.

The findings suggest several points of interest. First, participants residing in the institutions have somewhat more employment-related goals, as compared to those residing in the community (four versus three, respectively).³⁷⁵ Second, for those participants residing in the community, the average number of employment-related skill goals is lowest for those in competitive employment (average of two across all living types).³⁷⁶ Thus, assuming comparable skill levels exist, employment-related goals may either be satisfied or less central to the development of employment opportunity as individuals develop "on the job training" in more integrated employment settings. As developed in section 10 below, this result may not be due solely to the higher level of skill or functioning of the participants engaged in competitive employment.

The number of employment planning goals is not related to degree of integration in community living (average goals are three for all community living types). But consistent with earlier suggestions, there appears to be a major effort to provide employment-related goals for those participants in supported/semi-independent living who are not employed (average number of goals for this group is thirteen).³⁷⁷ Next, an attempt is made to measure the amount of actual

³⁷⁴ The findings for service planning issues regarding employment, community living, and general self-care goals are defined by the particular participant's Individual Program Plan ("IPP"). Interview with Dennis Bean, *supra* note 11. The numbers in the tables are the average service planning goals in the particular area for that group of participants.

³⁷⁵ $t(1208) = 3.20, p = .001$. For a relatively small number of participants residing in the institutions who are in supported employment (cell size = 19), the number of employment-related training goals jumps to an average of 8 per participant. Study of this sub-group is underway.

³⁷⁶ This finding is consistent with Schalock, *supra* note 306, at 83.

³⁷⁷ Several of the components of the employment-related composite are useful to examine more closely. For example, findings are available for training in "basic" employment skill goals. These skill goals relate to the development of employment related abilities such as food service, packaging, construction, machine operation, delivery and maintenance, among others. The results show that about the same emphasis is placed on basic job skill goals for those residing in the community (.7 goals) and for those residing in the institutions (.6 goals). As might be expected, those individuals in some form of work setting have somewhat more basic employment skill goals: .3 for those not employed, .8 for those in sheltered workshops, 1 for those in supported employment, and .8 for those in competitive employment.

General work skill goals relate to the development of employment abilities such as following directions, increasing the motivation to work, interviewing and application skills, and relations with co-workers. Somewhat greater emphasis is placed on these skills in the institutional (1.0) versus the community setting (.7). The results for level of goals with regard to employment type are for those not employed .8 goals, sheltered employment .9 goals, supported employment 1.3 goals, and competitive employment .5 goals.

Attendance and production work skill goals relate to the development of employment related abilities such as attendance, punctuality, task orientation, production rates, and accuracy. Findings here show that equal emphasis is placed on these work skill goals for those residing in the community (.5 goals) versus for those residing in the

employment- related services received (as compared to the planned goals) in the four week period preceding the data collection for the project. Participants are asked to list the average number of hours of service received from trainers or providers in the following areas:

- (1) pre-vocational training, involving a program of work related training for which no wages are paid, including learning to count, sorting, and other job skills,³⁷⁸
- (2) employment activities training, involving a program of work training provided by sheltered workshops in which wages are paid;
- (3) sheltered workshop training programs;
- (4) supported employment training programs; and
- (5) competitive employment training programs.

The findings may be summarized as follows: the number of hours actually received for the participants in pre-vocational training programs is substantially higher for institutional than for community participants (16 versus 10 hours).³⁷⁹ Strikingly, the entire group of 421 participants not employed received zero hours in pre-vocational training. Those groups receiving extensive training are those residing in sheltered employment in the institutional setting (30 hours) and in the community in supported/semi- independent living (37 hours).

The number of hours actually spent by the participants in the basic employment activities training programs is also substantially lower for institutional than for community participants (13 versus 38 hours).³⁸⁰ The bulk of these hours are received in sheltered workshop settings (average of 23 hours for institutional and 51 hours for community participants). Once again, all 421 participants not employed received zero hours in work activities training. The pattern of services received for the group of participants not employed requires further study and suggests important avenues for follow-up study of the national sample of persons with disabilities who are not employed (some 66% of the Harris Poll surveyed in 1986).

As might be expected the number of hours actually received for the participants in sheltered workshop, supported, and competitive employment programs is related to their placement in that employment type. For example, participants in competitive employment programs receive the greatest number of training hours in competitive employment programs. Within a particular type of employment training program, however, institutional participants receive substantially less training hours than do community participants. In sheltered workshop training, institutional

institutions (.4 goals). There appears to be little relationship between work setting and number of these work skill goals: .3 for those not employed, .5 for those in sheltered workshops, .9 for those in supported employment, and .4 for those in competitive employment.

Employment-related sensory motor and communication skill goals, including using glasses or hearing aids, using physical aids when necessary, and use of verbal written and sign language show somewhat more emphasis is placed on communication related goals for those residing in the institutions (2 goals) versus for those residing in the community (.9 goals). As might be expected, those individuals in the most integrated work settings have relatively less communication related goals: 2 for those not employed, 1 for those in sheltered workshops, 2 for those in supported employment, and .5 for those in competitive employment.

³⁷⁸ The sheltered workshops deliver this program. See supra note 263.

³⁷⁹ $t(1240) = 3.46, p = .001.$

³⁸⁰ $t(1243) = 12.0, p < .001.$

participants receive 6 hours versus 25 hours for community participants.³⁸¹ In supported employment training, institutional participants receive 30 hours versus 69 hours for community participants.³⁸² And in competitive employment training, institutional participants receive 35 hours versus 79 hours for community participants.³⁸³ The findings for service delivery and training suggest dramatic differences for institutional and community participants. These differences may be related to the income disparities reported above in section 5. Planning in training and delivery of employment programs may need to be re-examined so that qualified participants receive equal access to these programs.³⁸⁴

7. Consumer Satisfaction and Choice

The findings in this section focus on data from the direct responses of the participants, as compared to from interviews with providers, trainers, and the observational measures. The consumer information is obtained from the sub-set of 488 participants willing to respond directly to the interviewers.³⁸⁵ As in earlier analyses, two composite measures are explored, one relating to employment satisfaction, choice, and opportunity; and the other to daily-life satisfaction, choice, and opportunity.

The composite measure exploring employment satisfaction and choice, includes issues such as whether the participants like the people with whom they work, like their daily activities, make money, determine how they spend money, and use public transportation. General perceptions of employment satisfaction and choice are somewhat lower for participants residing in institutional as compared to community settings (mean rating is 14.0 for institutional and 15.4 for community residents).³⁸⁶ Counter to predictions, for the participants residing in the institutions,

³⁸¹ $t(417) = 7.68, p < .001$.

³⁸² $t(54) = 4.38, p < .001$.

³⁸³ $t(49) = 5.08, p < .001$.

³⁸⁴ A second composite measure is created for self-care goals and defined as the total of self-care, community living, recreational, and social skills. Participants in institutions and in the community show comparable levels of self-care goals. The number of self-care goals decreases generally as employment type becomes more integrated; this is especially true for those individuals in supported/semi-independent living (from 13, 4, 5, and 4 goals, respectively). The components of the self-care skills show:

(1) For "basic" self-care skill goals, including dressing, hygiene, toileting, grooming, and cooking, comparable levels for institutional and community participants (average 2 goals).

(2) For social skill goals, including interaction and awareness of others, and civic and legal duties and respect for laws, comparable number appears for institutional and community residents (average of 1).

(3) For community living skill goals, including use of money, telling time, using the telephone, learning name and address, using public transportation, and attending to personal and health care, somewhat more emphasis for those residing in the community (2 goals) versus for those residing in the institutions (1 goal). Also, those individuals in some form of employment show more community living goals: .7 for those not employed, 2 for those in sheltered workshops, 2 for those in supported employment, and 2 for those in competitive employment.

(4) For recreational goals, such as learning to use community resources (e.g., parks, movie theaters, museums) more independently, comparable levels for those residing in institutional and community settings (average of 1 goal).

The study of daily living or habilitation goals warrants further analysis in light of the EEOC's regulations suggesting that daily attendant care may be considered a reasonable accommodation in some employment relationships. See *supra* notes 64-94 and accompanying text.

³⁸⁵ See *supra* notes 223-28 and accompanying text (noting methodological and ethical issues with interviewing actual consumers of the ADA).

³⁸⁶ $t(485) = 4.20, p < .001$, where 18 is high satisfaction score and 0 is low satisfaction score. A higher score reflects a more positive rating of perceived satisfaction and choice.

employment satisfaction does not increase as employment type becomes more integrated (means = 13.7, 14.4, 14.5, and 13.5, respectively).³⁸⁷ This trend is positive and substantial for those residing in community living arrangements (means = 14.2, 15.0, 16.2, and 16.1, respectively).³⁸⁸ Finally, the group reporting least satisfaction and choice in employment is those residing in foster/family care who are not employed.

A second composite measure explores the participants' perceptions of their degree of daily life satisfaction, including issues such as choice in what they eat, buy, wear, do in their free time, and who and how much they associate with others. Participants residing in institutions report lower levels of satisfaction with daily life activities than those residing in the community.³⁸⁹

Daily life satisfaction does not increase substantially as community living type becomes more integrated: means are 17.5 for foster/family care, 19.4 for group homes, and 20.0 for supported/semi-independent living.³⁹⁰ But, for community residents, daily life satisfaction increases with the degree of integration in employment type (means = 18.6, 19.2, 20.7, and 20.9, respectively).³⁹¹ Interestingly, this trend is not shown for those residing in institutional settings.³⁹² These findings scratch the surface of the concerns of actual consumers of title I.

³⁸⁷ $F(1, 163) = 0.54, p = .46$.

³⁸⁸ $F(1, 320) = 20.8, p < .001$.

³⁸⁹ Mean rating is 18.9 for institutional and 19.4 for community residents, where 24 is high satisfaction score and 0 is low satisfaction score, $t(450) = 2.07, p < .04$.

³⁹⁰ $F(1, 306) = 0.02, p = .89$.

³⁹¹ $F(1, 306) = 18.8, p < .001$.

³⁹² $F(1, 142) = 1.21, p = .28$. It is useful to discuss briefly several individual measures from the consumer interviews. For purposes of the analyses here, four types of employment related questions are mentioned: (1) do you like what you do during the day?, (2) do you make money?, (3) do you know how you will spend your money?, and (4) do you use transportation to get places that other people without disabilities use? Ratings were made as follows: 3 = yes, 2 = unsure, 1 = no, 0 = no answer. Cf. D.A. Goode, *supra* note 282, at 4.

The majority of all participants liked their daily activities (mean rating 3 out of possible 3). There was no difference on this rating between the institutional and community residents (for both mean score = 3). Interestingly, for all participants the degree to which they liked their daily activities was related to whether they are engaged in some form of employment: scores are 1 for not employed, 3 for those in sheltered workshops, 3 for those in supported employment, and 3 for those in competitive employment.

The majority of all participants knew that they made money (mean rating 3 out of possible 3, where 3 = yes, 2 = unsure, 1 = no, and 0 = not answer). There was no difference on this rating between the institutional and community residents (3 mean scores for both). For all participants the degree to which they realized that they made money is not related to level of employment integration: scores are 2 for not employed, 3 for those in sheltered workshops, 3 for those in supported employment, and 3 for those in competitive employment. The group most likely to respond that they did not make money were those participants residing in foster/family care who were not employed (mean score = 2). The majority of all participants also choose how they spend their money (mean rating = 3). There was no difference on this rating between the institutional and community residents (3 mean scores for both). For all participants the degree to which they chose how they spent their money was not related to level of employment integration: scores are 2 for not employed, 3 for those in sheltered workshops, 3 for those in supported employment, and 3 for those in competitive employment.

Results are available also for whether the participants use public transportation. Those participants residing in the institutions tend not to use public transportation (mean score = 0.4) as regularly as participants residing in the community (mean score = 1.7). For all participants, the degree to which they use public transportation is

Other measures are needed to assess consumers' and users' views of their employment relationships so that the impact of title I may be more validly understood by program coordinators, policy makers, and the courts.

8. Quality/Accessibility of Living Environment

The measures in this section are based on questionnaire and observational methods exploring the quality and accessibility of the participants' living and employment settings.³⁹³

a. General Accessibility

These measures are based on responses to questions exploring participants' perceptions of accessibility to work, transportation, buildings, educational, social and community services and opportunities. The responses are highlighted as follows:

The first question explores whether the participants are limited access because of a disability to an opportunity which he or she is entitled to as a citizen. Almost one-third of all the participants (32%) responded that they have been denied or limited access to opportunities available to other citizens without disabilities. This finding may be contrasted with the Harris Poll results showing, for instance, that 25% of the participants responded that they had encountered job discrimination because of their disabilities.³⁹⁴ As might be expected, perceptions of limited access are substantially higher for those residing in the community (38%) who interact more regularly with persons without disabilities than for those residing in the less integrated institutional settings (29%).³⁹⁵ Nevertheless, perceptions of general accessibility are not related to the degree of integrated living: 40% for those residing in foster/family care, 38% for those in group homes, and 31% for those residing in supported/semi-independent settings.³⁹⁶ Perceptions of general accessibility also do not relate to the degree of integration in employment: 28% for those not employed, 36% for those in sheltered employment, 31% for those in supported employment, and 15% for those in competitive employment.³⁹⁷

Second, participants are asked about their general accessibility to employment services. Counter to prediction, limited access to employment services is perceived to be markedly higher for those residing in the community than for those residing in institutional settings (26% for community and 11% for institutional participants).³⁹⁸ But aside from the group not employed, participants living in the community who are employed report lower levels of limited access to employment services as employment type becomes more integrated (those reporting limited access are 31% for sheltered, 27% for supported, and 8% for competitive employment). These results may be compared to those of the Harris Poll II, finding that 75% of managers

related predictably to level of employment integration: scores are .4 for not employed, .9 for those in sheltered workshops, 1.8 for those in supported employment, and 2.2 for those in competitive employment.

³⁹³ See supra notes 239-53 and accompanying text (method for observations).

³⁹⁴ See supra notes 123-33 and accompanying text.

³⁹⁵ Chi Square, $X^2(1) = 11.7$, $p < .001$.

³⁹⁶ $F(1, 447) = .60$, $p = .44$. High absolute numbers of participants denied or limited access are those residing in foster/family settings who are not employed (44%, or 21 out of 48 participants) and those residing in group homes employed in sheltered workshops (41%, or 105 out of 256 participants).

³⁹⁷ $F(1, 1229) = 0.00$, $p = .99$.

³⁹⁸ Chi Square, $X^2(1) = 46.9$, $p < .001$.

interviewed believed that people with disabilities often encounter job discrimination from employers.³⁹⁹

Third, with regard to accessibility to transportation services, perceived problems of access are comparable in the institutional and community settings (10% versus 12%, respectively).⁴⁰⁰ Perceptions of access to transportation is not related to degree of integration in integrated community living settings (12% for those residing in foster/family care, 12% for those in group homes, and 7% for those in supported/semi-independent living).⁴⁰¹ But access to transportation is perceived to be more limited for those who are employed in less integrated settings (16% for those not employed, 13% for those in sheltered workshops, 3% for those in supported employment, and 3% for those in competitive employment).⁴⁰² As explored in Study II below, understanding transportation needs of persons with disabilities is an important component to enhancing equal employment opportunity. Access to transportation has been shown to be a critical element in unlocking employment opportunities for persons with disabilities who need appropriate and reliable transportation to work.⁴⁰³

Fourth, the degree of limited physical access to buildings is generally higher for participants residing in the community (4% for those residing in the institution and 6% for those residing in the community).⁴⁰⁴ But limited access to buildings is relatively comparable across the type of community living arrangement (8% for those in foster/family settings, 7% for those in group homes, and 3% for those in supported/semi-independent living).⁴⁰⁵ Those participants residing in family/foster care and group homes appear to experience the relative highest level of problems associated with accessibility to buildings. For participants residing in the community, as employment type becomes more integrated, participants perceive less limits with regard to physical accessibility to buildings (11% for those not employed, 6% for those in sheltered workshops, 3% for those in supported employment, and 3% for those in competitive employment).⁴⁰⁶ These issues are explored further from the employers' perspective in Study II below.

Fifth, problems of access to educational services are greater in the community rather than in the institutional settings (10% for institutional versus 17% for community),⁴⁰⁷ probably in part because institutional educational services are more self-contained. Access to educational services are somewhat more limited also in less integrated community living settings (20% for those residing in foster/family care, 17% for those in group homes, and 7% for those in supported/semi-independent living).⁴⁰⁸ Access to educational services for participants in

³⁹⁹ See Burgdorf, *supra* note 4, at 421 (discussing Harris Poll II); findings of Study IIB, *infra* notes 507-47 and accompanying text (46% of providers see community bias a barrier to integrated employment).

⁴⁰⁰ $t(1252) = 0.79, p = .43$.

⁴⁰¹ $F(1, 455) = 0.37, p = .54$.

⁴⁰² $F(1, 455) = 6.51, p = .02$.

⁴⁰³ See Poole, *supra* note 361, at 23 (e.g., individuals with driver's license are much more likely to enter the labor market).

⁴⁰⁴ Chi Square, $X^2(1) = 3.51, p = .07$. Cf. *supra* note 107 (discussion of title III--public accommodations).

⁴⁰⁵ $F(1, 455) = 0.98, p = .32$.

⁴⁰⁶ $F(1, 445) = 3.56, p = .06$.

⁴⁰⁷ Chi Square, $X^2(1) = 12.30, p < .001$.

⁴⁰⁸ $F(1, 455) = 2.24, p = .14$.

community living arrangements are substantially more limited for those employed in less integrated settings (24% for those not employed, 17% for those in sheltered workshops, 17% for those in supported employment, and 5% for those in competitive employment).⁴⁰⁹

Sixth, problems of perceived access to human services are relatively comparable in the institutional and community settings (7% for institutional versus 9% for community).⁴¹⁰ But access to human services is more limited in less integrated community living settings (17% for those residing in foster/family care, 7% for those in group homes, and 7% for those in supported/semi-independent living).⁴¹¹ Access to human services is not related to employment type (8% for those not employed, 7% for those in sheltered workshops, 11% for those in supported employment, and 2% for those in competitive employment).⁴¹² But, it is relatively lowest for those competitively employed.

Seventh, problems of access to persons without disabilities are comparable in the institutional and in the community settings.⁴¹³ The level of interactions with persons without disabilities is also comparable across the community living settings (12% for those residing in foster/family care, 17% for those in group homes, and 14% for those in supported/semi-independent living).⁴¹⁴ Problems of access for participants living in the community to persons without disabilities decrease substantially as employment type becomes more integrated (19% for those not employed, 18% for those in sheltered workshops, 8% for those in supported employment, and 3% for those in competitive employment).⁴¹⁵ This issue is revisited in Study II with regard to the level of interaction with co-workers in the employment context.

b. Observational Measures of Accessibility

The observational measures explore the general accessibility of the living arrangement and, by implication, the potential degree of accommodation required for the physical challenges of many of the participants. The measure of "General Living Accessibility" is a composite measure

⁴⁰⁹ $F(1, 445) = 5.41, p = .02$.

⁴¹⁰ Chi Square, $X^2(1) = 1.1, p = .30$.

⁴¹¹ $F(1, 455) = 7.12, p = .008$.

⁴¹² $F(1, 1252) = 1.22, p = .27$.

⁴¹³ Fifteen percent in both; Chi Square, $X^2(1) = .04, p = .84$.

⁴¹⁴ $F(1, 455) = 0.41, p = .52$.

⁴¹⁵ $F(1, 455) = 6.20, p = .02$.

Also explored are:

(1) problems of access to civic events are comparable in the institutional and community settings (14% for institutional versus 13% for community). Access for participants living in the community to civic events is also more varied across the types of employment settings (16% for those not employed, 14% for those in sheltered workshops, 3% for those in supported employment, and 11% for those in competitive employment); and (2) problems of access to recreation/leisure activities are comparable in the institutional and community settings (10% for institutional versus 12% for community). Access for participants living in the community to recreation/leisure activities also tend to increase as the community living settings become more integrated (14% for those residing in foster/family care, 12% for those in group homes, and 21% for those in supported/semi-independent living). Access to leisure/recreation activities for participants living in the community, however, decrease as employment type becomes more integrated (19% for those not employed, 13% for those in sheltered workshops, 5% for those in supported employment, and 5% for those in competitive employment). As for persons without disabilities, more time at work likely leaves less chance for recreational activities.

derived from the following observations:

- ample room to maneuver with wheelchairs, walkers, etc., throughout the building and living site;
- room by room accessibility and accommodation, such as provision of adaptive equipment to prevent accidents, handrails to facilitate movement and safety, and no slip surfaces on floors; and
- provision of furniture that is accessible and accommodates the needs of the resident, such as breaking devices on chairs, accessible height of furniture, closets, and cabinets.

Table 11 displays the general living accessibility composite scores.

TABLE 11
Living Accessibility Composite
(SCORES FROM 0 LEAST ACCESSIBLE TO 10 MOST ACCESSIBLE)
Highest Employment Category

Living Arrangement	None	Sheltered	Supported	Competitive	
Institution	Mean=8.8 N=44	Mean=8.1 N=61	Mean=7.6 N=7	Mean=10.0 N=2	Mean=8.4 N=114
Community	Mean=4.2 N=53	Mean=3.7 N=119	Mean=3.9 N=14	Mean=5.1 N=16	Mean=4.0 N=402
	Mean=6.3 N=97	Mean=5.2 N=180	Mean=5.1 N=21	Mean=5.6 N=18	Total 5.6 N=316
CLA*					
Foster/Family	Mean=3.4 N=34	Mean=2.3 N=27	Mean=0.3 N=2	Mean=4.8 N=3	Mean=2.9 N=66
Group Home	Mean=4.9 N=15	Mean=4.1 N=82	Mean=5.2 N=9	Mean=5.6 N=11	Mean=4.4 N=117
Supported/Semi Independent	Mean=7.5 N=4	Mean=3.8 N=10	Mean=2.5 N=3	Mean=3.3 N=2	Mean=4.2 N=19
					Total 4.0 N=202

Table 11 shows that observers rate the institutional living setting as significantly more accessible than the community living settings (mean for institutional setting 8.4 versus mean for

* Community Living Arrangements

community setting 4.0).⁴¹⁶ Institutional settings by design are made accessible for persons with many types of physical and mental disabilities. The relative level of accessibility in community living requires further analysis, given that many of the residents in the institutions will be transitioning into more integrated community living settings.

In the community, foster/family care settings, as compared to group home and supported/semi-independent living settings, are rated as the least accessible living setting (means = 2.9, 4.4, and 4.2, respectively).⁴¹⁷ Ratings of living accessibility do not increase dramatically as employment becomes more integrated (means = 6.3, 5.2, 5.1, and 5.6, respectively).⁴¹⁸ The trend toward increased level of accessibility is substantial, however, for participants in the community when comparing ratings for those unemployed to those in some form of employment.⁴¹⁹ The observational findings echo the view that integrating persons with disabilities in society and employment involves more than just "building ramps over stairways or labeling the buttons in elevators in braille."⁴²⁰

9. Summary

The prior measures provide preliminary and descriptive empirical information for this sample of persons with mental retardation. The basic table format, separating type of employment and living arrangement, may be useful for summarizing the long-term findings. The development of composite measures, such as those that are employment versus self-care related, also help summarize many of the variables studied.⁴²¹ The next section first displays summary profiles of

⁴¹⁶ $t(314) = 12.55, p < .001$.

⁴¹⁷ $t(200) = 2.99, p = .003$.

⁴¹⁸ $F(1, 314) = 2.17, p = .15$.

⁴¹⁹ $t(314) = 2.36, p = .02$.

⁴²⁰ Holmes, supra note 335, at 10, col. 5.

⁴²¹ James Conroy and his associates recently collected national survey data on the level of integration into society of some 8,000 adults with mental retardation. Conroy has provided this project with his analogous findings and they are summarized below. See Personal Communication between J.W. Conroy and P.D. Blanck (May 3, 1991) (on file with author); see also J. Conroy, C. Feinstein, J. Lemanowicz, S. Delvin & C. Meltzer, The Report on the 1990 National Consumer Survey (1990) (prepared for the National Association of Developmental Disabilities Councils).

Conroy and his associates explore self-perceived and actual integration of persons with mental retardation. The self-perceived integration survey question explores perceptions of the use by persons with mental retardation of community resources that are available to other citizens, the participation of persons with mental retardation in the same community activities as other citizens, and the degree of regular contact between persons with and without disabilities. Like the findings here, Conroy's self-perceived integration measure is highest for those individuals in more integrated living and employment settings. The group with the lowest self-perceived degree of integration is those adults living in foster/family care who are not employed. Those individuals in competitive employment perceive themselves as somewhat less integrated into society than those individuals in supported employment. Id.

Conroy also explores the actual degree of integrated activities for these adults (rather than self-perceived) that is composed of many items concerning the frequency of integrated activities with persons without disabilities. Again, the general pattern holds, that persons residing in institutional settings, rather than community settings, experience less integrated activities. The group residing in the community with the least number of integrated activities are those in foster/family care who are not employed. Those individuals in supported employment experience the greatest number of integrated activities, even more than those in competitive employment.

The Conroy group's findings are illustrative for several reasons. First, the general trends shown for the sample in this project are replicated in a larger national sample. The trends reappear based on the Conroy survey data

the findings for the participants as grouped by their employment type. This summary information is then used to model the degree of integration in employment using multiple regression and partial correlation analyses.

10. Profiles of the Participants as Employees

The prior descriptive analyses enable the development of general "profiles" of participants in the four employment types--not employed, sheltered workshops, supported employment, and competitive employment. Although the profiles summarized next are based on the analyses above, they are not meant to suggest a prescriptive list for the types of measures necessary to predict a participant's employment type or potential. In part, this is because of the exploratory nature of the analyses, many of which are based on relatively small cell sample sizes. Therefore, any interpretation or generalizations of the profiles to other samples or other populations of persons with disabilities covered by the ADA must be made with extreme caution. Also, predicting a person's employability is a controversial subject, especially for persons with mental retardation.⁴²² Others have pointed out the potential discriminatory nature of predicting the employability of persons with disabilities using standardized assessment techniques.⁴²³ The profiles provide a summary description of many of the findings for these participants as grouped by their employment type. The profiles incorporate the composite findings and measures developed earlier.

a. Profiles

The profiles for the four employment types are presented in summary format in Tables 12-15. After presenting the four summary profile tables, simple correlation and multiple regression analyses are employed to explore in greater detail the relationship between many of the profile measures and degree of integration in employment.⁴²⁴ These analyses describe the relationship that may characterize this set of measures as predictors of employment integration.

alone. Second, the pattern of results for competitive employment are supported generally, although future study is warranted to understand better self-perceptions and actual behavior of those in supported employment, as this group shows trends at non-predicted levels. Even with this large sample, further replication with other measures is warranted, as some of the sample cell sizes are relatively small. Id.

⁴²² See Rogan & Murphy, *supra* note 265, at 42; see also Interview with Dan Broughton, *supra* note 11 (profiles may reflect more quality of existing services than predict employment potential). Note also that profiles are not meant to suggest the bases for any job selection criteria as set forth in 29 C.F.R. section 1630.10.

⁴²³ See Rogan & Murphy, *supra* note 265, at 42 (citing studies); see also Kelman, Concepts of Discrimination on "General Ability" Job Testing, 104 Harv.L.Rev. 1157 (1991) (proposing four concepts of discrimination in standardized job testing).

⁴²⁴ See *infra* notes 426-43 (discussion of regression analysis).

TABLE 12
 Employment Profile:
 Persons Not Employed
 (N=421)

I. *Demographics*

A. Age & Sex:	Median=25 years (18 to 68)	<u>male</u> 228 60%	<u>female</u> 158 40%
B. Living Arrangement:	Number	<u>Percent of Total</u>	
Institution	346	82%	
Family/Foster	49	12%	
Group Home	22	5%	
Supported Semi-Independent	4	1%	

II. *Behavior Scores*

	<u>General Adaptive Behavior Score</u>	<u>Employment/Social Skills Composite</u>	<u>Self-Care Skills Composite</u>
Median	24.00	10.00	14.00
Range	(0.00 to 98.44)	(0.00 to 53.13)	(0.00 to 46.09)

III. *Medical Needs Composites*

A. General Need:	Median=2.00 (0.00 to 11.00)
B. Adaptive Equipment	<u>need something</u>

36
9%

IV. *Consumer Satisfaction Composites*

Median

A. Employment Satisfaction/Choice (0 to 18)	14.00 (8.50 to 18.00)
B. Daily Life Satisfaction/Choice (0 to 24)	19.00 (12.50 to 24.00)

TABLE 13
Employment Profile:
Sheltered Employment
(N=726)

I. *Demographics*

A. Age & Sex:	Median=28 years (18 to 66)	<u>male</u> 342 60%	<u>female</u> 269 40%
B. Living Arrangement:	<u>Number</u>	<u>Percent of Total</u>	
Institution	418	58%	
Family/Foster	32	4%	
Group Home	258	36%	
Supported Semi-Independent	18	3%	

II. *Behavior Scores*

	<u>General Adaptive Behavior Score</u>	<u>Employment/Social Skills Composite</u>	<u>Self-Care Skills Composite</u>
Median	70.00	30.00	39.00
Range	(0.78 to 100.00)	(0.00 to 53.91)	(0.00 to 46.09)

III. *Medical Needs Composites*

A. General Need	Median=2.00 (0.00 to 8.00)
B. Adaptive Equipment	<u>need something</u>

35
5%

IV. *Consumer Satisfaction Composites*

Median

A. Employment Satisfaction/Choice (0 to 18)	15.00 (5.50 to 18.00)
B. Daily Life Satisfaction/Choice (0 to 24)	19.00 (7.50 to 24.00)

TABLE 14
Employment Profile:
Supported Employment
(N=56)

I. *Demographics*

A. Age & Sex	Median=26 years (18 to 60)	<u>male</u> <u>25</u> 69%	<u>female</u> <u>11</u> 31%
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B. Living Arrangement:

	<u>Number</u>	<u>Percent of Total</u>
Institution	19	34%
Family/Foster	3	5%
Group Home	31	55%
Supported Semi-Independent	3	5%

II. *Behavior Scores*

	<u>General Adaptive Behavior Score</u>	<u>Employment/Social Skills Composite</u>	<u>Self-Care Skills Composite</u>
Median	88.00	43.00	40.00
Range	(31.25 to 100.00)	(8.59 to 53.91)	(22.66 to 46.09)

III. *Medical Needs Composites*

A. General Need:	Median=1.00 (0.00 to 6.00)
B. Adaptive Equipment	<u>need something</u>

8
14%

IV. *Consumer Satisfaction Composites*

Median

A. Employment Satisfaction/Choice (0 to 18)	15.00 (12.00 to 18.00)
B. Daily Life Satisfaction/Choice (0 to 24)	19.50 (13.00 to 24.00)

TABLE 15
Employment Profile:
Competitive Employment
(N=51)

I. *Demographics*

A. Age & Sex:	Median=32 years (18 to 63)	<u>male</u>	<u>female</u>
		24 63%	14 37%

B. Living Arrangement:	<u>Number</u>	<u>Percent of Total</u>
Institution	14	27%
Family/Foster	5	10%
Group Home	28	56%
Supported Semi-Independent	4	8%

II. *Behavior Scores*

	<u>General Adaptive Behavior Score</u>	<u>Employment/Social Skills Composite</u>	<u>Self-Care Skills Composite</u>
Median	91.00	46.00	45.00
Range	(45.31 to 100.00)	(11.72 to 53.91)	(33.59 to 46.09)

III. *Medical Needs Composites*

A. General Need:	Median=1.00 (0.00 to 5.00)
B. Adaptive Equipment	<u>need something</u> <u>4</u> <u>8%</u>

IV. *Consumer Satisfaction
Composites*

Median

A. Employment Satisfaction/Choice (0 to 18)	15.00 (10.50 to 18.00)
B. Daily Life Satisfaction/Choice (0 to 24)	12.50 (7.50 to 17.50)

b. Modeling Profiles of Employees

After viewing in Tables 12-15 the descriptive nature of the four employment profiles, the predictive value of the composite measures may be explored first using simple correlational analyses. These analyses explore the validity of the individual composite measures as predictors of degree of integration in employment.

Ten of the composite and demographic measures for the participants, that are also employed in various combinations in the regression analyses, are correlated with degree of integration in employment.

The individual correlations of the ten measures with degree of employment integration are summarized as follows:

- (1) age: $r = .17$, $p < .001$;
- (2) gender: $r = -.01$, $p =$ not significant;
- (3) general adaptive behavior index: $r = .53$, $p < .001$;
- (4) employment-related adaptive behavior composite: $r = .51$, $p < .001$;
- (5) daily-living adaptive behavior composite: $r = .51$, $p < .001$;
- (6) degree of integration in living arrangement: $r = .35$, $p < .001$;
- (7) general medical needs composite: $r = -.17$, $p < .001$;
- (8) composite of adaptive equipment needs: $r = -.01$, $p =$ not significant;
- (9) composite of consumer satisfaction and choice in employment: $r = .21$, $p < .001$; and
- (10) composite of consumer satisfaction and choice in daily living: $r = .16$, $p < .001$.

The findings for the simple correlations provide strong evidence that many of the composite and demographic measures alone predict degree of employment integration for these participants.⁴²⁵ Placement in integrated employment relates independently to (or is predicted by) those older

⁴²⁵ The median absolute-value correlation for these 10 measures is $.19$, $p < .0001$. All tests of significance are two-tailed, providing a more conservative test of significance. The median sample size for these measures is 1,250. Still, these results must be interpreted with caution as the correlations do not allow inferences between the cause and effect relationship for these variables. See supra note 298.

participants, with higher general and composite adaptive behavior scores, living in more integrated settings, with fewer general medical needs, who perceive themselves to have a high degree of satisfaction and choice in employment and daily living.

After establishing the predictive validity of the ten composite and demographic measures, a sample regression analysis is conducted. This analysis explores the extent to which it is possible to predict or model the degree of integration in employment type based on several combinations of the ten demographic and composite measures. From a practical point of view, the regression analysis enables a more detailed assessment of the relationship between the set of composite and demographic measures (the independent variables) and the degree of integration in employment (the dependent variable, with no employment being the least integrated type and competitive employment being the most integrated type).⁴²⁶

The first regression analysis uses the following measures as independent predictor variables: age, gender, adaptive equipment composite, medical needs composite, adaptive behavior index, and type of living arrangement.⁴²⁷ As mentioned above, the dependent measure is degree of integration in employment, coded as follows: 0 = no employment, 1 = sheltered, 2 = supported, and 3 = competitive employment. A positive relationship with any independent measure would suggest a higher degree of integration in employment.⁴²⁸

The Multiple R for the regression equation is statistically significant: $R = .541$, $F(6, 1058) = 72.82$, $p < .0001$. The results of this regression show participants in more integrated employment settings: (1) are older ($t = 3.19$, $p = .0015$); (2) have somewhat less adaptive

⁴²⁶ For a review of regression techniques, see J. Cohen & P. Cohen, *Applied Multiple Regression/Correlation Analyses for the Behavioral Sciences* 7 (2d ed. 1983) (explaining that multiple regression analyses describe the relationships that characterize a complex set of variables in which a single criterion variable (the dependent variable) is predicted from scores on two or more predictor or independent variables); see also McDonnell, Nofs & Hurdman, *An Analysis of Procedural Components of Supported Employment Programs Associated With Employment Outcomes*, 22 *J. Applied Behavior Analysis* 417, 422- 23 (1989) [hereinafter McDonnell] (use of regression analysis similar to this project); Trach & Rusch, *Supported Employment Program Evaluations: Evaluating Degree of Implementation and Selected Outcomes*, 94 *Am.J. Mental Retardation* 134, 138 (1989) (call for multiple regression analysis similar to that conducted herein).

⁴²⁷ In the presentation of the findings, the Multiple R (R) represents the relationship between the degree of integration in employment and the set of predictor demographic and composite measures. R takes on values only between 0 and 1, with the former indicating no relationship and the latter indicating a perfect relationship between the variables. The F and t tests describe the level of confidence that the linear relationship between the set of predictor and criterion variables is not zero in the population. See J. Cohen & P. Cohen, *supra* note 426, at 78, 104 (df refers to the "degrees of freedom" required for statistical significance testing). All tests of significance are two-tailed.

The variable of living arrangement is coded for this sample of adults from least integrated to most integrated, ranging from institutional, foster/family care, group homes, to supported/semi-independent living. Consumer satisfaction composites are not used in this equation because a subset of the participants ($n = 487$) responded to these questions. But see *infra* note 429 (providing regression equation for measures of consumer satisfaction and choice).

⁴²⁸ Many combinations of the measures as variables in different regression equations could be employed. The purpose of presenting this most basic regression analysis, that is based on a priori theoretical predictions, is to illustrate how the composite measures may prove useful in modeling aspects of integration in the employment relationship.

equipment needs ($t = -1.53$, $p = .13$, ns); (3) have somewhat less medical needs ($t = 1.48$, $p = .14$, ns); (4) have higher adaptive behavior scores ($t = 15.75$, $p < .0001$); and (5) do not necessarily reside in more integrated living arrangements ($t = 1.16$, $p = .25$, ns).⁴²⁹

The findings for the regression equation qualify the extent to which several of the composite measures, in particular the index of adaptive behavior, are useful for predicting these participants' level of integration in employment. Of interest is the finding that, when controlling for the set of other variables in the regression model (i.e., as compared to simple correlational analyses), the degree of integration in living arrangement alone does not add to the prediction of integration in employment.⁴³⁰ Put differently, this finding suggests that qualified participants from many types of living arrangements are able to be placed in integrated employment settings (accounting or controlling for their scores on other measures in the model).

The finding of the regression model that, when controlling for the other independent variables in the model, integration of living arrangement is not related to integration in employment, is consistent with suggestions of other researchers who have shown that when controlling for adaptive behavior score, qualified persons with severe mental retardation may be effectively employed in competitive work settings.⁴³¹ Future study will need to identify why some qualified persons with a severe disability choose or have the opportunity to work while others with a similar disability do not.⁴³²

To further explore the extent to which predictions of integration in employment are based primarily on the strong independent relationship observed with adaptive behavior score, partial correlations are examined. Partial correlations describe the relationship of any independent variable with the dependent variable, statistically controlling for the effects of other variables in

⁴²⁹ The results for gender are $t = -.09$, $p = .93$, ns. Analogous regression equations employing the two composite measures of adaptive behavior, instead of the general index, produce comparable results. As might be predicted, when the composite measure of consumer satisfaction and employment choice is added to the regression equation, this variable significantly predicts integration in employment ($t = 2.13$, $p = .04$). Consumer satisfaction and choice in daily living is not predicted by the model ($t = .01$, $p = ns$). The addition of the consumer satisfaction measures to the equation, however, affects other aspects of the model because the analysis for this composite (along with responses of the other measures of interest) is based on a sample size of 315 participants. See *supra* note 385.

⁴³⁰ See J. Cohen & P. Cohen, *supra* note 426, at 3 (regression yields measure the magnitude of the whole relationship among the independent variables and their relationship to the dependent variable (e.g., integration in employment)).

⁴³¹ See, e.g., Shafer, Banks & Kregel, 29 *Mental Retardation* 103, 108- 09 (1991) (controlling for adaptive behavior scores persons with severe disabilities can be effectively employed over time in integrated settings); McDonnell, *supra* note 426, at 425 (work skill marginally associated with empirical study showing employability of persons with disabilities). But cf. J. Conroy & V. Bradley, *supra* note 15, at 316-17 (showing using longitudinal data that those residing in the community evidence significantly greater gains in adaptive behavior scores than those residing in institutions).

The term "severely disabled" is open to various interpretations. One standard definition refers to individuals who comprise the lowest functioning 1% of the population. See Rogan & Murphy, *supra* note 265, at 40 (citing other empirical study).

⁴³² See Poole, *supra* note 361, at 20-21 (citing related empirical study).

the model.⁴³³

Examination of the partial correlations controlling for adaptive behavior scores reveal several findings. Foremost, other variables in the regression model independently and significantly predict integration in employment. Specifically, the following variables in the model are related to placement in more integrated employment settings (sample size = 321): partial correlation for age = .10, $p = .03$; for degree of integration of living arrangement = .11, $p = .04$; for consumer satisfaction and choice in employment = .15, $p = .004$; and for consumer satisfaction and choice in daily living = .07, $p = .10$.

The following interpretations of these results may be made. Participants in more integrated employment settings, controlling for their level of adaptive behavior score, are (1) older, (2) reside in more integrated living settings, (3) perceive greater satisfaction and choice in relation to employment issues, and (4) perceive greater satisfaction and choice in relation to daily living issues.⁴³⁴

The findings for the partial correlations highlight again that not only those participants with higher adaptive behavior scores are found in more integrated employment settings. Participants of various adaptive behavior skill levels (presumably those with more severe disabilities) can work productively and effectively in integrated employment settings.⁴³⁵ This preliminary finding is important in that it suggests that equal opportunity in employment under title I may reach appropriately to qualified persons with varying degrees and types of disabilities, regardless of their level of adaptive behavior functioning.

As pointed out above in section 5, with regard to the apparent disparities in income, additional study is needed also to understand how adaptive behavior level is related to opportunity for qualified participants to work in more integrated employment settings. As above, analysis of the partial correlations that control for adaptive behavior scores may be an important lead for understanding this complex relationship. Examination of the partial correlations for income level, controlling for adaptive behavior scores, show that several relationships in the model are independently of interest. The following variables in the model are related to higher income levels for these participants: partial correlation for age = .18, $p < .0001$; degree of integration of living arrangement = .34, $p < .0001$; degree of integration of employment = .06, $p = .024$; adaptive equipment composite = .04, $p = .092$; and medical needs composite = -.09, $p = .002$.⁴³⁶ Thus, participants with higher income levels, controlling for their level of behavioral skill, tend to be older, live and work in more integrated settings, have more adaptive equipment composite

⁴³³ See J. Cohen & P. Cohen, *supra* note 426, at 83, 181-82 (partial correlation is the relationship between two variables with all other independent variables held constant).

⁴³⁴ The following variables in the model are not related to placement in more integrated employment settings: partial correlation for gender = -.01, $p = .41$; for general medical needs = -.02, $p = .35$; for adaptive equipment composite needs = -.05, $p = .21$.

⁴³⁵ Cf. Revell, *supra* note 264, at 33 (summarizing empirical evidence that persons with severe mental retardation can work competitively in nonsheltered employment provided that appropriate support systems are in place); Trach & Rusch, *supra* note 426, at 138 (finding more job development support for persons with lower levels of behavioral functioning).

⁴³⁶ Partial correlations based on sample of 1,009 participants.

needs, but have less composite medical needs.

These findings suggest that level of behavioral skill alone may not predict income levels for these participants. But this conclusion is confounded by the fact that many of these participants receive income support regardless of their level of functioning.⁴³⁷ To explore in greater detail the income levels for these participants a regression analysis is conducted. Like the earlier regression analysis, the following measures are used as independent predictor Variables: age, gender, adaptive behavior index, type of living arrangement, type of employment, adaptive equipment needs composite, and medical needs composite. The dependent measure is participants' income level.

The multiple R for this equation is statistically significant: $R = .482$, $F(7,1004) = 43.53$, $p < .0001$. The results show participants with higher income levels: (1) are older ($t = 4.12$, $p < .0001$); (2) have higher adaptive behavior scores ($t = 2.20$, $p = .03$); (3) live in more integrated settings ($t = 10.24$, $p < .0001$), and (4) do not work necessarily in more integrated employment settings ($t = 1.35$, $p = .18$).⁴³⁸ It is particularly interesting that degree of integration in employment does not predict the participants' income levels when controlling for the other variables in this regression model.⁴³⁹ This suggests that other, nonmarket influences (e.g., level of SSI benefits) may impact on total income levels for these participants.

In summary, the findings of the correlational analysis, a basic regression model, and partial correlational analysis show significant predictive relationships for this sample on several major variables of interest to the employment relationship (e.g., degree of integration in employment and income level). The purpose of these analyses is to begin to model the measures that predict integrated employment opportunities for persons with disabilities generally, and for persons with mental retardation in particular.

The findings suggest that the composite and demographic information may be of value to those interested in the practical development of programs designed to foster the implementation of integrated employment for qualified persons with disabilities. The model is not meant to suggest hard-and-fast statistical methods for establishing the employment potential for persons with disabilities. Rather, the more modest goal is to demonstrate a process—the regression model built on the earlier descriptive analyses—to aid in the adequate description of persons with disabilities in varying types of employment.

The analyses and model highlight also the richness and complexity of the study of actual behavior, observations, and survey results of persons with disabilities. More detailed assessments must be conducted with different persons with disabilities on different measures to provide a more complete picture of the potential impact of the demographic and composite

⁴³⁷ See supra notes 358-69 and accompanying text (results for income levels).

⁴³⁸ Variables in the model not predicting income are: gender ($t = -.56$, $p = .58$), adaptive equipment composite ($t = .59$, $p = .55$), and medical needs composite ($t = -1.42$, $p = .16$).

⁴³⁹ This finding is true when the analyses are repeated just for the participants in sheltered, supported, and competitive employment (e.g., those working). Multiple R for this model = .49, $F(5, 640) = 41.76$, $p < .0001$; for employment type, $t = 1.40$, $p = .16$.

measures developed here on the employment of persons covered under title I.⁴⁴⁰

The findings add to the view that the successful employment of persons with disabilities in competitive settings is a function of several interacting domains, including: (1) job responsibility, (2) task production competence, and (3) social-vocational competence.⁴⁴¹ Success in jobs requires that workers with disabilities master each of these domains. The findings imply that nonproduction skills (e.g., self-care abilities and social and job responsibility skills) also play an important role in the successful employment of persons with mental retardation. This is consistent with the earlier suggestions that for many qualified persons with severe disabilities covered by title I, job-related accommodations by employers may sometimes need to involve daily attendant care supports.⁴⁴² Increased attention must be focused on the interaction of job-related, individual, and environmental factors in enhancing employment opportunity consistent with the goals of title I.⁴⁴³

Next, Study II describes the continuation of the descriptive and exploratory effort by studying employers' (in section B) and employment providers' (in section C) perceptions, myths, and behaviors toward their employees with and without disabilities. These two studies, though much more limited in scope and sample size, are meant to complement and build on the findings generated by Study I.

B. Study IIA--Employers and Title I

This study explores the perceptions and attitudes of the employers of many of the participants of Study I.⁴⁴⁴ This part describes the preliminary results for forty-seven employers that are based on the survey responses of general managers and supervisors in the various firms of different sizes.⁴⁴⁵

1. Demographics of the Employers

The forty-seven employers include, among others: fast-food restaurants, major hotels, large discount store chains, research laboratories, churches, hospitals, and public schools. The firms ranged in size from small family businesses with one employee to large corporations with over

⁴⁴⁰ See McDonnell, *supra* note 426, at 424 (important measure associated with employability of persons with disabilities is development of comprehensive Individualized Employment Plan ("IEP" structured to improve outcomes for workers over time); see also *infra* notes 561-69 and accompanying text (cautioning against overgeneralizing the results of any single study).

⁴⁴¹ See McCuller, Moore & Salzberg, *Programming for Vocational Competence In Sheltered Workshops*, 56(3) *J. Rehabilitation* 41 (1990) [hereinafter McCuller] (social skills required for successful competitive employment).

⁴⁴² See *supra* notes 64-94 and accompanying text.

⁴⁴³ See Schalock, *Person-Environment Analysis: Short and Long-Term Perspectives in Economics, Industry and the Disabled: A Look Ahead* 105-16 (W.E. Kiernan & R.L. Schalock eds. 1989) (listing potential variables in model as: state economic and political characteristics, family and co-worker support, employee work attitudes, skill and social behavior, provider and support staff attitudes, economic incentives, access to transportation, and type of living arrangements).

⁴⁴⁴ The employers and employment providers surveyed work with a group of the participants who reside primarily in the community settings.

⁴⁴⁵ See *supra* notes 292-93 and accompanying text.

400 employees.⁴⁴⁶ General managers and supervisors of the firms completed the questionnaire instrument described in parts III and IV above.⁴⁴⁷

a. Size of Firm

The forty-seven responding firms are divided into three types of entities, consistent with the coverage of title I. Nineteen firms with less than twenty-five employees are categorized as small firms not covered by title I.⁴⁴⁸ Fifteen firms with twenty-five to ninety-nine employees are categorized as small firms covered by title I. Thirteen firms with 100 or more employees are categorized as relatively larger firms covered by title I.⁴⁴⁹ In comparison, the Harris Poll II of 920 employers of persons with disabilities interviewed approximately 400 top managers in large corporations and 200 in smaller firms that employ ten to forty-nine people.⁴⁵⁰

b. Hiring, Tenure, and Wages of Persons with Disabilities

Predictably, larger compared to smaller firms hire more persons with mental retardation (for small not covered, mean = 1, range = 1-2 persons; for small covered, mean = 2, range = 1-4 persons; and for large covered, mean = 2, range = 1-5 persons).⁴⁵¹ Persons with mental retardation are employed in the following jobs: customer service, building/grounds maintenance, equipment maintenance, food preparation, kitchen or restaurant clean-up, clerical, product assembly, machine operations, cardboard bundler, stockroom clerk, laundry services, and receptionist.⁴⁵² In Schalock's 1989 national employment survey, approximately twenty-three percent of employees with mental retardation are employed in food service and eighteen percent in building service jobs.⁴⁵³

In small firms not covered by title I, employees with mental retardation work approximately 23 hours per week, with a range of 12 to 40 hours per week. In firms covered by title I, employees with mental retardation work somewhat longer hours, 28 and 29 hours per week, respectively for smaller and larger firms, with overall ranges of 18 to 43 hours per week.⁴⁵⁴ Earlier studies show that employees with mental retardation in more integrated employment settings generally work longer hours compared to those in sheltered workshops, and this trend is more pronounced

⁴⁴⁶ The participating companies are not identified consistent with conditions of participation. See supra notes 223-28 and accompanying text (ethical responsibilities of researchers).

⁴⁴⁷ Cf. Harris Poll II of employers of persons with disabilities, supra notes 134-39 and accompanying text (surveying managers from 920 organizations).

⁴⁴⁸ See supra notes 292-94 and accompanying text (noting that by 1994, firms with 15 or more employees will be covered by title I of the ADA); see also supra note 18.

⁴⁴⁹ Large firms are defined relative to the sample's distribution of firm sizes here. See infra notes 561-69 and accompanying text (caution of generalizations of these findings to other populations).

⁴⁵⁰ See supra notes 135-39 and accompanying text.

⁴⁵¹ The mean differences in absolute numbers of persons with mental retardation hired is statistically significant, $F(2, 44) = 5.80, p < .001$. Cf. Harris Poll II of employers showing larger companies more likely to hire persons with disabilities, supra note 135-39 and accompanying text.

⁴⁵² The majority of these employees work in the areas of building/grounds maintenance or food preparation and restaurant cleanup services. Cf. Schalock, supra note 306, at 83.

⁴⁵³ See Schalock, supra note 306, at 83.

⁴⁵⁴ The difference in hours worked between small firms not covered and other firms covered is significant, $t(42) = 2.10, p < .05$ (but this result may be due to the relative size differences and job functions between firms not covered and those covered by title I).

for larger firms.⁴⁵⁵

The mean tenure of employees with mental retardation for employers of all sizes is approximately twelve months. Tenure at a particular job across employers ranges from two to thirty-six months. These findings show great variability in length of employment for these employers and participants. Nevertheless, they are consistent with other studies showing that the majority of employees with mental retardation placed in competitive settings remain in their job at least sixty days.⁴⁵⁶ Future study is warranted to understand the reasons for degree of tenure at firms of different sizes.⁴⁵⁷

The mean hourly wage for employees with mental retardation for all employers is approximately \$4.16 per hour, with a range of pay from \$3.80 to \$5.00 per hour.⁴⁵⁸ The mean hourly wage for employees without disabilities in similar jobs is higher, at approximately \$4.30 per hour, and their range in pay is more variable, from \$3.80 to \$8.00 per hour. Thus, there is preliminary evidence of potential wage disparities between persons with and without disabilities for the employers studied for firms of all sizes.⁴⁵⁹ This finding is independent of the wage disparities found in Study I within the group of persons with mental retardation (e.g., in institutional versus community living settings).⁴⁶⁰

The findings for hourly wages may be compared with those reported by the EEOC in its regulations for title I suggesting that the real wages of employees with disabilities are only seventy-one percent of employees without disabilities with comparable education.⁴⁶¹ But, for these participants it is not clear how the definition of educational background used by the EEOC may be comparably measured. Future study may compare adaptive behavior skill levels (or use other relevant standardized measures) of employees with and without disabilities to assess their relative wage levels.

In sum, in light of the findings of Study I, showing disparities in income for participants

⁴⁵⁵ See Schalock, *supra* note 306, at 83-84 (individuals in sheltered employment work 20% fewer hours than those in competitive employment).

⁴⁵⁶ See *id.* at 83 (finding approximately 78% of these individuals retained their jobs for 60 days or longer).

⁴⁵⁷ All 16 small firms not covered and only 1 of 12 large firms covered by title I did not have to terminate an employee with mental retardation. Half of the small firms covered by the ADA (7 of 14) had to terminate an employee with mental retardation. The statistical test that explores the differences in responses among the three types of firms is significant--Chi-Square, $X^2(2) = 13.79$, $p < .001$. Employers responded that the terminations resulted from non-performance of duties, attendance problems, and most often, from behavior problems. See also McCuller, *supra* note 441, at 41 (citing studies showing workers with mental retardation lose their jobs for reasons related to job responsibility and social problems at least as often as for deficits in task production competence).

⁴⁵⁸ There is no substantial difference in hourly wages among the three sizes of entities studied-- $F(2, 39) = 1.28$, $p = .29$. When comparing just small firms covered by the ADA (with 25 to 99 employees) and larger firms covered (with 100 and more employees) on the hourly wage variable, however, significant differences emerge, $F(1, 23) = 3.30$, $p = .09$ (mean for small firm covered = \$4.07, for large firm covered = \$4.30). Further analyses, with larger number of employees and employers, is required to make any firm conclusions about this difference.

⁴⁵⁹ Test of difference between two groups, $t(39) = 1.73$, $p = .10$.

⁴⁶⁰ See *supra* notes 358-69 and accompanying text (wage disparities related to living arrangements).

⁴⁶¹ See *supra* note 164 and accompanying text.

residing in varying degrees of integrated living, further analysis of the wages of employees with and without disabilities seems warranted.⁴⁶² This examination is important, given the EEOC's reliance on an empirical study conducted in 1983, estimating that thirty-five percent of the difference between wages of persons with and without disabilities is due to discrimination.⁴⁶³ Income and real wage levels of qualified persons with disabilities will require more systematic long-term empirical study to understand their relationship to the implementation of title I.

2. General Employer Satisfaction

These findings describe the results for the employers' level of satisfaction with their employees with mental retardation on: work attendance, productivity, interactions with customers, interactions with co-workers, initiative, and dedication to work. On all these dimensions, there are no significant differences related to firm size.⁴⁶⁴

Roughly three quarters of these employers (74%) are very satisfied with employees' work attendance.⁴⁶⁵ Feelings about employee productivity are also strong, as 41% of the employers are very satisfied with their employees on this dimension.⁴⁶⁶ Likewise, 52% of the employers are very satisfied with their employees' dedication to their work⁴⁶⁷ and 31% very satisfied with their initiative.⁴⁶⁸

Satisfaction with employee interactions with co-workers is high, with almost half of the employers (41%) very satisfied with their employees on this dimension.⁴⁶⁹ Prior empirical study shows that the opportunity to interact and train with employees without disabilities is greater in more integrated work settings, particularly in firms in which the physical environment is modified to achieve integration for persons with severe disabilities.⁴⁷⁰ Likewise, recent empirical study shows the effectiveness of co-worker implemented job training.⁴⁷¹ This strategy may prove important in developing cost-effective training strategies for employees with disabilities, especially for relatively smaller firms. Satisfaction with employee interactions with customers, for those individuals employed in service jobs, is also generally high with 19% of

⁴⁶² See supra notes 358-69 and accompanying text (Study I showing substantial wage disparities between institutional and community residents).

⁴⁶³ See supra note 166 and accompanying text (EEOC citing Johnson and Lambrinos empirical study from 1983).

⁴⁶⁴ Results of statistical significance tests are available from the author (none approach statistical significance).

Ratings are 1 = very satisfied, 3 = satisfactory, and 5 = not satisfied. Cf. Sehgal, *Laws for Disabled Called Vague by Employers, Activists*, Boston Globe, July 27, 1991, at 5 (small business owners perceive vagueness of title I regulations to create great legal liability for them).

⁴⁶⁵ Mean rating = 1.3 of 5, with lower number as a more positive rating.

⁴⁶⁶ Mean rating = 2.1 of 5.

⁴⁶⁷ Mean rating = 1.7 of 5.

⁴⁶⁸ Mean rating = 2.2 of 5.

⁴⁶⁹ Mean rating = 1.9 of 5.

⁴⁷⁰ See Schalock, supra note 306, at 86; Rusch, Hughes, Johnson & Minch, *Descriptive Analysis of Interactions Between Co-Workers and Supported Employees*, 29 *Mental Retardation* 207 (1991) (finding high level of advocacy between co-workers and persons with severe and profound mental retardation).

⁴⁷¹ See Likins, Salzberg, Stowitschek, Ligaugaris & Curl, *Co-Worker Implemented Job Training*, 22 *J. Applied Behavior Analysis* 381 (1989); see also Shafer, Trait, Keen & Jesinowski, *Supported Competitive Employment: Using Co-workers to Assist Follow-Along Efforts*, 55(2) *J. Rehabilitation* 68, 73 (1989) (essential element of supported employment is opportunity for persons with severe disabilities to work alongside workers without disabilities).

the employers very satisfied and another 78% generally satisfied with their employees on this dimension.⁴⁷²

The findings of Study II are comparable to the positive conclusions of the Harris Poll II of employers.⁴⁷³ Like the Harris findings on persons with disabilities, most employers here rate employees with mental retardation as excellent or good in overall job performance, willing to work hard and take the initiative, as punctual, and as productive.⁴⁷⁴

3. Factors Important to Employers for Increasing the Number of Employees with Mental Retardation

Employers are asked to describe the factors that would increase the number of individuals with mental retardation that they would hire, including: (1) improved local economy, (2) increased number of referrals, (3) more assistance in work place accessibility, (4) more assistance in transportation to the workplace, (5) improved job coaches, (6) increased job coach service, and (7) expanded fiscal incentives. None of these seven factors relate to firm size so the results below are described for all forty-seven employers.⁴⁷⁵

Employers are not uniformly convinced that an improved local economy or expanded financial incentives will enable them to hire more individuals with mental retardation (60% rate local economy as somewhat important and 68% rate financial incentives, such as tax breaks to accommodate workers with disabilities, as somewhat important).

Roughly half of the employers report that increased referrals from state services (in this study the Oklahoma Department of Human Services) is somewhat important for them to hire more individuals with mental retardation. Also, roughly half (51%) of the employers report that more assistance from the state in improving work place accessibility is only somewhat important for them to hire more individuals with mental retardation.⁴⁷⁶

A little more than half of the employers (53%) report that more assistance from the state in the

⁴⁷² Mean rating = 2.4 of 5.

⁴⁷³ See supra notes 134-39 and accompanying text.

⁴⁷⁴ For all employers, 81% percent of the employees with mental retardation received regular supports from job coaches. Employees were supervised by job coaches ranging from 1% to 100% of their time, with an average amount of supervision at approximately 7% of their working time per week. Further study is underway that explores the nature of job coaching and its relation to the reasonable accommodation obligations under title I. Employers level of satisfaction with the job support available to assist their employee's job performance shows that 58% of all employers are very satisfied with the accuracy of information provided by the employment providers and by the state prior to employment of the employee (mean rating = 1.7 of 5). Likewise, over 72% of the employers are very satisfied with the quality of job coach services provided in supporting their employees (mean rating = 1.5 of 5) and in the availability of the job coaches to resolve problems (mean rating = 1.5 of 5). No differences are related to firm size on these measures.

⁴⁷⁵ Statistical tests available from author (none approached statistical significance).

⁴⁷⁶ Cf. A. Gottlieb, L. Lutsky, D. Liebert & D. Bernstein, *Employment Experiences: A Research Study, Careers and the Handicapped* 1, 2 (Spring 1988) [hereinafter A. Gottlieb] (finding assistance from state crucial to employability of persons with severe disabilities); G.A. Smith & R.M. Gettings, supra note 262, at 41 (services offered by states in HBC Waiver Program for persons with mental retardation).

transportation of employees to the workplace is not particularly important to hiring more individuals with mental retardation. This finding is interesting, given that less than one-half of the states currently cover transportation services as part of the Home and Community-Based ("HBC") Waiver Program.⁴⁷⁷ In Oklahoma, coverage of transportation services is an integral component of the state's support of pre-vocational and supported employment programs.⁴⁷⁸

Finally, improved and increased job coach services is not seen by a majority of employers (53%) as an important barrier to hiring more individuals with mental retardation. Nevertheless, in light of the EEOC regulations for title I, job coaches are perhaps the central figure in most supported employment programs.⁴⁷⁹ Generally, then, employers appear to have mixed beliefs about the factors that may be important for increasing their number of employees with mental retardation. Educational initiatives along these lines are likely important and may strengthen employers' ability to comply with their obligations under title I.

4. Testing Employers' Myths

Historically, qualified persons with mental retardation have been excluded from integrated employment opportunities, in large part due to myths or misconceptions about their employment-related skills.⁴⁸⁰ The questions in this section address for this sample of employers their myths, beliefs, and attitudes about employees with mental retardation.⁴⁸¹

Employers are asked to agree or disagree with a series of nine questions relating to common myths about the hiring of persons with disabilities. Consistent with the findings above, firm size did not relate to or predict these employers' responses.

The majority of employers (37 of 39 responding, or 95%) do not believe that employees with mental retardation have higher turnover rates than employees without disabilities. All employers (43 of 43 responding) believe that employees with disabilities do not have higher absenteeism rates than employees without disabilities. Also, most of the employers (69%, or 31 of 45 responding) do not believe that the job performance and productivity of employees with disabilities is necessarily lower than that of employees without disabilities. A high percentage of the employers (93%, or 42 of 45 responding) believe that employees with disabilities do not create a safety risk at the workplace.

Relevant to the SBA's concerns expressed in part II regarding the impact of title I, most employers (91%, or 40 of 44) do not believe that making accommodations at the workplace for

⁴⁷⁷ Cf. G.A. Smith & R.M. Gettings, *supra* note 262, at 43.

⁴⁷⁸ Interview with Dennis Bean, *supra* note 11. See also G.A. Smith & R.M. Gettings, *supra* note 262, at 43 (noting that present HCFA policies limit HBC Waiver coverage of transportation services between waiver sites (e.g., from residential programs to supported employment programs)).

⁴⁷⁹ Moore, Godbolt, Schuartz, Moriber & Salzberg, *Factors Contributing to the Attrition of Supported Employment Job Coaches*, 56 *J. Rehabilitation* 47 (Spring 1991) [hereinafter Moore].

⁴⁸⁰ See *supra* notes 152-72 and accompanying text (empirical information relied upon in EEOC regulations for title I); see also Nathanson, *The Disabled Employee: Separating Myth From Fact*, *Harv. Bus. Rev.*, at 6 (May-June 1977).

⁴⁸¹ Cf. Goldman, *supra* note 19, at 7 (typical myths may include: disability is inability, and persons with disabilities cannot speak for themselves).

employees with disabilities is too expensive.⁴⁸² This finding is equally true for small businesses not covered by title I (88%, or 15 of 17), for small firms covered (86%, or 12 of 14), and for large firms covered by title I (100%, or 13 of 13). Moreover, most employers (65%, or 22 of 34) believe that adequate funding sources are available to help pay for accommodations at the work place for employing people with mental retardation. These findings are contrary to the concerns expressed by others that more accommodations will necessarily be expected of larger firms with larger budgets.⁴⁸³

The small and larger firms surveyed do not believe that making accommodations in the workplace is overly expensive. But it could be argued that the sample of employers here represents only those employers who have had some experience (presumably positive) accommodating workers with disabilities. More adequate data from many employers are necessary to further address this question. Also, this information does not address the EEOC's assumption that because the smaller entities employ fewer workers, the chance is low that they will be required to make reasonable accommodations under title I.⁴⁸⁴ The findings support the view that the costs associated with employing workers with disabilities is not always perceived to be substantial.⁴⁸⁵

Almost all employers (95%, or 36 of 38 responding) believe that insurance rates will not skyrocket if they hire more individuals with mental retardation. This is an interesting finding in light of the fact that the loss of insurance coverage is often a major work disincentive for persons with disabilities.⁴⁸⁶ Moreover, exclusion from employer sponsored or private health insurance may be a major disincentive to employment for many qualified persons with severe disabilities.⁴⁸⁷

Section 501(c) of the ADA explicitly states that the intent of the Act is not to prohibit or restrict insurance arrangements based on actuarial risks or employee benefit plans based on similar risk assessments.⁴⁸⁸ Further study of the impact of the ADA on insurance rates for employees with disabilities is required. This is important given that the thrust of title I is to increase employment opportunities for qualified persons with disabilities while not limiting certain

⁴⁸² See supra notes 156-63 and accompanying text (SBA comments to EEOC guidelines for title I).

⁴⁸³ Cf. Lavelle, supra note 10, at 1183 (suggesting that ADA regulations indicate that more accommodations will be expected of larger firms).

⁴⁸⁴ See supra note 157 and accompanying text.

⁴⁸⁵ See Burgdorf, supra note 4, at 422 (citing studies in support).

⁴⁸⁶ See R.D. Fowler, supra note 37, at 2 (arguing that even if the ADA were to eliminate discrimination in employment for qualified persons with disabilities, many persons with disabilities would still be unable to work because under current underwriting practices they would be unable to obtain health insurance); see also National Council on Disability, supra note 131, at 27 (70% of those persons with disabilities out of the labor force and receiving benefits reported that they would lose benefits if they began working full-time). Also noting that for many persons with severe disabilities, the existence of financial disincentives and negative self-expectations may contribute to a psychological mind-set that their disability causes them to be unable to work. *Id.*

⁴⁸⁷ See R.D. Fowler, supra note 37, at 2 (citing Harris Poll finding that 66% of persons with disabilities below age 65 who do not work, want to work); see also supra note 124 and accompanying text.

⁴⁸⁸ H.H. Perritt, supra note 2, at 2 (noting that legislative history supports the prohibition against discrimination in the provision of insurance based on disability that does not pose increased risks).

standard insurance practices.⁴⁸⁹ In its comments to the proposed EEOC regulations for title I, the American Psychological Association provides a related illustration: The denial of insurance to persons with mental retardation is often not based on relevant and current data; in one case, a healthy person with mental retardation who was living in the community was told by his potential employer that he could not be insured because persons with mental retardation are susceptible to hepatitis. "In this case, the insurer's determination of susceptibility was based on a study of persons with mental retardation living in unsanitary public institutions over 25 years ago."⁴⁹⁰

Finally, most employers (82%, 37 of 45) do not believe that employees with mental retardation are overly demanding. And almost all employers (98%, 44 of 45) believe that employees with mental retardation are not an embarrassment at the workplace. A majority of employers (84%, 38 of 45) also communicate their positive experiences in employing persons with mental retardation to their colleagues in other businesses. This finding underscores the importance of information sharing among employers to eliminate the myths associated with employing persons with disabilities.⁴⁹¹

5. Awareness of the ADA

The majority of the employers (68%, 30 of 44 responding) did not know of the passage of the ADA. This result could reflect limited knowledge at the time on the part of the responding managers or supervisors. Nevertheless, the result is troubling, given the importance of the ADA and its high profile in the workplace. Educational programs to enhance awareness of the issues may be warranted.⁴⁹² Also, general knowledge of the ADA is not related to firm size.⁴⁹³ Of the employers who knew of the passage of the ADA, most (86%, 12 of 14) believe that the law will not affect the way in which they employ individuals with disabilities. Moreover, of the employers who knew of the passage of the ADA, all understood that under the Act employers do not have to choose job applicants with disabilities over applicants without disabilities (100%, 14 of 14 responding).

These findings may be contrasted with those from a survey conducted at the Society for Human Resource Management meetings.⁴⁹⁴ Of the human resource executives surveyed, 85% were aware of the ADA, and of these respondents, 87% said they were familiar with title I. The majority of executives (89%), however, did not know how much it would cost to comply with

⁴⁸⁹ R.D. Fowler, *supra* note 37, at 2. Compare findings in Study I regarding income level that suggest, for example, sometimes those competitively employed may not earn as much as those not employed. See *supra* notes 358-69 and accompanying text (findings for income by employment and living type).

⁴⁹⁰ R.D. Fowler, *supra* note 37, at 2 (calling for adequate data based on recent advances in medical and rehabilitative technology and changes in the living conditions of persons with mental retardation, reflecting the movement from institutional to community living arrangements).

⁴⁹¹ Cf. 29 C.F.R. § 1630.15(d) (1991) (noting that employers cannot establish undue hardship under title I by showing that an accommodation of an employee with a disability would have a negative effect on worker morale).

⁴⁹² See *infra* note 496 and accompanying text.

⁴⁹³ Mean firm size not knowing = 61 and mean size for those knowing = 107, $t(17) = 1.38$, $p = .19$.

⁴⁹⁴ See Hunsicker, Jr., Ready or Not: The ADA, 69 Personnel J. 80, 86 (Aug. 1990) (in survey conducted by Personnel Journal, 63% of those familiar with title I believed they were already in compliance with the law, and 59% had begun steps to comply).

title I. But consistent with the findings here, the human resource executives surveyed did not perceive a relationship between firm size and the ability to comply with title I. The human resource executives unfamiliar with the ADA (or those not making an effort to comply) represented firms ranging in size from 10 to 60,000 employees.

6. Summary

The findings are generally encouraging for employers.⁴⁹⁵ Responses indicate a high degree of support and enthusiasm for the employment and recruitment of persons with mental retardation. The findings are comparable to those of the Harris organization in its 1987 poll of some 920 employers. Knowledge of the ADA, however, is low. This may be attributed, in part, to the fact that title I was, at the time of the data collection, not effective.

Follow-up study of knowledge of the ADA, at various organizational levels in firms, seems warranted.

One promising approach for employer education of ADA-related activities has been undertaken by the National Center for Disability Services, Human Resources Center. The Human Resources Center sponsors an Industry-Labor Council ("ILC") which is a nonprofit organization committed to the employment of persons with disabilities.⁴⁹⁶ Over 100 major corporations and labor unions are members of the ILC that conducts conferences and training in (1) locating qualified job applicants with disabilities, (2) ensuring that personnel practices are not screening out qualified persons with disabilities, (3) preparing supervisors and co-workers for working with persons with disabilities, (4) obtaining practical advice on job/work site modifications and accommodations, and (5) making facilities architecturally accessible to persons with disabilities. These efforts represent proactive means for ensuring employer compliance with title I (and with title III).

Although much work has been started, a good deal of educational work lies ahead to ensure that the obligations guaranteed by title I are implemented by employers. In the area of reasonable accommodations, for example, considerable advances are being made. Based on Studies I and IIA, and on other empirical studies, a list of the types of accommodations that may be relevant to persons with mental retardation include:⁴⁹⁷

(1) Employment Supports

- providing more time to learn job tasks;
- assurances of job protection for short periods of hospitalization or respite care;
- availability of quiet room during periods of high stress symptoms;

⁴⁹⁵ See *id.* at 86 (concluding that Personnel Journal survey suggests that implementing title I "will be relatively easy for business").

⁴⁹⁶ Human Resources Center Pub., *Why Handicapped People Make Reliable and Motivated Employees*, reprinted in *Pharmacy Times* 30 (Aug. 1984).

⁴⁹⁷ Developed from J.A. Cook, *supra* note 38, at 2; B. Milstein, *Comments on the EEOC's proposed regulations for title I of the ADA, Mental Health Law Project*, at Appendix (1991) (list of reasonable accommodations for people with psychiatric disabilities developed by National Institute of Mental Health). The National Institute of Mental Health is directing a national survey, "[i]dentifying best practices in reasonable accommodations for people with psychiatric disabilities" (forthcoming 1991) (cited in R.D. Fowler, *supra* note 37, at 10).

- availability of fluids or chewing gum in the work area, when not otherwise permitted to lessen side-effects of some psychotropic medications;⁴⁹⁸
- availability of job coach during periods of particular difficulty or stress;
- flexible work hours and scheduling;
- rearrangement of job tasks and sharing of responsibilities with persons without disabilities;
- providing a clear explanation of job responsibilities, with individualized training as appropriate;⁴⁹⁹
- appropriate levels of one-to-one supervision on job and interpersonal skills;⁵⁰⁰
- easy access to supervisors;
- time to discuss work goals and services;
- equal and adequate health insurance coverage and benefits;
- education for co-workers with discussions about the myths of mental retardation, also designed to reduce potential stigma associated with mental retardation;
- buddy system pairing employees with and without disabilities on a job task; and
- fading of job coach services as appropriate to lessen dependency and increase self-reliance at the work place.

(2) Related Life and Emotional Supports

- peer supports to help in problem-solving (e.g., helping with transportation to work) and filling out employment forms (e.g., SSI, income taxes, and disability insurance);
- providing an appropriate advocate to support individual interests on and off the job site;
- providing counseling services for all employees; and
- providing a 24-hour hot-line for problems when co-workers or professionals cannot be reached.

The above-list of potential accommodations is not exhaustive and may not apply to all types and sizes of businesses. It is meant to highlight innovative and practical ways that qualified persons with mental retardation may be supported in the employment setting.⁵⁰¹ It is also meant to begin the analysis of methods for aiding qualified persons with mental retardation in job retention. The findings of Studies I and IIA suggest that employers will need to develop viable strategies, not just to create job opportunities and remove barriers, but also to support job retention.⁵⁰² Job

⁴⁹⁸ See R.D. Fowler, *supra* note 37, at 9.

⁴⁹⁹ See also McDonnell, *supra* note 426, at 425 (related components of accommodations).

⁵⁰⁰ Cf. Haimowitz, *Americans with Disabilities Act of 1990: Its Significance For Mental Illness*, 42 *Hosp. & Community Psychiatry* 23 (Jan. 1991) (suggesting the Act could be used to challenge inappropriate discipline imposed by an employer for behavior that results from a mental disability).

⁵⁰¹ See also S.Rep. No. 116, *supra* note 28, at 34-35; 56 *Fed.Reg.* 8,578, 8,599-600 (1991) (codified at 29 C.F.R. § 1630.9) (proposed Feb. 28, 1991) (recognizing that employer and person with disability should identify potential accommodations, and employer can enhance this process by working with appropriate state agencies--e.g., in this study, with Oklahoma DDS).

⁵⁰² See, e.g., Shafer, Banks & Kregel, *Employment Retention and Career Movement Among Individuals with Mental Retardation Working in Supported Employment*, 29 *Mental Retardation* 103 (Apr. 1991) [hereinafter Shafer] (results of a 24-month analysis of supported employment retention for sample of 302 individuals shows supported employees experience regular movement in and out of the labor force--30% employed in original employment, 20% employed in subsequent employment, and 31% lost employment and returned to referral pool).

retention strategies are important for employees with severe disabilities because employers may be less motivated to agree to accommodations if, in fact, the tenures of these employees are relatively short.⁵⁰³ At least for the present sample, the findings suggest that the tenure of employees with and without disabilities in similar jobs in competitive employment is relatively comparable.⁵⁰⁴ The long-term employment and retention of persons with mental retardation and other disabilities remains a crucial issue with respect to employer compliance, understanding, and support for title I. Moreover, understanding retention rates for persons with disabilities will enable employers of all sizes to more adequately plan for employee training, retraining, and accommodation to comply with the terms of title I.⁵⁰⁵ Little adequate data is available currently to address these issues.⁵⁰⁶ The next study provides information on the issues facing employment providers.

A. Study IIB--Employment Providers and Title I

This study explores the perceptions and attitudes of employment providers of many of the participants. The findings provide an additional perspective on the employment relationship from a group central to the development of integrated employment opportunities for qualified persons with mental retardation.

This section highlights several descriptive and preliminary results for employment providers.⁵⁰⁷ The findings are based on survey responses of managers in various provider companies, such as vocational services managers, directors of community services, employment coordinators, and project directors of supported employment programs. The questionnaires are modeled on those developed for employers.

1. Description of the Providers

Thirteen employment providers responded to the survey regarding the employment of persons with mental retardation. The employment providers each serve from 4 to 50 persons with mental retardation.⁵⁰⁸ Together, the providers serve 185 currently employed participants and

⁵⁰³ Cf. results for employee tenure, *supra* notes 456-57 and accompanying text.

⁵⁰⁴ *Id.* (employer questionnaire, tenure questions). Cf. Hill, Hill, Wehman & Goodall, Differential Reasons for Job Separation of Previously Employed Persons with Mental Retardation, 24 *Mental Retardation* 347-51 (1986) (longitudinal review of 250 supported competitive employment placements reported approximately 42% of all placements were terminated due to employee resignations, layoffs, or firings); Kregel, Hill & Banks, An Analysis of Employment Specialist Intervention Time in Supported Competitive Employment, 93 *Am.J. Mental Retardation* at 200-08 (1988) (longitudinal review of 245 supported competitive employment placements finding approximately 32% of all placements were terminated after six months and average length of tenure was 1.5 years).

⁵⁰⁵ This information will also enable state agencies to more adequately plan for their service and funding needs over time. See Shafer, *supra* note 502, at 109. For case summary of hiring and retention of employees with mental retardation, see BNA Report, *supra* note 7, at 280-86 (employer profiles).

⁵⁰⁶ Employment retention of workers may not be related to the adaptive behavioral level (or IQ) of persons with mental retardation. Cf. Shafer, *supra* note 502, at 108 (finding that employment retention and stability of workers was not related by level of mental retardation and individuals with moderate to severe mental retardation displayed comparable job retention rates to those individuals with mild or borderline mental retardation).

⁵⁰⁷ Because of the limited sample size of the providers, they are not differentiated according to service focus or entity size.

⁵⁰⁸ The median number of persons served by these providers is 13. Employment providers predict that they each will be serving a median of 13 more employees in the next year.

297 participants of Study I in total. Participants are served in sheltered, supported, and competitive employment settings.⁵⁰⁹

The thirteen providers serve participants with mild, moderate, severe, and profound retardation and who also may have other physical or psychological challenges. For the sub-sample of participants served by these providers, the breakdown in terms of level of retardation is: 155 mild, 85 moderate, 46 severe, and 11 profound, for a total of 297 individuals served.⁵¹⁰ In terms of other disabilities, thirteen of the individuals served have physical disabilities, eleven have visual impairments, and fifteen have hearing impairments. A relatively small percentage of the total number of individuals served show any other secondary disabilities.⁵¹¹

2. Job Tenure, Pay, and Type

For the participants served, the longest tenure of employment within the firms ranges from 11 to 30 months, with approximately 19 months as the average longest tenure employed.⁵¹² The average hourly wage for these employees ranges from \$3.80 to \$4.54, with a mean hourly wage of \$4.00. The findings are comparable (but on average somewhat lower) than the average wages reported by the employers in Study IIA in the purely competitive work setting.⁵¹³ The average number of hours worked per week for this group ranged from 20 to 29 (mean of 24 hours worked per week). This finding is also somewhat lower than that reported by the competitive employers.

The participants work in various jobs, including: 16 in customer service; 78 in buildings/grounds maintenance; 4 in equipment maintenance; 47 in food preparation/kitchen clean-up; 3 in clerical; 13 in product assembly; 2 in machine operations; 5 in agricultural production; 1 as a warehouseman; 1 as a shoe shiner; 1 as a childcare teacher assistant; and 1 as a dishwasher.⁵¹⁴

3. Perceived Barriers to Integrated Employment

These questions explore the types of barriers that providers face in helping to secure jobs for

⁵⁰⁹ The names of the provider agencies are not identified. See supra notes 223-28 and accompanying text (ethical decisions in the process of research).

⁵¹⁰ For this sample of 297, there are 4 individuals with severe aggressive or self-injurious behavior and 15 with mild aggressive or self-injurious behavior. This data are relevant to the EEOC regulations, supra note 25, definition of "direct threat" or "risk to self" based on "significant risk of substantial harm" as reason for not hiring employee with disability. Cf. Disability Rights Education and Defense Fund, Comments to EEOC title I proposed regulations, supra note 82 (risk to self is perhaps the most pervasive basis of discrimination against persons with disabilities, risk is often based on speculation and paternalistic concerns). For this sample, a relatively small percentage (less than 10%) of individuals experience behavior problems. More adequate data needs to be developed to clarify the issues posed by this sub-sample of individuals.

⁵¹¹ Subsequent analyses are necessary and underway to identify which individuals with mental retardation may have several disabilities and which of those individuals currently employed show secondary or other disabilities. See Blanck, Follow-up Comparative Study of the Employment Relationship for Persons with Mental Retardation (data in preparation, 1992).

⁵¹² Eight months is the average length of tenure for all employees in employment settings.

⁵¹³ Cf. wage levels reported by employers, supra notes 458-63 and accompanying text.

⁵¹⁴ For this sample, 12 individuals are employed in work enclave settings and 13 in entrepreneurial settings. See infra notes 451-53 and accompanying text.

qualified persons with mental retardation. Like the employers in Study IIA, the providers are asked their perceptions of barriers to integrated employment of persons with mental retardation.⁵¹⁵

The availability of jobs (regardless of an individual's disability) is perceived as a major barrier to enhancing integrated employment opportunities and services (77% of the providers rated this as an important barrier).⁵¹⁶ Likewise, community bias against persons with disabilities and/or with mental retardation is seen as a barrier to integrated employment (46% of the providers believed this to be a barrier to integrated employment).⁵¹⁷ This finding echoes the Harris Poll result that 25% of persons with disabilities encountered job discrimination because of their disabilities.⁵¹⁸

Employer concerns about the productivity of employees with mental retardation or concerns for their safety are also seen by providers as important barriers to integrated employment (77% of the providers rated this as an important barrier).⁵¹⁹ This result may be contrasted with the reports of the employers themselves in Study IIA, that the performance of employees with mental retardation is generally perceived as good.⁵²⁰

Insufficient economic incentives to businesses to help employ persons with mental retardation is not seen as an important barrier to integrated employment opportunity (85% rated this as an unimportant barrier).⁵²¹ This finding is worthy of further study, given the EEOC's conclusion discussed earlier regarding the predicted positive economic effects of title I; namely, increased productivity gains and decreased support payments.⁵²²

Consistent with the EEOC's economic impact analysis of title I, providers do not perceive making work sites accessible to persons with mental retardation as an important barrier to achieving integrated employment (92% rated this as an unimportant barrier).⁵²³ Providing accommodations required for job performance is not seen necessarily as an important barrier to integrated employment (46% believed important barrier).⁵²⁴ In contrast to employer responses, improving transportation to the work place for individuals with mental retardation is seen by all providers as an important barrier to integrated employment (100% rated this as at least an important barrier).⁵²⁵ Thus, job accommodation issues are perceived by this group of providers in a manner generally consistent with the EEOC's economic analysis of title I; that is, there may

⁵¹⁵ Like the employer questionnaire, a score of 1 indicated that the issue is an important barrier to the integrated employment of persons with mental retardation and a score of 5 that the issue is not an important barrier. See supra notes 480-91 and accompanying text.

⁵¹⁶ Mean rating = 3.2 of 5.

⁵¹⁷ Mean rating = 2.8 of 5.

⁵¹⁸ See supra notes 123-33 and accompanying text.

⁵¹⁹ Mean rating = 3.2 of 5.

⁵²⁰ Cf. supra notes 464-74 and accompanying text.

⁵²¹ Mean rating = 1.8 of 5.

⁵²² See supra notes 154-55 and accompanying text.

⁵²³ Mean rating = 1.6 of 5.

⁵²⁴ Mean rating = 2.2 of 5.

⁵²⁵ Mean rating = 4.6 of 5. This result could be influenced by these providers attempts to offer transportation services to participants. Interview with Dennis Bean, supra note 11.

be a minimal cost to employers of reasonable accommodations.⁵²⁶ Transportation to the work place, however, remains an important barrier to enhancing employment integration. This barrier was evidenced in the Harris Poll, in which more than one-quarter (28%) of the persons with disabilities surveyed stated that the lack of access to transportation (public or otherwise) is an important barrier to employment.⁵²⁷

Title II of the ADA, not studied here directly, covers transportation provided to the general public, including buses, trains, and taxis. Title II also provides that new public transportation vehicles and facilities must be readily accessible to persons with disabilities. The findings here, in light of the obligations under title II, suggest that large firms that currently offer transportation to its employees may need to explore new means for making such transportation accessible to all employees.⁵²⁸

In contrast to the EEOC's position that supported employment is not necessarily required as an accommodation,⁵²⁹ the limited scope of employment services supported by the state for employees with mental retardation is seen as an important barrier to integrated employment (77% rated this as an important barrier).⁵³⁰ Likewise, the availability of job coaches is perceived by providers to be important for the success of integrated employment (69% rated this as important),⁵³¹ as is the general level of supported funding from the state (77% rated this as important).⁵³² Providers perceive an important role generally for the state in supporting, coordinating, and enhancing programs designed to increase opportunities for integrated employment.

Concerns by employers regarding prior interactions between employees with and without disabilities is not seen by providers as a barrier to integrated employment (58% rated this as an unimportant barrier).⁵³³ As mentioned above, positive experiences with co-workers are likely to be important to the success of workers with disabilities.⁵³⁴ The resistance of family members (with whom providers work closely) to the integrated employment of their relatives with mental retardation is seen as a major barrier to integrated employment (100% rated this as at least an important barrier).⁵³⁵ More work is needed to understand co-worker and familial supports

⁵²⁶ See supra notes 156-59 and accompanying text (note also other empirical study in accord, such as DuPont study supra note 144).

⁵²⁷ See supra notes 123-29 and accompanying text.

⁵²⁸ Cf. BNA Report, supra note 7, at 213. See generally Thomas, Beyond the Rehabilitation Act of 1973: Title II of the Americans with Disabilities Act, 22 N.M.L.Rev. 243 (1992).

⁵²⁹ See supra notes 84-86 and accompanying text.

⁵³⁰ Mean rating = 3.3 of 5. E.g., in this project, provided by the Department of Human Services in programs such as vocational rehabilitation or training for employers in the medical and social needs of employees with mental retardation. Interview with Dennis Bean, supra note 11; see also LeRoy & Hartley-Malivuk, Supported Employment Staff Training Model, 56 J. Rehabilitation 51 (Spring 1991) (training for job coaches); Moore, supra note 479, at 47 (same).

⁵³¹ Mean = 2.5 of 5.

⁵³² Mean rating = 3.7 of 5.

⁵³³ Mean rating = 2.2 of 5.

⁵³⁴ See Likins, supra note 471, at 392.

⁵³⁵ Mean rating = 3.2 of 5.

necessary to enhance integrated employment opportunities for persons with disabilities.⁵³⁶

Finally, as in the study of employers, the variable of firm size is explored. The providers rate how size of firm relates, in their experience, to employer receptivity to the employment of individuals with mental retardation. For this purpose, firms are categorized as small firms not covered by title I (with 1-15 employees), small firms covered by title I in 1994 (with 16-50 employees), and firms covered by title I with more than 50 employees.

Firms perceived to be most receptive are small firms with 16-50 employees (50% providers rated these as most receptive). Firms perceived relatively less receptive are small firms not covered (only 25% rated these as most receptive) and, counter to prediction, large firms covered (33% rated these as most receptive). Other stated characteristics that providers find to be crucial to the hiring of persons with mental retardation include firms showing: (1) good job morale and support systems; (2) strong job coach training staff; (3) understanding management staff; (4) educational programs focused on employee relations; (5) production requirements per individual job so that performance and training may be tailored and developed; (6) willingness of employers to be advocates for their employees; and (7) prior exposure by supervisors and employees without disabilities to persons with mental retardation or disabilities.⁵³⁷

4. Awareness of the ADA

All thirteen employment providers knew of the enactment of the ADA. Providers are split (50% of those responding), however, in their views of whether the Act will affect the way in which they will serve persons with disabilities. Some providers report the Act will forge a closer partnership between them and employers wanting to comply with the Act. A little more than half of the providers (54%, 7 of 13) believe that the ADA will not increase the cost to employers in employing individuals with disabilities. This finding is not as robust as the EEOC's economic predictions, at least with regard to the cost of title I to small businesses.⁵³⁸

Twelve of thirteen providers (92%) responded correctly that under the ADA, employers are not obligated to choose job applicants with disabilities over applicants without disabilities. Study I, however, suggests the hiring analysis may become more complicated than this; for example, balancing the need for employment related and daily care accommodations for qualified persons with severe disabilities.⁵³⁹ Roughly three quarters of the providers (77%) believe that the ADA will not increase opportunities for integrated employment for persons with mental retardation in the next year. Eighty-five percent believe, however, that the ADA will increase job opportunities within three years and 100% believe within five years. The prognosis, at least in these providers' eyes, for positive impact of the ADA is encouraging.

5. Summary

The information generated by the small sample of employment providers suggests several opportunities for further study. First, more study of this group is needed generally, providing

⁵³⁶ Cf. supra notes 308-09 (e.g., Senators Bradley and Harkin proposed bills).

⁵³⁷ Cf. supra notes 497-501 and accompanying text (employers list of reasonable accommodations).

⁵³⁸ See supra notes 156-63 and accompanying text (e.g., because smaller firms employ fewer workers, chance is low that they will be required to make reasonable accommodations).

⁵³⁹ See supra notes 82-83 and accompanying text.

additional perspective on the needs and concerns of employers and persons with disabilities involved in the employment relationship. It is important to understand the role employment providers will play in enhancing and coordinating integrated employment opportunities under title I.

Second, the findings highlight the perceived need for states and the federal government to support the private sector (employers and providers) in developing employment opportunities for qualified persons with disabilities. In this regard, of fifteen states responding to a 1991 national survey on their support of the HBC Waiver Program, it is predicted that some 18,000 persons with mental retardation and developmental disabilities will be served in pre-vocational and supported employment programs.⁵⁴⁰ This represents approximately one-third of all participants in the nation receiving such services (accounting for some 54,000 persons). The use of federal matching funds (through the HBC Waiver Program) to support these employment-related services is surprisingly low; for the fourteen responding states, seventeen percent of participants for pre-vocational services and six percent for supported employment services receive matching federal funds.⁵⁴¹

One theme from the present findings and the survey of the use of the HBC Waiver Program is that greater coordination will be required between the private sector and government in the funding and support of employment programs that enhance opportunities for qualified persons with disabilities under title I.⁵⁴² Further study of the incentives and barriers facing states and the private sector in the use of federal funds to support employment services and training for persons with disabilities seems warranted.⁵⁴³

Together, the preliminary findings from the employers and providers suggest that the successful integration of qualified individuals with disabilities in the employment relationship may require, among other initiatives, (1) educational training for employers and providers, (2) financial incentives for employers and state governmental programs, and (3) enhanced training regarding the needs of persons with disabilities.⁵⁴⁴ With the help of federal and state initiatives, employers

⁵⁴⁰ Cf. Shafer, *supra* note 502, at 109 (need for complementary policies between state and private service providers to support employment retention of persons with mental retardation); G.A. Smith & R.M. Gettings, *supra* note 262, at 44.

⁵⁴¹ See G.A. Smith & R.M. Gettings, *supra* note 262, at 44 (noting it is difficult to interpret the utilization rates of employment-related services by the states, and use is dependent on many factors such as the availability of programs in the particular state).

⁵⁴² *Id.* at 45, 92-93 (findings also suggest the importance of long-term planning of employment services for persons with mental retardation, as large number of persons will be entering the workforce in the coming years; also noting potential concerns about the unequal eligibility of persons with disabilities for HBC Waiver Program services, the potential problem of infusing Medicaid financing into the provisions of supported employment services, and the need to remove the restriction on the availability of prevocational and supported employment services to persons with developmental disabilities who were previously institutionalized).

⁵⁴³ *Id.*; see also A. Gottlieb, *supra* note 476, at 2 (finding two most influential factors relating to employment are use of state support services and personal characteristics of 162 participants assessed with severe physical disabilities).

⁵⁴⁴ *Toward Independence--Appendix*, *supra* note 113, at B-45, B-50 (these initiatives focused on rehabilitation agencies but are applicable more generally to employment relationship with persons with mental retardation); see also Rochlin, DeCaro & Clarcq, *Competitive Employment of Disabled People: The Need for a Partnership*, 51(2) *J. Rehabilitation* 19, 20 (1985) (education and training for employers).

and providers must learn how to support employment opportunity for qualified persons with disabilities.⁵⁴⁵ This project makes explicit some of the myths and inaccurate perceptions on which employers and providers may rely concerning the employment relationship with persons with disabilities.⁵⁴⁶ The empirical framework also suggests ways that employers and providers may improve and build on successful employment practices already in place.⁵⁴⁷

⁵⁴⁵ Toward Independence--Appendix, supra note 113, at B-72 to B-74 (also noting need for better pay scales and accessible work environments). To enhance communication between employers and potential employees with disabilities, the President's Committee on Employment of the Disabled has established a nationwide free computerized database on how employers are making accommodations to meet the needs of their disabled employees (called JAN--Job Accommodation Network). Id. at B-67. Likewise, the Association for Retarded Citizens ("ARC") provides financial incentives for employers to train potential employees with mental retardation. Id. at B-68 (ARC pays one-half of the employee's wages for the first 160 hours of work and one-quarter for the second 160 hours; ARC has placed over 35,000 persons with mental retardation since the beginning of this program in 1967).

But the understanding of the employment relationship involving persons with disabilities is still in its early stages. Employers are modifying several types of traditional supported employment structures depending on the needs of the employees and the employers. The "enclave model" involves a group of individuals with disabilities who are provided special training or job supports within a competitive employment setting. NISH Newsl., supra note 281, at 5 (citing McGee, 1975; Rhodes & Valenta, 1985). A second supported employment structure is the "mobile crew model" that is designed as a small single-purpose business, rather than as a part of a large private organization. A general manager is responsible for small crews, usually with five or less employees, who perform jobs in community settings. Id. (citing Mank, Rhodes & Bellamy, 1986).

Study II, like prior studies, shows a wide range of attitudes among employers. Cf. Toward Independence--Appendix, supra note 113, at B-72 (citing J.G. Schroedel & R.J. Jacobsen, Employer Attitudes Toward Hiring Persons with Disabilities (1978)). Further study is needed of the attitudes and myths that exist among some employers that may affect the employment of persons with mental retardation. Id. at B-71, B-72 (long been true in the rehabilitation field that the major barrier to employing persons with disabilities is the negative attitudes toward these individuals (citing G.C. Pati, J.I. Adkins & G. Morrison, Managing and Employing the Handicapped: The Untapped Potential (1981) (showing such attitudes still true)); see also C.G. Goldman, Disability Rights Guide: Practical Solution to Problems Affecting People with Disabilities (1987) (practical solutions to address issues of attitudinal barriers, employment, accessibility, and transportation). The exploratory findings of Study II also suggest that small businesses are as willing to hire workers with disabilities (mental retardation in this study) as are the larger employers. Cf. M.S. Hayward, supra note 8, at 4 (rejecting the EEOC's assertion that small firms hire relatively less persons with disabilities). Smaller employers are also as willing as larger firms to hire and accommodate the needs of employees with disabilities. See supra notes 448-50 and accompanying text. The present findings suggest also that firm size is not necessarily related to the retention and accommodation of employees with disabilities. Cf. M.S. Hayward, supra note 8, at 4 (citing the disabled work force and job retention in small and large firms). At least for this small sample, it is also not the case that the small firms perceived utilizing employees with disabilities any differently than larger firms. Cf. M.S. Hayward, supra note 8, at 4 (citing D. Dury, Disability Management in Small Firms, 34(3) Rehabilitation Counseling Bull., (Mar. 1991) (small businesses more like new businesses with close margins and uncertain cash flow)).

⁵⁴⁶ See BNA Report, supra note 7, at 142 ("attitude training" for employers to eliminate misconceptions about workers with disabilities).

⁵⁴⁷ Interview with Yolanda Dow, supra note 11 (need for the employment providers to "sell" their clients to employers). The President's Committee on Employment of People with Disabilities facilitates the development of employment opportunities for persons with disabilities. The President's Committee on Employment of People with Disabilities, 1990 Annual Meeting, A Training Conference on Employment and People with Disabilities (May 1990); The President's Committee on Employment of the Handicapped, Annual Report (1987- 88) (committee supplies information to employers, conducts program of public education, and enlists support of state and federal organizations).

VI. IMPLICATIONS

This article presents a body of descriptive and exploratory empirical information. The information reflects the attitudes, beliefs, and behaviors relevant to aspects of title I. It is based on a relatively large sample of persons with mental retardation who may also have physical disabilities, and on a sample of employers and employment providers of these persons with disabilities. The article also describes a method or process for exploring these issues. Throughout the article, preliminary conclusions from the findings have been discussed. This final part will not repeat the specific points related to the findings. It offers a few final reflections on the project and its results, with particular emphasis on issues related to the future study of title I and to the importance of not overgeneralizing from the findings of this project.

A. Future Study of Title I

For title I to fulfill its mandate to support equal opportunity in employment for qualified persons with disabilities it will have to be responsive to its consumers' and users' needs. The descriptive and exploratory components of this article begin to provide consumers and users the data necessary to understand the needs, concerns, myths, and potential barriers to integrated employment opportunities.⁵⁴⁸

A premise of this project is that consumer and user participation in the implementation of title I is necessary to ensure that all individuals are able to achieve their maximum independence and employment skills in the context of reasonable business practices. Exactly what constitutes reasonable business practices under title I remains unclear, in large part due to a lack of adequate empirical information on the subject.⁵⁴⁹

Critics of the ADA have charged that the Act may be a "nightmare" for employers and a "dream" for plaintiffs' lawyers.⁵⁵⁰ These critiques question, for example, the lack of clarity of the provisions of title I. The EEOC response to such criticism acknowledges that much will need to be learned about the operation of title I on a case-by-case basis.⁵⁵¹ But other information will be needed to rebut this criticism than just that generated by the process of case-by-case judicial interpretation of the Act. This project demonstrates the importance of the development of adequate empirical data and standard methods to explore the parameters of title I. This project is one preliminary attempt, acknowledging the many dilemmas and problems encountered in the assessment of the various data sources and data collection methods for this

⁵⁴⁸ See DHS, DDSD Quality Assurance System, *supra* note 254, at 4; Haimowitz, *supra* note 500, at 23 (ADA will contribute to educational effort to combat widespread misinformation and myths about disabilities).

⁵⁴⁹ See *supra* notes 152-72 and accompanying text (e.g., part II discussion of empirical information on which the EEOC regulations rely); see also Lewin, *supra* note 316, at 13, col. 1 (noting many new empirical questions arising as generation of persons with mental retardation age).

⁵⁵⁰ See, e.g., Barnard, *The Americans with Disabilities Act: Nightmare for Employers and a Dream for Lawyers?*, 64 *St. John's L.Rev.* 229 (1990); Lavelle, *supra* note 10, at 1135-36 (citing related newspaper articles).

⁵⁵¹ See *supra* note 25 and accompanying text; cf. Burgdorf, *supra* note 4, at 509-10 (noting level of statutory specificity of ADA, for example, in definition of discrimination).

sample of consumers and users of title I.⁵⁵²

Assessing whether consumers and users are "better off" as a result of title I will be difficult to measure. But many long-term questions for study based on the empirical information in this project may be suggested. Ten such questions, among others, include:

- (1) How to assess empirically whether a qualified person with mental retardation has equal opportunity to employment?
- (2) How to assess the economic impact, in terms of the reasonableness and scope of accommodations for employment and daily living needs of persons with severe disabilities, on large and small firms covered by title I?⁵⁵³
- (3) What subgroups of persons with disabilities who are not, by the EEOC's regulations, "substantially limited" in major life activities, may be excluded from coverage under title I?
- (4) How to assess the practical usefulness of the EEOC's three factor approach to determining "essential functions" of a job for persons with different disabilities?
- (5) How to measure empirically employers' perceived and actual compliance with their obligations under title I?
- (6) What ethical and logistical dilemmas will researchers face in studying the actual behavior and employment outcomes of consumers under title I?
- (7) What longitudinal study is warranted to track levels of integration in employment before and after the effective date of title I for persons with varying disabilities? And who will support such efforts (federal, state, or private sector)?
- (8) How to plan and study the usefulness of private and state programs designed to foster equal opportunity and independence and de-emphasize income supports? And, the related issue of how to study the apparent disparities in wages and insurance rates among persons with and without disabilities in various living arrangements?
- (9) How to develop job-related and personal-care accommodations for persons with severe disabilities in work and in everyday life who reside in various living arrangements?, and
- (10) How to assess empirically whether the social reform values embodied in title I and in the ADA generally are meaningfully understood and accepted by consumers and users of the Act?

In answering these and other questions, many untold benefits and implications of the ADA will be discovered. Adequate data are not available that take into account the large number of qualified persons with disabilities who will be able to productively join the workforce because of the Act.⁵⁵⁴ In 1990 alone, almost 15,000 persons with severe disabilities were employed under the National Industries for the Severely Handicapped ("NISH") programs and earned

⁵⁵² Cf. Crespi, *Efficiency Rejected: Evaluating "Undue Hardship" Claims Under the Americans with Disabilities Act*, 26 *Tulsa L.J.* 1, 33 (1990).

⁵⁵³ See Blanck, *The Americans with Disabilities Act: Communication and Implementation*, Annenberg Wash. Program (1991) (suggesting that potential accommodations for persons with severe disabilities may include workstations at home with communication link to workplace); Holmes, *Advocates of Disabled Workers Say New Rules Don't Do Enough*, *N.Y. Times*, July 26, 1991, § A at 10, col. 5 (this issue is taking increased importance and illustrates that integration is more complicated than just providing physical access to employment sites).

⁵⁵⁴ Cf. M.S. Hayward, *supra* note 8, at 4 (arguing that the EEOC's analysis of title I impact does not take this into account).

almost \$50 million in wages.⁵⁵⁵

Moreover, the protections first afforded by the Act may become standard practice for employers in the hiring and retention of persons with disabilities in years to come. Empirical information can reinforce the forward-looking practices already in place by many employers of persons with disabilities. In addition, empirical verification of legal and social issues related to title I would add to the growing alteration in the way lawyers, judges, and policy makers think about the developing body of jurisprudence on title I.⁵⁵⁶ As suggested throughout, empirical verification of title I would accelerate knowledge and reveal myths and misconceptions about the Act.⁵⁵⁷ Employers could more quickly adopt or modify approaches to comply with title I.

Adequate longitudinal data will need to be developed also on those employees with disabilities currently employed, but who are not reasonably accommodated under title I.⁵⁵⁸ For the population of persons with mental retardation, providing reasonable accommodation in the workplace is likely not a one-time initiative, but rather involves an ongoing adjustment to the needs of the employee and the employer.⁵⁵⁹ Subsequent articles in this series will begin to focus on the longitudinal implications of the present findings, tracking these employees and this sample of employers and employment providers through the phase-in period of title I.⁵⁶⁰

The findings suggest further the need for an interdisciplinary approach to studying the implementation of title I. Micro-level variables, such as individual, co-worker, and staff education and skill will need to be developed. More macro-level variables, such as workforce composition, economic environment and support, community attitudes, and state and federal policy coordination will similarly need to be studied. Finally, greater emphasis will need to be placed on developing programs that empower consumers and their families and users of title I to have meaningful input into the development of employment opportunity for all qualified persons with disabilities.

B. Generalizing from the Findings

The present project is designed to aid in understanding (1) views of title I from those most directly affected by the Act, and (2) how to effectively study the potential impact of title I on the citizens it is designed to protect. For the relatively large sample under study, it was possible to explore patterns of findings that may have implications not only for this sample but for other samples or populations of individuals with disabilities covered under title I. Future research will need to focus on other populations of individuals with disabilities to enhance further the

⁵⁵⁵ New Directions, NISH Update, (21)6 Pub. Nat'l Ass'n of State Mental Retardation Program Directors 1, 8 (June 1991).

⁵⁵⁶ See Powell, *The Americans with Disabilities Act: The Effect of Title I on Employer/Employee Relations*, 15 *Law & Psychology Rev.* 313, 321 (1991) (e.g., interpretation of affirmative action provision of ADA); Saks, *supra* note 21, at 801.

⁵⁵⁷ See Powell, *supra* note 556, at 321; Saks, *supra* note 21, at 801.

⁵⁵⁸ M.S. Hayward, *supra* note 8, at 6 (arguing that the EEOC in its proposed regulations under estimates the impact of the ADA on the accommodations required for those currently employed individuals with disabilities).

⁵⁵⁹ C.F. Terrill, *Comments on the EEOC's Proposed Regulations For Title I of the ADA*, Illinois Planning Council on Developmental Disabilities, at 4 (Apr. 22, 1991).

⁵⁶⁰ Blanck, *The Emerging Workforce: Empirical Study of the Americans with Disabilities Act*, 16(4) *J.Corp.L.* 695 (1992); Blanck, *Tracking the Implementation of the ADA* (Mar. 1992) (manuscript in preparation).

external validity of our preliminary results.⁵⁶¹

The issue of the generalizability of the present findings relates to the extent to which the results might hold true within the population of individuals with mental retardation and across the population of other persons with disabilities as defined by the ADA. Given the large number of individuals covered by the Act, it may not be logistically or economically possible for any single study to select randomly a representative cross-sampling of all individuals with disabilities. Yet, there is no reason to suspect that the issues faced by the participants in the present study (consumers or users) are not representative of similar concerns faced by other consumers and users of title I.⁵⁶² Nevertheless, generalizations to other individuals must be conservatively made, given the lack of adequate available data.⁵⁶³ The present findings are better perceived as a bridge to future more focused empirical study of title I.

Questions about the provincial nature of the present results do not deny the fact that for this sample of consumers and users, important views and relationships are discovered and documented that may be useful in developing similar research programs in the future. The findings provide only a first attempt at examining these relationships. Future researchers will need to replicate and refine the findings before any conclusive statements can be made about the complex relationships, attitudes, and beliefs related to the implementation of title I.⁵⁶⁴ The "process" of study here shows that quantitative and qualitative methods can be a powerful combination for exploring title I.

Finally, it is important to repeat that a more cumulative national model of social, medical, and behavioral science research is needed to explore the impact and implementation of the ADA. Any single study no matter how large or well conducted yields only a limited degree of real-world information.⁵⁶⁵ It is hoped that the collaborative effort embodied in this project contributes to awareness of these issues and serves as a first step toward developing a body of research useful for assessing the implementation and effectiveness of the Act. Likewise, the findings here should be questioned, qualified, and amplified by employers to help them better understand their obligations under title I.

Historically, persons with disabilities have been ignored and excluded from society. Persons with disabilities, and persons with mental retardation, have been subjected to deep rooted prejudices, myths, and stereotypes about their needs and abilities.⁵⁶⁶ At the same time, this

⁵⁶¹ Cf. J. Conroy & V. Bradley, *supra* note 15, at 323 (calling for additional study in the area, but noting important gains for Pennhurst population may generalize to other similar populations of persons with mental retardation).

⁵⁶² But note, for example, that because one of the institutional settings studied here is under a consent decree to close, a relatively higher level of participant needs may be met in this setting.

⁵⁶³ Cf. Burgdorf, *supra* note 4, at 515-16 (also noting generalizations based on ADA nondiscrimination standards must be viewed with caution, as application depends on the facts and circumstances in each situation).

⁵⁶⁴ Campbell, *supra* note 2, at 428 ("hard-headed" reality testing is necessary but once it has been decided that the social reform--the ADA--is to be adopted, then more experimental evaluations may be required).

⁵⁶⁵ See generally Blanck, *supra* note 560.

⁵⁶⁶ Rebell, *Structural Discrimination and the Rights of the Disabled*, 74 *Geo.L.J.* 1435, 1436-37 (1986) (pre-ADA discussion).

group has been subjected to societal paternalism, sympathy, and attempted accommodation.⁵⁶⁷ Yet, in the past two decades there has been a dramatic shift in public attitudes toward persons with disabilities.⁵⁶⁸ Changing public attitudes in turn affect society's behavior toward persons with disabilities.⁵⁶⁹ It is important to study how society's views of persons with disabilities and of itself change over time so that the vision of the ADA may develop into reality for its consumers and users. To this end, the present study ventured to explore law in action; that is, as the legal realists suggested, to explore the legal and social meaning of the new social reform legislation embodied in the ADA.

VI. CONCLUSION

This article is descriptive and exploratory. It is designed as much to raise issues as to answer them. It is designed also to help begin the analysis of a comprehensive piece of social legislation, title I of the ADA. The over-arching goal of title I is to promote employment opportunities for and to prevent discrimination against qualified persons with disabilities. This article has begun to address several questions necessary to understand how this goal may be achieved, how the implementation of this effort will be measured empirically, and what data will be required to document this outcome. It is hoped the empirical information presented and the process of study will provide consumers and users of the ADA proactive means for compliance with the Act without first resort to litigation.

⁵⁶⁷ *Id.* at 1437-38; see also Rogan & Murphy, *supra* note 265, at 41 (true integration goes beyond mere physical accommodation of persons with disabilities).

⁵⁶⁸ See, e.g., Rees, Spreen & Harnadek, Do Attitudes Towards Persons with Handicaps Really Shift Over Time?--Comparison Between 1975 and 1988, 29 *Mental Retardation* 81 (Apr. 1991) (results show a positive shift over time in public attitudes toward persons with mental retardation).

⁵⁶⁹ Ancillary data from this project show, for example, that service providers hold different expectations for persons with mental retardation depending on their type of employment and living arrangement; with more positive expectations for those residing and working in more integrated settings. See also *id.* at 81 (citing research showing that attitudes influence the quality and availability of services).