

Barriers to Independent Living for Individuals with Disabilities and Seniors

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Abstract Individuals with disabilities and seniors often lack the freedom to choose with whom they live and where they reside. Service options may involve moving consumers to large nursing facilities or other less-preferred settings rather than optimizing environmental supports in their own home or in less restrictive settings. Not only do adults usually enjoy greater choice when they live in their own homes relative to individuals living in congregate care or group home settings but independent and semi-independent settings are also associated with better outcomes and lower costs. Identifying variables that serve as barriers to independent living is especially important given estimates predicting that the numbers of seniors and individuals with disabilities will double in the next 20 years. This doubling will tax an already burdened and costly system of care. The present study queried consumers and other key stakeholders about potential barriers to independent living and their importance. Findings not only revealed a high degree of overlap between identified barriers and their importance ratings within groups but also showed clear differences in potential barriers across the groups assessed (individuals with disabilities and senior citizens).

Keywords Independent living · Disabilities · Senior citizens

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The numbers of seniors and individuals with disabilities are expected to double in the next 20 years (Harrington et al. 2002) with estimates predicting that 20 % of the US population will be 65 years or older by 2030 (Jungers 2010; LeBlanc et al. 2012). As the baby boomer generation ages, barriers to an already taxed system will emerge and prevent individuals from accessing needed support. Unfortunately, barriers to service provision presently exist and result in service delays for those most in need of care. Long wait lists, a lack of legislative support, and a limited number of skilled providers prevent consumers from receiving the care and support they need (Harrington et al. 2002; LeBlanc et al. 2012). Moreover, the costs are staggering; both in-home and out-of-home services are associated with high societal and individual financial costs (Centers for Medicare and Medicaid Services [CMS], 2010). For example, individuals living in nursing home facilities pay, on average, \$50,000 annually. Estimates indicate that state insurance programs, such as Medicare and Medicaid, spent \$143.1 billion for nursing care facilities in 2010 and \$128.5 billion for residential and other health-related expenses (CMS, 2010). Many individuals and insurance companies simply cannot afford the services that are needed and/or desired.

Despite federal legislation (e.g., Developmental Disabilities Assistance and Bill of Rights Act of 2000, P.L. 106–402) and other important advances of the independent living movement—which emphasize empowerment of consumers in their own life decisions (Frieden 1980)—individuals with disabilities and seniors often lack the freedom to choose with whom they live and where they reside (Stancliffe et al. 2011). Service options may include moving consumers against their desire to large nursing facilities or other less-preferred settings rather than optimizing environmental supports in their own

home or in less restrictive settings. Not only do adults enjoy greater choice when they live in their own homes relative to individuals living in congregate care or group home settings (Stancliffe et al. 2011) but independent and semi-independent settings are also associated with better outcomes and lower costs (Burchard et al. 1991; Stancliffe et al. 2011; Stancliffe and Keane 2000). To address the growing demand for quality services provided in a manner desired by consumers, national leaders and public policy advocates are searching for ways to provide affordable services (Bowes and McColgan 2006; Woolham 2005). One way to accomplish this is to develop effective service delivery options in independent and semi-independent settings and avoid moving consumers to more restrictive and costly living arrangements. A possible prerequisite to delivering effective services in these desired settings is determining which factors are responsible for preventing independent living.

Factors Contributing to Decisions Regarding Living Arrangements

Identifying barriers that prevent seniors and individuals with disabilities from independent and semi-independent living may help consumers and service providers plan appropriate supports and services in the least restrictive environment. A number of variables may contribute to decisions about where an individual resides and the types of supports received. For example, researchers have identified several sociodemographic factors that influence health outcomes, generally (Emerson et al. 2006; Williams 1983); however, the literature explicitly linking sociodemographic factors as barriers to independent living is limited. Lowe Worobey and Angel (1990) evaluated level of functioning, race, social class, and gender related to choices to remain living alone or transitioning to a group or an institutional setting. They found that despite decreasing level of functioning, women, individuals who were more financially stable, and Caucasians were more likely to continue to live alone. Other sociodemographic factors play a role as well. Female gender, advanced age, and race are associated with a lower functioning level in individuals with disabilities (e.g., DeJong and Branch 1982; Dunn 1990). An obvious barrier for individuals who are economically disadvantaged is the cost of services. Together, these findings suggest that socioeconomic factors influence the prevalence of the need for health care services.

Additional variables may influence the degree to which an individual lives independently including level of functioning and geographic variation. Yeager (1996) determined that communication skills, a reliance on others, disorientation (i.e., lacking knowledge about time, place, or person), and a need for support beyond that required to assist with daily living affects one's probability of living independently. Individuals

who are unable to complete daily living activities, such as planning and preparing meals, cleaning, maintaining personal hygiene, using minor first aid, and upholding financial responsibilities might be unable to live in an independent environment (Wister 1985). Decisions about where to live may be affected by geographic location since the types and quality of care options and service providers vary in different communities and regions (Baicker et al. 2005). Individuals who reside near metropolitan areas may have more options available to them than those who live in rural communities with few service providers and limited access (Arcury et al. 2005). Moreover, spending on healthcare and services varies as a function of state and county (McAney, n.d.). In their analysis of geographic variation, Baicker et al. (2005) documented differences in effective care for Medicare enrollees as a function of *where* in the USA services were provided (e.g., a greater proportion of enrollees living in the northeast receive effective care than those residing in the southeast). These data suggest that the types and quality of service providers vary by location, which may restrict or expand living options available to consumers.

Personal views may serve as another factor potentially affecting decisions about where to reside. Although we were unable to locate any studies that directly asked consumers and care providers about the variables that serve as barriers to independent living, there are at least two studies that queried consumers about their views on changes in residence. Jungers (2010) interviewed aging individuals about their attitudes related to transitioning from their home to a less independent setting and reported that many individuals moving into an assisted living facility experienced loneliness as well as a loss of independence and autonomy. Accordingly, personal views regarding the desire or ability to maintain old friendships, develop new friendships, and retain autonomy may influence the decision to transition to a care facility or other living environment. Negative perceptions and stigma associated with receiving assistance, particularly assistance that requires a change in residence, may also influence decisions. Despite fears expressed by seniors regarding a loss of autonomy and restrictions associated with assisted living facilities (Jungers 2010), individuals with intellectual or developmental disabilities report an increase in independence as a primary reason for moving from their caregivers' home to a care facility (Cattermole et al. 1988). Finally, a desire to avoid placing burden on family members may increase the likelihood of moving to a care facility (Jungers 2010).

Purpose of the Present Study

The literature on factors associated with independent living is limited and requires readers to draw inferences about what variables may constitute actual barriers. We were unable to

locate a study asking consumers, caregivers, or service providers about the variables that serve as barriers to independent living. Thus, the purpose of the present study was to address this gap in the literature and ask consumers and other key stakeholders to identify barriers and rate their importance to independent living. This study involved senior citizens *and* individuals with disabilities so that we could compare and contrast the findings of the two groups of service recipients. Identifying and summarizing similarities and differences across the two groups may help to individualize life-planning and transition decisions as well as plan appropriately for services.

Method

Participants

Participants in this study were senior citizens, paid staff (e.g., professionals, paraprofessionals, advocates), and family members (e.g., parents, siblings, children) of individuals with disabilities and senior citizens who responded to an invitation to complete an online anonymous survey distributed by their employers, professional organizations, or other member groups. Per institutional review board requirements, institutions were not asked to inform us about whether they distributed the survey link and/or the number of individuals to whom they sent the link. As a result, we are unable to calculate a response rate. One hundred and fifty three individuals opened the survey link, and only one individual declined participation. Thus, 99.3 % ($n=152$) of individuals who opened the survey via the survey link elected to participate in the survey.

Instrumentation

To assess barriers to independent living, we developed an online survey consisting of three sections. The first section asked participants to provide demographic information including the following: (a) role (family member [of an individual with a disability or a senior citizen], professional/staff/advocate [of an individual with a disability or a senior citizen], elderly/senior, other); (b) present living environment of family member, if applicable; (c) age of family member, if applicable; (d) years of experience for professional/staff/advocate; (e) highest degree obtained for professional/staff advocate; and (f) age for elderly/senior respondents. The next section of the survey asked participants to review a list of considerations and indicate whether these served as barriers to independent living (*yes*=barrier, *no*=not a barrier). The considerations included (a) medical condition (e.g., heart condition, diabetes, eye problems, breathing difficulties); (b) mobility difficulties (e.g., risk of falls, walking assistance); (c) assistance with taking medications independently; (d) memory loss,

disorientation; (e) incontinence; (f) dual diagnosis (e.g., psychiatric disorder, behavior disorder, intellectual disorder); (g) severe weather safety; (h) fire safety; (i) assistance with household skills (e.g., cooking, cleaning); (j) assistance with daily living skills (e.g., bathing, brushing teeth, dressing); (k) personal safety (e.g., intruders, stranger danger, self-protection from roommates); (l) running or wandering from home; and (m) loneliness. The final section of the survey asked participants to rate the importance of these 13 considerations using a four-point Likert-type scale (1=*not important*, 2=*somewhat important*, 3=*important*, 4=*very important*).

Procedure

Before conducting the survey, we obtained approval from the governing Human Subjects Committee (i.e., Institutional Review Board). The survey link was sent via electronic mail to 13 institutions in Kansas and Missouri that served or provided resources to senior citizens, individuals with disabilities, or family members of senior citizens or individuals with disabilities (e.g., area departments on aging, independent living centers). We focused on distributing our survey to institutions in the central USA because the rate of effective care for Medicare enrollees is within the middle range (43.5 to 48.3 %) and not in the low (30.2 %) or high (56.9 %) ends of the continuum (Baicker et al. 2005). Effective care refers to the delivery of care or services that show evidence of reduced risks of relevant and important clinical outcomes, such as disease or injury (Munson et al. 2013). In an attempt to increase the generality of our findings, we avoided surveying respondents who lived in geographic areas with particularly low or high rates of effective care. Institutions were asked to disseminate an invitation containing the survey link to their employees, clients, or other contacts via electronic mail correspondence. We invited institutions to assist with the dissemination of the survey one time only.

Results

Demographic Characteristics of the Sample

One hundred fifty two individuals agreed to complete the survey. A majority of respondents identified themselves as a disability professional/staff/advocate (40.4 %) or a caregiver/parent/family member of an individual with a disability (29.1 %). Administrators and clinicians/practitioners/managers/social workers comprised nearly half of the disability professionals. Parents comprised a large majority of the family members of individuals with disabilities ($n=31$ of 44 respondents). Respondents who worked as paid professionals or staff had a wide range of years of experience and degrees. Forty-

one percent of disability professionals had 16 or more years of experience and held a bachelor's degree. Conversely, 40 % of professionals in the gerontology field who responded to our survey had 0 to 5 years of experience. A majority of these individuals had bachelor's (60 %) or master's (20 %) degrees. A small percentage of our sample identified themselves as senior citizens (2.0 %) or working with or related to a senior citizen (staff or advocate=9.9 %; caregiver, parent, or family member=8.6 %). Tables 1 (demographic characteristics) and 2 (experience and education of paid professionals and staff) summarize these data in more detail.

Tables 3 and 4 summarize the living arrangements reported by family members of individuals with disabilities and senior citizens, respectively. Most individuals with disabilities were reported to reside in the home of the respondent (40.5 %) and were 31 years old, on average. A large majority of senior citizens were reported to live independently in their own home or apartment without staff present (66.7 %). The average age of the senior citizens was 72 years old.

Table 1 Demographic characteristics of respondents

	<i>n</i>	%
Caregiver/parent/family member of a senior citizen	13	8.6
Parent	1	
Child	7	
Other	2	
Did not specify	3	
Caregiver/parent/family member of a person with a disability	44	29.1
Parent	31	
Grandparent	1	
Sibling	6	
Other	5	
Did not specify	1	
Disability professional/staff/advocate	61	40.4
Direct service professional	8	
Administrator	15	
Licensed practical nurse	1	
Registered nurse	1	
Clinical/practitioner/manager/social worker	14	
Other	16	
Did not specify	6	
Gerontology professional/staff advocate	15	9.9
Direct service professional	2	
Administrator	1	
Registered nurse	1	
Clinical/practitioner/manager/social worker	4	
Other	7	
Senior citizen/elderly	3	2.0
Other	15	9.9
Did not specify	1	0.7

Table 2 Experience and education of paid professionals or staff

	<i>n</i>	%
<i>Gerontology field—years of experience</i>		
0–5	6	40.0
6–10	3	20.0
11–15	0	0.0
16+	5	33.3
Did not specify	1	6.7
<i>Gerontology field—highest degree obtained</i>		
Registered nurse	1	6.7
Bachelor's	9	60.0
Master's	3	20.0
Doctorate	1	6.7
Did not specify	1	6.7
<i>Disability field—years of experience</i>		
High school	10	16.4
Associate	4	6.6
License practical nurse	1	1.6
Bachelor's	25	41.0
Master's	11	18.0
Doctorate	3	4.9
Did not specify	7	11.5

Endorsed Barriers

Table 5 depicts the percentage and frequency of respondents who endorsed the considerations as barriers to independent living, separated by group (individuals with disabilities, senior citizens). Approximately 98 respondents completed each survey item (individuals with disabilities=37 or 38, senior

Table 3 Frequency and percentage of respondents specifying the living arrangements of a person with a disability

	<i>n</i>	%
Respondent's home	17	40.5
Independently in his/her own home/apartment with no staff supports	1	2.4
Foster care (adult or child)	2	4.8
Supported living in a home/apartment with three or fewer persons	9	21.4
Group home with support and four to eight individuals living together	1	2.4
Residential facility with nine or more people	8	19.0
Nursing care (skilled nursing or nursing home)	1	2.4
Other (specify):	5	11.9
Family teaching model home	1	
Apartment with visiting support staff twice a day	1	
Community facility	1	
Supported living center	1	
ICF/MR/DD	1	

Table 4 Frequency and percentage of respondents specifying the living arrangements of a senior citizen

	<i>n</i>	%
Respondent's home	0	0
Independently in his/her own home/apartment with no staff supports	6	66.7
Assisted living	2	22.2
Nursing care (skilled nursing or nursing home)	0	0
Other (specify):	2	11.1
Own home with minimal support staff	1	
Own apartment with visiting support staff	1	

citizens=59 or 60). For individuals with disabilities, the top three considerations endorsed as barriers were personal safety (94.7 %), assistance with household skills (94.7 %), and assistance with medication (89.5 %). For senior citizens, entirely different considerations were endorsed as the top barriers and included memory loss and/or disorientation (95.0 %), mobility difficulties (90.0 %), and running or wandering away (81.7 %).

Importance Ratings

Respondents were also asked to rate the importance to independent living of each of the considerations using a Likert-type scale (1=*not important*, 2=*somewhat important*, 3=*important*, 4=*very important*). Table 6 shows the mean rating of importance separated by group (individuals with disabilities, senior citizens). With the exception of one consideration

Table 5 Percentage (frequency) of respondents indicating the consideration serves as a barrier to independent living (separated by group)

	Individuals with disabilities % (<i>n</i>)	Senior citizens % (<i>n</i>)
Personal safety	94.7 (36)	70.0 (42)
Assistance with household skills	94.7 (36)	63.3 (38)
Assistance with medications	89.5 (34)	76.7 (46)
Assistance with daily living skills	76.3 (29)	70.0 (42)
Fire safety	86.8 (33)	61.0 (36)
Dual diagnosis	68.4 (26)	76.7 (46)
Loneliness	72.9 (27)	58.3 (35)
Running or wandering away	55.3 (21)	81.7 (49)
Severe weather safety	67.6 (25)	41.7 (25)
Medical condition	52.6 (20)	70.0 (42)
Mobility difficulties	47.4 (18)	90.0 (54)
Memory loss/disorientation	47.4 (18)	95.0 (57)
Incontinence	40.5 (15)	52.5 (59)

Bold font denotes top three barriers for each group of respondents

(assistance with household skills), approximately 98 individuals completed each of the considerations on this section of the survey. For individuals with disabilities, the top three mean ratings were personal safety ($M=3.71$), assistance with household skills ($M=3.65$), and assistance with medications ($M=3.63$). These considerations and the order of importance are identical to those the same group of respondents endorsed as barriers. For senior citizens, the top three mean ratings were memory loss and/or disorientation ($M=3.37$), running or wandering away ($M=3.25$), and assistance with medications ($M=3.23$). The same group of respondents also endorsed two of these considerations as barriers. Both groups of respondents (i.e., for individuals of disabilities and senior citizens) rated assistance with medications as one of the most important considerations.

An independent sample *t* test was conducted to compare importance ratings of each of the 13 considerations for the two groups: individuals with disabilities or senior citizens. There was not a significant difference in the ratings for three of the 13 considerations: dual diagnosis ($t(93)=0.4426$, $p=0.6591$), loneliness ($t(94)=0.9408$, $p=0.3492$), and incontinence ($t(93)=0.5731$, $p=0.5680$). The differences in the importance ratings were significant for the remaining 10 considerations at the $p<0.05$ ($n=4$), $p<0.01$ ($n=2$), and $p<0.001$ ($n=4$) values (see Table 6). These results suggest that respondents provided significantly different ratings of importance for a clear majority of the considerations depending on whether the considerations were about an individual with a disability or a senior citizen.

Discussion

The purpose of the present study was to identify variables that serve as barriers to independent living for individuals with disabilities and senior citizens. Additionally, we were interested in assessing the importance of each variable. The top three barriers for individuals with disabilities center on safety and skill deficits (i.e., personal safety, household skills, and medication assistance). Respondents also rated these barriers as the most important, which shows convergent evidence for their relevance as potential barriers to independent living. The top three barriers identified for senior citizens and rated as most important center on issues that are largely medical/organic (i.e., memory loss/disorientation, wandering, and medication assistance). Overall, the present findings suggest that the barriers to independent living are unique to the respective populations, which has important implications for practice as well as future research.

The current results add to the independent living literature in a number of ways. First, the current study evaluated the responses of individuals who receive services, care for a loved

Table 6 Mean rating (standard deviation, frequency) of importance to independent living (separated by group)

	Individuals with disabilities <i>M (SD, n)</i>	Senior citizens <i>M (SD, n)</i>	<i>p value</i>
Personal safety	3.71 (0.65, 38)	3.05 (0.96, 60)	0.0003***
Assistance with household skills	3.65 (0.54, 74)	2.77 (0.85, 60)	0.0001***
Assistance with medications	3.63 (0.75, 38)	3.23 (0.89, 60)	0.0236
Assistance with daily living skills	3.51 (0.87, 37)	2.88 (0.87, 60)	0.0008***
Fire safety	3.41 (0.87, 37)	2.73 (1.06, 59)	0.0014**
Dual diagnosis	2.97 (1.28, 37)	3.07 (0.92, 58)	0.6591
Loneliness	2.81 (0.92, 36)	2.63 (0.90, 60)	0.3492
Running or wandering away	2.76 (1.30, 38)	3.25 (0.76, 59)	0.0212*
Severe weather safety	2.75 (1.13, 36)	2.27 (1.08, 59)	0.0417*
Medical condition	2.68 (1.33, 37)	3.21 (1.01, 58)	0.0302*
Mobility difficulties	2.51 (1.26, 37)	3.13 (0.91, 60)	0.0061**
Memory loss/disorientation	2.35 (1.21, 37)	3.37 (0.76, 59)	0.0001***
Incontinence	2.22 (1.27, 36)	2.36 (1.08, 59)	0.5680

Bold font denotes top three ratings for each group of respondents

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

one, or provide services to individuals with disabilities or senior citizens. Previous literature is largely speculative and requires readers to draw inferences about which factors serve as barriers to independent living (e.g., Hazen and McCree 2001; Jungers 2010; Yeager 1996). Querying key stakeholders provides an important contribution and addresses a glaring gap in the literature. Without identifying the factors that actually serve as barriers, it is impossible to optimize supports and target skills to increase independent living. Although we did not supplement our findings with in-home assessments to determine the accuracy of respondent reports, the results provide a better understanding of important considerations. Second, the current study examined the responses of two groups of service recipients and reported their data separately. The data suggest that the reported barriers are distinct to each group underscoring the importance of individualized planning. If we had aggregated the data across the two groups, our findings may misrepresent specific barriers and needs of each individual group. These results may help to identify the supports or conditions necessary for an individual to continue to live independently and may inform decisions about the skills that could be targeted, which may reduce costs associated with providing unnecessary services or transitioning to different or more restrictive living arrangements. A difference in barriers across the two groups emphasizes the need for individualized, tailored solutions. Third, information about which variables serve as barriers to independent living may allow us to target the relevant barriers *sooner*, thereby (1) reducing lengthy waitlists, (2) creating opportunities to serve people longer in their own homes, and (3) possibly minimizing abrupt transitions to more restrictive settings. Accomplishing these may also improve the quality of life for individuals with disabilities and senior citizens by increasing independence and autonomy in targeted areas that they value. Previous research indicates that independent and semi-

independent settings are associated with better outcomes, lower costs, and greater choice (Burchard et al. 1991; Stancliffe et al. 2011; Stancliffe and Keane 2000) suggesting that there are benefits to addressing potential barriers. Many of the above-mentioned outcomes are speculative; thus, additional research is needed to document conclusively that these outcomes are obtained.

Implications for Behavior Analysts

These findings have important implications for behavior analysts with respect to optimizing environmental supports for and addressing particular skill deficits of individuals with disabilities and senior citizens.

1. Most notably, the results identify barriers to independent living that are unique to each group assessed suggesting a need for service providers and policy makers to tailor interventions, provision of resources, and changes in policy appropriate to the barriers experienced by that particular population. The differences in reported barriers *across groups* underscore the importance of ongoing, individualized assessment in order to address the specific needs of service recipients. Although behavior analysts may be well aware of the limitations associated with a one-size-fits-all approach, traditional congregate care settings and large nursing facilities are often ill-equipped to tailor interventions based on individual need. These data provide further evidence of the necessity for high-quality behavior analytic services (e.g., assessment and intervention). With respect to convergent patterns regarding the top-reported barriers and their importance *within a group*, these commonalities might be a first step toward identifying indicated interventions or living solutions unique to a particular service recipient group.

2. The barriers identified for individuals with disabilities included safety and skill deficits, two areas that may benefit from targeted skills training. There is a great deal of behavior analytic research demonstrating the effectiveness of available methods to teach self-help and safety skills (e.g., Bannerman et al. 1991; Batu et al. 2004; Taylor et al. 2004; Winterling et al. 1992). We recommend that practitioners consult previous research to guide their intervention efforts and focus on training the necessary skills and safety behaviors that improve an individual's ability to live independently, as appropriate.
3. The barriers identified for senior citizens included factors that are likely not able to be remedied through skills training, which suggests the necessity for ongoing assistance and monitoring. Advancements in smart home technology offer unique solutions to accomplishing this goal without moving individuals from their home to restrictive settings with round-the-clock staffing. These advancements may be relevant for both senior citizens and individuals with disabilities interested in living in an independent or semi-independent setting. To address a top concern reported for senior citizens regarding wandering or running away, homes may be equipped with specific sensors to allow service providers to detect when a service recipient has passed the threshold of a door. That is, technology allows us to equip homes with sensors so that service providers are informed when a need arises (e.g., a service recipient has sustained a fall; a stovetop burner is on for a sustained period). These types of passive or self-directed monitoring agents provide comfort to consumers and families because they signal when assistance is needed without the need for onsite staff or a move to a more restrictive setting. Moreover, advanced smart home technology can be designed so that it is easily accessed by service recipients when needed (see DiGennaro Reed and Reed 2013 for a description of one application of this technology). These types of services may offer alternatives to senior citizens and individuals with disabilities and simultaneously alleviate the financial burdens associated with care. When assisting consumers in making life planning and transition decisions, practitioners might consider options made available through these types of technological advancements.

Limitations and Future Research

Although this study may serve as a helpful starting point for evaluating barriers to independent living, a number of limitations exist that warrant discussion and suggest areas for future research. First, given the number of respondents and the geographic region surveyed, this sample may not be representative of the needs of individuals across the USA. We

encourage readers to exercise caution when interpreting our findings since the representativeness of our sample is unknown, which is a threat to the external validity of our results. Future research could expand on these data by disseminating the survey across settings and geographic regions in order to obtain a nationally representative sample. Next, the survey items were conceptually derived and created with the best available evidence from the literature at the time; however, the survey likely has not captured all of the relevant concerns individuals face when choosing a living arrangement. Additionally, in the demographic portion of the survey, respondents were required to select one of two dichotomous groups: disability *or* senior citizen. The study does not account for a portion of the population with disabilities who are aging or individuals who age into disability. Considerations that serve as barriers are unknown for this subset of the population and may differ from those identified in our findings. Future research should address this limitation. Importantly, due to restrictions by the institutional review board, we were unable to query individuals with disabilities about potential barriers. Additional research might identify ethical and accurate means of obtaining responses from this population. Ultimately, these findings highlight the need to learn more about the factors that prevent independent living in order to increase the options available to individuals with disabilities and senior citizens and maximize their independence.

References

- Arcury, T. A., Gelser, W. M., Preisser, J. S., Sherman, J., Spencer, J., & Perin, J. (2005). The effects of geography and spatial behavior on health care utilization among the residents of a rural region. *Health Services Research, 40*, 135–156. doi:10.1111/j.1475-6773.2005.00346.x.
- Baicker, K., Chandra, A., & Skinner, J. S. (2005). Geographic variation in health care and the problem of measuring racial disparities. *Perspectives in Biology and Medicine, 48*, S42–S53. doi:10.1353/pbm.2005.0020.
- Bannerman, D. J., Sheldon, J. B., & Sherman, J. A. (1991). Teaching adults with severe and profound retardation to exit their homes upon hearing the fire alarm. *Journal of Applied Behavior Analysis, 24*, 571–577. doi:10.1901/jaba.1991.24-571.
- Batu, S., Ergenekon, Y., Erbas, D., & Akmanoglu, N. (2004). Teaching pedestrian skills to individuals with developmental disabilities. *Journal of Behavioral Education, 13*, 147–164. doi:10.1023/B:JOB.0000037626.13530.96.
- Bowes, A. M., & McColgan, G. (2006). *Smart technology and community care for older people: innovation in West Lothian Scotland*. Edinburgh: Age Concern Scotland.
- Burchard, S. N., Hasazi, J. S., Gordon, L. R., & Yoe, J. (1991). An examination of lifestyle and adjustment in three community residential alternatives. *Research in Developmental Disabilities, 12*(2), 127–142. doi:10.1016/0891-4222(91)90002-A.
- Cattermole, M., Jahoda, A., & Markova, I. (1988). Leaving home: the experience of people with a mental handicap. *Journal of Mental*

- Deficiency Research*, 32, 47–57. doi:10.1111/j.1365-2788.1988.tb01387.x.
- Centers for Medicare & Medicaid Services (2010). National Health Expenditure 2010: sponsor highlights. Retrieved April 9, 2012, from [www.cms.gov/...Data.../NationalHealthExpendData.../sponsors.pdf](http://www.cms.gov/Data/NationalHealthExpendData/sponsors.pdf).
- DeJong, G., & Branch, L. G. (1982). Predicting the stroke patient's ability to live independently. *Stroke*, 13(5), 648–655. doi:10.1161/01.STR.13.5.648.
- Developmental Disabilities Assistance and Bill of Rights Act of 2000, S. 1809 (H.R. 4920), 106th Congress.
- DiGennaro Reed, F. D., & Reed, D. D. (2013). Field report: HomeLink support technologies at community living opportunities. *Behavior Analysis in Practice*, 6(1), 80–81.
- Dunn, P. A. (1990). The impact of the housing environment upon the ability of disabled people to live independently. *Disability, Handicap & Society*, 5, 37–52.
- Emerson, E., Graham, H., & Hatton, C. (2006). The measurement of poverty and socioeconomic position involving people with intellectual disability. *International Review of Research in Mental Retardation*, 32, 77–108. doi:10.1016/S0074-7750(06)32003-4.
- Frieden, L. (1980). Independent living models. *Rehabilitation Literature*, 41(7–8), 169–173.
- Harrington, C., LeBlanc, A. J., Wood, J., Satten, N. F., & Tonner, M. C. (2002). Met and unmet need for Medicaid home- and community-based services in the states. *Journal of Applied Gerontology*, 21(4), 484–510. doi:10.1177/073346402237636.
- Hazen, M. M., & McCree, S. (2001). Chapter 2: environmental support to assist an older adult with independent living. *Journal of Housing for the Elderly*, 14(1–2), 27–52. doi:10.1300/J081v14n01_02.
- Jungers, C. M. (2010). Leaving home: an examination of late-life relocation among older adults. *Journal of Counseling & Development*, 88, 416–423. doi:10.1002/j.1556-6678.2010.tb00041.x.
- LeBlanc, L. A., Heinicke, M. R., & Baker, J. C. (2012). Expanding the consumer base for behavior-analytic services: meeting the needs of consumers in the 21st century. *Behavior Analysis in Practice*, 5, 4–14.
- Lowe Worobey, J., & Angel, R. J. (1990). Functional capacity and living arrangements of unmarried elderly persons. *Journal of Gerontology*, 45(3), S95–S101. doi:10.1093/geronj/45.3.S95.
- McAneny, B. L. (n.d.). *Report on the council on medical service* (CMS Report 2-I-09). Retrieved from <http://www.ama-assn.org/resources/doc/cms/i09-cms-report2.pdf>
- Munson, J. C., Morden, N. E., Goodman, D. C., Valle, L. F., & Wennberg, J. E. (2013). The Dartmouth atlas of Medicare prescription drug use. http://www.dartmouthatlas.org/downloads/reports/Prescription_Drug_Atlas_101513.pdf
- Stancliffe, R. J., & Keane, R. J. (2000). Outcomes and costs of community living: a matched comparison of group homes and semi-independent living. *Journal of Intellectual & Developmental Disability*, 25(4), 281–305. doi:10.1080/13668250020019584.
- Stancliffe, R. J., Lakin, K. C., Larson, S., Engler, J., Taub, S., & Fortune, J. (2011). Choice of living arrangements. *Journal of Intellectual Disability Research*, 55(8), 746–762. doi:10.1111/j.1365-2788.2010.01336.x.
- Taylor, B. A., Hughes, C. E., Richard, E., Hoch, H., & Rodriguez Coello, A. (2004). Teaching teenagers with autism to seek assistance when lost. *Journal of Applied Behavior Analysis*, 37, 79–82. doi:10.1901/jaba.2004.37-79.
- Williams, G. H. (1983). The movement for independent living: an evaluation and critique. *Social Science & Medicine*, 17, 1003–1010.
- Winterling, V., Gast, D. L., Wolery, M., & Farmer, J. A. (1992). Teaching safety skills to high school students with moderate disabilities. *Journal of Applied Behavior Analysis*, 25, 217–227. doi:10.1901/jaba.1992.25-217.
- Wister, A. V. (1985). Living arrangement choices among the elderly. *Canadian Journal on Aging*, 4(3), 127–145. doi:10.1017/S0714980800015968.
- Woolham, J. (2005). *Safe at home—the effectiveness of assistive technology in supporting the independence of people with dementia*. London: Hawker Publications.
- Yeager, K. M. (1996). Independent living: perceptions, realities, and guidelines. *Activities, Adaptation, & Aging*, 20(2), 1–11. doi:10.1300/J016v20n02_01.