ED 470 412 CG 032 036

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TITLE	Disability Demographics: Changes and Implications for Psychology.
PUB DATE	2002-08-00
NOTE	22p.; Paper presented at the Annual Meeting of the American Psychological Association (110th, Chicago, IL, August 22-25, 2002).
PUB TYPE	Information Analyses (070) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Counselor Training; Cross Cultural Training; *Disabilities; *Interdisciplinary Approach; *Population Trends; *Psychological Services; *Psychologists; Quality of Life; Trend Analysis; Urbanization
IDENTIFIERS	*Demographics

ABSTRACT

Changing population demographics, including urbanization and improved services and quality of life for persons with disabilities, have produced changes in the types and numbers of disabilities which educators, service providers and employers are increasingly asked to accommodate. These changes have also resulted in a need for researchers, administrators and practitioners with the skills, training and insight to work in interdisciplinary teams and settings. This paper highlights how psychologists' areas of practice have become environments in which the knowledge base of many disciplines can and should be drawn upon in meeting the needs of persons with disabilities as both service providers in training programs and service consumers. Disability demographics are tied to other changing U.S. demographics and present serious challenges to psychologists in all specialties. It is concluded that psychology training programs must prepare psychologists to meet those challenges as a part of interdisciplinary, multicultural teams. (Contains 73 references.) (GCP)

Disability Demographics: Changes and Implications for Psychology

by

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Chicago, Illinois
August, 2002

Changing population demographics, including urbanization and improved services and quality of life for persons with disabilities, have produced changes in the types and numbers of disabilities which educators, service providers and employers are increasingly asked to accommodate. These changes have also resulted in a need for researchers, administrators and practitioners with the skills, training and insight to work in interdisciplinary teams and settings. What has been referred to as the "new universe of disability" (Seelman and Sweeney, 1995) is the result of changes in the factors which cause disabilities and which are often related to poverty. These include such things as accidental and non-accidental injuries, substance abuse, aging and problems related to health care and wellness (Seelman and Sweeney, 1995). Our areas of practice have become environments in which the knowledge base of many disciplines can - and should - be drawn upon in meeting the needs of persons with disabilities as both service providers in training programs and service consumers. While disability-related issues are often thought of in medical and psychosocial (social work, clinical psychology) terms, observations regarding population trends in economics and vocational services are particularly important in understanding the impact of disabilities on lifestyle and quality of life in the United States, emphasizing the need for a broadly interdisciplinary training program. Data collected by the Administration on Aging (2001), for example, point to a clear association between lower income levels and lower educational attainment and the presence of a severe disability. Many people with disabilities do not receive the support available from governmental programs, which may be the result of ineffective linkages to such services in the community, increasing the income gap between those with and without disabilities. For example, only about one-third of those who are classified as work disabled receive social security income or are covered by Medicaid; even fewer participate in other governmental benefit programs (U.S. Census Bureau, 2000). Without effective, accessible, culturally competent services, and providers able to work collaboratively across disciplines, the income gap cannot be reduced. Current programs serving persons with disabilities have been unable to meet the challenges posed by an increase in the severity of disabilities which must be accommodated in order to allow full employment. For example, among persons with disabilities who received vocational rehabilitation services between 1980 and 1999, the percentage of those reported to have severe disabilities increased from 55% to 84%, while the percentage of persons with severe disabilities judged to have been rehabilitated remained nearly level (61 vs. 62%; U.S. Census Bureau, 2000).

While we have become increasingly specialized within our own field, many of our graduates are expected to provide competent, respectful services in environments that reflect "the increasing racial and ethnic complexity of American life, with wide ethnic variations in health status within racial groups . . . and the growing percentage of multi-racial families" (National Committee on Vital and Health Statistics, 2000, p. 9). Psychologists have much to offer both to persons with disabilities and to colleagues in the other professions which serve them. Mental health concerns, and secondary conditions related to them often play a role in the lives of people living with disabilities, yet psychologists are not always involved in the systems which provide other services. In one recent survey of urban women with disabilities (Coyle and Santiago, 2002), for example, women living in the community were more likely to be referred to mental health service providers than any other type of rehabilitation service provider. However, although fully 94% of these women had seen a health care provider in the 6 months previous to the survey, only 32% had seen a mental health service provider, despite the fact that mental health issues were one of the most important issues these women reported facing. This points to the need for mental health care providers to be able to work collaboratively with other providers and to have some insight into their perspectives and areas of practice. In adopting a cross-disability, more interdisciplinary perspective, our programs can prepare students to draw upon the resources of multiple fields of inquiry and service to meet the needs of persons whose disability "labels" may not fully capture their experiences of living with disabilities.

A careful examination of current literature regarding trends in disabilities, including causes, service and research needs and risk groups, reveals complex relationships between types and causes of disabilities and resultant needs. As respondents to a federal survey on disabilities indicated (Administration on Aging, 1997), many people with disabilities live with not one, but multiple, disabilities. Multiple disabilities, and their causes and effects, are related in staggeringly varied and complex ways. For example, attempting to separate the threads of prenatal drug exposure-related disabilities from those caused by violence later in life from those related to personal, as opposed to parental, substance abuse, mental illness, poverty and other factors is not only daunting but runs the risk of oversimplifying the true breadth of the problems faced by those living with multiple disabilities. Other conditions also result in multiple disabilities and a need for life-long assistance in maintaining independence, include epilepsy, hardening of the arteries and chronic emphysema (Adams and Marano, 1999). Adults with disabilities of these types are often able to maintain personal and financial independence with the assistance of professionals knowledgeable about the specific condition, the available resources and the systems in which the individual must successfully navigate. They must also be prepared to meet the needs of those who provide care to persons with disabilities, particularly care providers who are friends and family, rather than paid professionals. A recent study of non-paid care providers by the Kaiser Family Foundation illustrates the frustrations, needs and numbers of these people who are so often key to maintaining independence for persons with disabilities (2002). Nearly 1/4 of U.S. adults surveyed in 1998 had provided care for a friend or relative with a disability within the previous year, and half of these were primary care givers. Most reported that they did so because the person with a disability could not afford paid assistance, although they were often of very modest means themselves, with almost half reporting annual incomes of less than $35,000, and over 1/3 reporting that they themselves had health problems. Most reported significant emotional, family, work and/or financial stress as a result of providing care (Kaiser Family Foundation, 2002).

One way of enhancing the competency of programs which serve persons with disabilities, and of including stakeholders in research regarding the community of persons with disabilities, is to train more persons with disabilities in our graduate programs. There are indications from other fields of practice that it is not usually difficult or expensive to accommodate the needs of graduate-level trainees with disabilities in service settings (see, for example, Takakuwa, Ernst and Weiss, 2002). Meeting the needs of such students meets the needs of our programs to be inclusive and, ultimately, meets the needs of our service customers to see others with disabilities who have assumed leadership roles.

Other issues addressed in this symposium relate directly to changes in disability demographics. Older adults, for example, are more likely to acquire a disability, with this likelihood increasing as the years pass. Older adults are also a part of the growing population of persons with multiple disabilities. Youth, and specifically young men, particularly young men of color, are often at increased risk of acquiring disabilities, and of dealing with multiple disabilities, due to violence and accidents as well as to a host of other environmental factors related to disabilities. In the "new universe of disabilities", it is, at best daunting to attempt to separate out the influences of one variable, or even type of variable, from another. However, urbanization and age are two dimensions upon which one may begin to examine disabilities in the United States.

Urbanization

Nationally, between 1960 and 1998, population growth occurred at a much faster pace in metropolitan than non-metropolitan areas in terms of total numbers as well as in terms of the percentage of the population residing in metropolitan areas and in land mass included in metropolitan areas (U.S. Census Bureau, 2000). Although most disability-focused training programs address the needs of residents of rural areas, at least 75% of the U.S. population now resides in non-rural areas (Marsalla, Wandersman and Cantor, 1998), and hence, many persons with disabilities also reside in non-rural areas. More than a quarter of these (26.5%) are also living in poverty, according to data from the 1994 Disability Supplement to the National Health Interview Survey (CDC, 1994). The shifting of the U.S. population to urban centers has been associated with a number of problems, problems unique to urban living, which increase vulnerability and risk to all groups of persons already at a disadvantage, including those living in poverty (Marsalla, Wandersman and Cantor, 1998) and those living with disabilities. In fact, urban centers are increasingly seen as having little in common with rural areas (Marsalla, Wandersman and Cantor, 1998), emphasizing the need for graduate training to address the unique needs of those living in urban areas with disabilities. The differences in urban and rural living are clear when examining specific disabilities. For example, rates for serious injuries are highest at work in more urban areas and at home in rural areas, and rates of serious injuries in general are highest in cities (Adams, Hendershot and Marano, 1999). Disabling conditions often follow from injury. Persons residing in urban areas are at risk of injury due to violent crime as well as accidents, and so also at risk for related disabilities. The U.S. Census Bureau (2000) reports that those who reside in urban areas live with a violent crime rate much higher than that experienced by rural residents. Among those injured in violent crimes, urban residents are also more likely to report a serious injury than are rural residents (4% versus 3.4%; U.S. Census Bureau, 2000). A recent national survey of emergency rooms regarding violence-related injuries illustrates the importance of understanding subject and environmental factors in disability risk, as well as the relationship between violence and closed head injuries (CDC, 2002). Age, gender and ethnicity were all found to be related to the likelihood of serious injury, and head injuries were by far the single most common violence-related injury resulting in a need for emergency room treatment. Males were 77% more likely to present in emergency rooms for treatment and 5 times more likely to be hospitalized as a result than were females. Among males, African Americans were 4.6 times more likely to present in emergency rooms for serious violence-related injuries than were European American males. Young adults, ages 20 through 24 years, of both sexes were more likely than any other age group to require emergency room services for violence-related injuries (CDC, 2002). Youth-perpetrated violence also takes on different characteristics depending upon social context. As of 1998, according to U. S. Department of Justice (2000) statistics, 70% of law enforcement agencies in large cities reported having youth gangs, a rate much higher than those reported by law enforcement agencies in small cities, suburbs and rural counties. Between 1996 and 1998, the number of law enforcement agencies reporting gang activity had decreased in every type of environment except large cities (populations of 1000,000 to 249,000), where reports of such problems increased (U.S. Department of Justice, 2001). Firearm use, often related to serious injuries and disabilities, was also reported to be a more frequent event in gang-related violence in large cities and their suburbs than in small cities and rural areas (U.S. Department of Justice, 2001).

Intimate violence also is connected to type of environment. Urban youth who become sexually active at an earlier age than their non-urban counterparts are not only more likely to report in engaging in intercourse while "under the influence", but are also more likely to report having engaged in intimate violence, that is, forcing someone to have sexual relations with them, than are their counterparts (O'Donnell et al., 2001). They were also more likely have had violence-related injuries themselves (O'Donnell et al., 2001). Adult intimate violence also appears to be related to substance abuse and other personal and environmental factors. A study of urban, suburban and rural males arrested on domestic violence charges serves to illustrate the complex relationship of violence and other factors in disability risk (Logan, Walker and Leukefeld, 2001). Rural offenders were more likely to have been prescribed psychiatric medications, and were more likely to be abusing those medications as well as alcohol, than were those in other types of environments, who were more likely to report no prescribed medications at all and alcohol abuse alone (Logan et al., 2001). In some instances, disability is itself a risk factor for violence, rather than simply a potential outcome of violence. Although most jurisdictions do not examine hate crimes in terms of disability being the reason for the attack, a few do, and there were 20 such reported crimes nationally in 1999 (U.S. Census Bureau).

Perceptions do not always mirror reality when examining violence in a community. In one survey, when residents in high versus low density rural areas were asked about their perceptions of the safety of their communities, those in the least densely populated/most rural areas believed their communities to be the least safe (Logan et al., 1999). The disparity between perceptions and reality is important to both a community and those working with community residents. Competent service designers, evaluators and researchers in the area of disability services need to be aware of violence as a factor in disabilities, including the characteristics of a person, community or social environment that place a person at risk. They must also be able to identify fear of and perceptions of violence as potentially paralyzing to people already struggling to maintain independence in the face of disability and unmet service needs.

Other disability risks are also disproportionately borne by urban communities. Violence is often related to traumatic brain injury (TBI), and that relationship is complicated by many of the same factors that complicate the picture of other disabilities, including both substance abuse/dependence disorders and psychiatric disabilities. TBI, is a significant cause of disability across the lifespan and across environments. It is, however, difficult to estimate, with any confidence, how many people in the U.S. actually have TBI-related disabilities. Most such estimates are based on the numbers of people treated in inpatient settings following the initial injury (Thurman, Alverson, Browne, Dunn, Guerrero, Johnson, Langlois, Pilkey, Sniezek and Toal, 1999). In the past, this made for fairly accurate estimates, in that TBI, if recognized at the time of the injury, often required inpatient treatment in order for the individual to survive his/her injury. Improvements in both medical and rehabilitative care, and in the ability to recognize less severe TBI, have made these estimates more difficult to calculate with any accuracy. In their report to Congress, Thurman and colleagues (1999) estimate that, when the number of people who receive other (non-inpatient) treatment for TBI are included, about 80,000 to 90,000 people per year in the U.S. acquire long-term or lifelong disabilities following TBI.
TBI poses a challenge to both the injured person and his/her service providers, psychological, social, medical, educational and others, in the types of disabilities which can result from TBI and the speed with which they occur or are recognized following the initial injury. Whether TBI is due to accidents, self-inflicted injuries, injuries due to violence or falls, it often produces invisible disabilities (Thurman et al, 1999). Relative to those who survive other types of serious trauma, those with TBI are more likely, for example, to suffer later disabilities, including neuropsychological disabilities (Lanoo, VanRietvelde, Aolardyn, Lemmerling, Vandekerckhove, Jannes and DeSoete, 2000).
TBI can be related to a variety of later disabilities that develop as a result of the loss of cognitive function. These can lead to problems in functioning in work and social environments, such as loss of abilities to communicate effectively, pay attention to details, to remember new information and to perform tasks such as organizing one's environment and the things in it and to solve problems (Thurman et al., 1999). It may

also produce changes in the individual which mimic psychiatric and sensory disabilities (Thurman et al., 1999).

As in other injury-related disabilities, different age groups and different social contexts are associated with different types of risks from various causes and for various outcomes of TBI. Understanding these differences is crucial to designing and providing effective services for people living with TBI-related disabilities. Those most at risk for TBI-related disabilities are those in their teens and 20's and those older than 75 (Thurman et al, 1999), but the most likely causes, and therefore potentially most effective preventive measures differ with age and gender. Some of these group differences are readily identified. For young males, for example, violence is most often the cause of TBI (Thurman et al, 1999). Other individual characteristics, often more difficult to identify and measure, also are related to TBI. In one investigation, medical treatment records of people of similar demographic characteristics (such as age, race, gender and so forth) were compared (Kolakowsky-Hayner, Gourley, Kreutzer, Morwitz, Cifu and McKinley, 1999). Those who had TBI-related disabilities and those with spinal cord injury-related disabilities were found to be much more likely to have had a documented history of serious substance abuse disorders than were those with other types of disabilities (Kolakowsky-Hayner et al, 1999). In their summary to Congress, Thurman and colleagues (1999) identified a number of areas in which a great deal of research remains to be done in order to better assist those with TBI-related injuries. This includes developing a better understanding of who is more at risk to develop disabilities following TBI, the most likely forms the disabilities will take and which may be more effectively prevented or reduced in terms of their impact through rehabilitative and supportive services, the relationship between the severity of the initial injury and the severity of the related disabilities and the most effective treatment modalities to reduce the impact of the disabilities (Thurman et al., 1999).

TBI is one example of a cause of disability tied in a complex fashion to person and environment variables. Other examples abound, including specific health risks and specific psychiatric disability risks, which also often vary by type of environment and age and are tied to substance abuse/dependence disorders. Among specific health risks is the risk of infectious diseases which potentially result in disability, such as HIV/AIDS, which in turn is related to other risks and person variables, such as drug use and sexual behavior (see, for example, Michigan Department of Community Health, 2002). The Centers for Disease Control and Prevention have consistently provided statistics demonstrating that the risk of HIV/AIDS infection is not borne equally across age groups of environments. Youth, particularly urban minority youth, and men, particularly men who have sex with men, are at higher risk than others of acquiring the disease, as are African Americans and people residing in large cities (O'Donnell, O'Donnell and Stueve, 2001). In contrast, the rates for most chronic, non-HIV/AIDS-related health conditions are higher in rural areas, except for speech impairments and paralysis of extremities (Adams, Hendershot and Marano, 1999).

Mental health issues, and psychiatric disabilities in particular, are also a significant factor related to the risks of other acquired disabilities. Those involved in designing, implementing and evaluating treatment and service program for persons with disabilities need to understand the relationships among multiple disabilities, individual characteristics and social/environmental risk factors in acquired disabilities across the lifespan. Methamphetamine abuse provides one example of the need to understand the interplay between psychiatric disabilities and other disabilities and risk factors. Methamphetamine abuse has a number of long term effects related to several lifelong acquired disabilities (Anglin et al., 2000). These include stroke, related to a variety of disabilities, and psychological/psychiatric problems, such as paranoia and hallucinations as well as structural changes in the brain (Anglin et al., 2000), which are potentially related to cognitive, psychiatric and other disabilities. Methamphetamine use has been linked to a number of problems, not only for the user, but also for the children of the user. Among these problems are an increased risk of abuse/neglect by parents for children who were exposed to the drug prenatally (Anglin et al, 2000). Whether this increased risk of abuse is due directly to parental substance abuse or to the host of other related factors is open to debate; the risk of injury-related disability remains.

The links between urban-rural environment, mental health/psychiatric disability, substance abuse and other disabilities are extremely complex, and are often illustrated by surveys which seek relationships between only two of these variables. For example, in one survey of general (non-treatment) populations, major depression was found to be much more common in urban environments, while alcohol abuse disorders and cognitive deficits were more common in rural communities (Blazer et al., 1985). It has also been reported that those in urban environments suffer more severe psychiatric disabilities than those in rural environments (Mueser et al., 2001). The frequency of other psychiatric and substance disorders varied with race/ethnicity, pointing to the need to carefully examine both a variety of subject factors and to specify the type of psychiatric disorder in question when looking for differential rates of mental illness/psychiatric disability in rural and urban environments (Blazer et al., 1985). Others, particularly those involved in front-line service provision, have cautioned that race/ethnicity needs to be separated from immigration status, in that additional cultural, linguistic and historic risks are at work in immigrant communities. Some have noted that, despite being particularly vulnerable as a result of poverty and related factors, it is unusual to see immigrants with visible disabilities in service settings (Minnesota Department of Human Rights, 2002). Mental health concerns pose particular problems in immigrant communities in terms of outreach and service delivery due to language barriers, cultural perceptions/conceptions of what causes psychiatric disabilities and a general distrust of governmental and/or bureaucratic service systems and those perceived as such. While these problems certainly exist within many U.S. communities, they are often more severe for immigrants who come to the U.S. after severely traumatizing experiences of horrific violence and significant loss (Minnesota Department of Human Rights, 2002). Once in the U.S., these problems are often compounded by difficulties in adjusting to a new culture, particularly for a person with a psychiatric disability, whose family may prefer that s/he remain "hidden" at home, thereby avoiding embarrassment to the family caused by having a family member perceived as "weak", "crazy" or something worse by virtue of the disability (Minnesota Department of Human Rights).

Age is also often an important factor when examining psychiatric disorders within particular types of environments. In urban adolescents, for example, there appears to be a relationship between the general level of community violence, substance abuse and post-traumatic stress disorder (Sheeman, 2001). Those residing in suburban neighborhoods tend to see their relationships with their parents as more problematic than do their urban peers, and to view their parents as "strict" more often than do their urban peers (Blazer et al., 1985). Suburban adolescents are also more likely to report that their problems in terms of substance abuse are closely related to the degree to which they see themselves as having other psychosocial problems (Luthar and D'Avanzo, 1999), which suggests the use of substances as a coping mechanism is more common in suburban teens, a suggestion which does not bode well for adult rates of substance dependence disorders and psychiatric disabilities. Differences among adolescents regarding psychiatric disabilities/mental health issues and related factors are also observed in those who provide services to them although the perceptions are not exactly the same as those of the adolescents. For example, those working with adolescents in school settings report urban-suburban-rural differences in both the problems youth experience and the supports available to help them cope with those problems (Weist, Myers, Danforth, McNeil, Ollendick and Hawkins, 2000). School service providers view urban adolescents as being under more stress and experiencing higher levels of other psychological problems, while their schools are observed to offer relatively fewer health and mental health resources to assist them (Weist et al., 2000).

Marsalla (1998), in summarizing research on psychiatric disabilities, concludes that persons living with these disabilities generally experience a lower quality of life in urban than in rural areas, often due to the problems they experience in obtaining needed support services. Yet, in some instances and in some respects, an urban environment, with its wealth of resources, can be advantageous to persons living with disabilities if those resources are accessible, responsive and culturally competent. For example, rural residents with both psychiatric disabilities and substance abuse problems may fare more poorly after inpatient treatment than their urban counterparts (Fischer, Owen and Cuffel, 1996). Rural residents appeared to be hindered in their post-inpatient treatment and functioning by less frequent contact with community-based services relative to those in more service-rich urban settings (Fischer et al., 1996). However, urban residents with both psychiatric disabilities and substance abuse disorders seem to require more community based services in order to experience success in treatment for either difficulty (Mueser, Essock, Drake, Wolfe and Frisman, 2001), possibly due to some of the challenges posed by urban life, especially to persons with disabilities. An investigation into the treatment needs of homeless people in an urban environment found that this group needed programs which could address not only substance abuse but the relationship between substance abuse and psychiatric symptoms (Velasquez, Crouch, vonSternberg and Grosdanis, 2000). The need for more services in urban communities, as it has been identified to date, includes a wide variety of programs, including jail diversion, residential treatment and assertive community treatment (Mueser et al., 2001). Such a spectrum of programs in diverse community settings, intended to serve persons with a disability which may occur at any point in the lifespan and which can predispose the individual to additional disabilities, in an urban environment shared by many cultures can only be effective if it is created and maintained through the collaborative efforts of community stakeholders and professional from a multitude of disciplines.

Likewise, services to persons identified primarily as substance abusing or dependent benefit from collaboration among professionals versed in a variety of fields of knowledge, including medicine, rehabilitation, social work, education and psychology. Like TBI, substance abuse disorders affect many people with many types of disabilities in all social contexts. For example, Booth and Kirchner (2001) found that relative to abuse of alcohol alone, people who abused both marijuana and alcohol were at increased risk for psychiatric problems and disabilities, as well as problems in employment and relationships, which can in turn be related in circular fashion to psychiatric disabilities. This relationship between multiple substances and increased risk existed in both urban and rural environmental contexts (Booth and Kirchner, 2001).
Environmental and situational factors in substance abuse have been extensively examined, often with conflicting results. To some degree, the relationship of rural vs. urban residence to substance abuse/dependence and disability may be in the process of change. Butterfield (2002) drew upon multiple research, law enforcement and governmental sources in examining substance use and sales in rural and urban areas. These resources lead him to conclude that there were indications that both the use and sale of illicit drugs were shifting from urban to rural areas, carrying with them all the other attendant risk factors (Butterfield, 2002). These conclusions seem to be supported by the perceptions of rural residents in more versus less densely populated areas conducted by Logan, Schenck, Leukefeld, Meyers and Allen, 1999). In that investigation, those residing in the most rural/least populated areas were most likely to see alcohol and illicit drug use, as well as illegal alcohol manufacture and sales, as a significant community problem. This suggests that research into environmental differences must be informed by information from a variety of sources in addition to psychological theory, including other professions and community members.

As is also the case for TBI-related disabilities, effective treatment programs require a knowledge of specific target population characteristics. The picture of substance abuse and its relationship to disability becomes more complex when the additional variable of age is factored into the discussion. Among incarcerated adults, those from more rural areas have reported more substance abuse generally across the lifespan and within the month previous to incarceration, and to be less likely to have engaged in treatment for the substance abuse, than adults in urban areas (Warner and Leukfeld, 2001). Yet, overall substance abuse rates for adolescents, across gender and substance type, appear to be very similar in urban and rural settings (Scaramella and Keyes, 2001). Important differences among groups, however, are observed when the particular substance and gender of the adolescent are considered within finer distinctions in environment, such as is done a "suburban" category. For example, in one investigation of substance abuse rates among rural versus suburban high school students in a portion of the Midwest (Falck, Siegal, Wang and Carlson, 1999), gender emerged as an important factor. While young women in the study reported similar rates of substance use in both rural and suburban areas, young men in suburban areas reported more use of marijuana, inhalants and LSD, as well as more recent episodes of alcohol abuse to the point of drunkenness (Falck, Siegel, Wang and Carlson, 1999). Male youth in suburban as opposed to urban, high schools in another study were more likely to report polysubstance abuse and recent alcohol use, while no similar differences were reported by female high school students (Falck et al., 1999). Others have also observed that suburban adolescents, in comparison to urban adolescents, report much higher levels of overall substance abuse (Luthar and D'Avanzo, 1999). These differences become more important when viewed from a lifespan perspective and in terms of the relationship between substance abuse and disability. Children who abuse alcohol run a risk of developing far more serious cognitive damage far more quickly than do those who do not abuse alcohol during adolescence (Wuethrich, 2001), impairing judgment and the ability to function in a work environment, among other problems. These problems may be further compounded by other environmentally-related risks. Poor judgment, often a feature of being "under the influence", can lead to poor decision-making and increased behavioral risks. Urban adolescents often become sexually active sooner than their non-urban peers, exposing them to a host of risks related to disabilities, including HIV/AIDS (O'Donnell, O'Donnell and Stueve, 2001) and risks to children they conceive and who are exposed prenatally to the substance(s) used. These youth are more likely than others to report engaging in more frequent, more frequently unprotected, intercourse, more often under the influence of alcohol and/or other drugs (O'Donnell et al., 2001). This helps to highlight the need for competent, skilled researchers in multidisciplinary settings to examine factors related to disabilities. The complexity of the relationships among these factors are often over-looked and underestimated. As O'Donnell and colleagues (2001) point out, there is a need to look at specific risks within specific types of environments, rather than simply examining average risks across contexts. In the case of health risks and related disabilities, "[n]ational surveys can gloss over the high prevalence of early sexual initiation within some communities, such as those in urban settings", resulting in an underestimation of risk and mis-identification of risk groups and service needs (O'Donnell et al, 2001, p. 268).

Youth who engage in unprotected sex while abusing substances pose a risk to others as well as themselves, particularly if pregnancy occurs and the pregnant youth does not have access to or successfully engage in effective, culturally competent substance abuse treatment. While the abuse of illegal drugs during pregnancy appears to be best predicted by poverty (Finch, Vega and Koldny, 2001), as is the case for many other factors related to disability, other aspects of age and environment bear examination in determining risk of both exposure and of resultant disability in the child exposed. Prenatal drug exposure effects, while well-documented, are complicated by a host of environmental factors, including poor nutrition during prenatal development, post-natal drug exposure and increased risk of illness and abuse/neglect during infancy and childhood (Leshner, 1999), all of which can produce life-long disabilities.

The specific drug to which a pregnant woman exposes her child also has a profound effect on the types of disability likely to develop and the severity of disability. Marijuana, often thought of as a relatively "harmless" substance, is now being linked with a variety of disabilities in prenatally exposed children, including problems with attention span, which pose learning and work-related deficits, and delinquent behavior, indicative of psychosocial problems (Fried and Smith, 2000). Far more attention has been paid to the marked effects of prenatal alcohol exposure and the widely-varied, often severe, disabilities related to Fetal Alcohol Effects and Fetal Alcohol Syndrome (see for example, Church, Eldis, Blakley and Bawle, 1997 and Uecker and Nadel, 1996).
Other drugs have been less closely examined, or have produced unexpected effects, in prenatally exposed children. Methamphetamine prenatal exposure has an impact similar to that of cocaine (Anglin et al., 2000). Observed effects include premature delivery, often a precursor to developmental and other disabilities, delays in growth in infancy and developmental delays and cognitive deficits throughout childhood (Anglin et al, 2000). Much more is known about the effects of prenatal exposure to cocaine alone and in combination with other drugs. Some of these effects are quite subtle, relative to Fetal Alcohol Syndrome, and may not appear or be recognized for sometime. For example, prenatal exposure to PCP and cocaine, particularly "crack" cocaine, are associated with social cognition deficits at the age of 2 (Beckwith, Rodning, Norris and Phillipsen, 1994), which could be expected to be related to later problems in mental health.

Attempts to identify/anticipate disabilities in children prenatally exposed to substances are also complicated by the need to understand the relationship between the level of exposure and the severity of the resultant disabilities, much as in the case of TBI and subsequent disabilities. For example, the level of mother's use of cocaine during pregnancy is related to the degree to which her infant's speech and language development are likely to be delayed (Singer, Arendt, Minnes, Salvator, Siegel and Lewis, 2001). Other effects, while more immediately identifiable, are not, in and of themselves disabilities, but are often related to the development of disabilities later in life. These include the premature delivery, lower birthweight, smaller head circumference and shorter overall length observed in infants exposed prenatally to cocaine (Behnke, Eyler, Garvan and Wobie, 2001). Lesher (1999) summarizes research, both animal and human, regarding the effects of prenatal cocaine exposure on development. Problems identified in humans depend upon the portion of the lifespan examined. Most work has been done in early childhood and infancy, due to the relatively recent appearance of cocaine abuse relative to other drugs, such as alcohol. So far, it seems that an underlying feature will be generally slower development in children exposed to cocaine prenatally (Lesher, 1999). During infancy, effects include fussiness, inconsolability and poor motor skills; during childhood, problems related to intelligence scores and executive functions of the brain are observed (Lesher, 1999), again emphasizing the need for a lifespan perspective in students intending to provide service or conduct research in the area of disabilities. As this is a relatively new phenomenon, effects later in the lifespan have yet to be observed and documented, and the related needs and service models have yet to be identified. Animal studies indicate prenatal cocaine exposure produces changes in brain structure which suggest these children are left vulnerable to developing substance abuse problems later in life (Lesher, 1999), and hence may produce another generation of prenatally exposed, at-risk children.

Substance abuse-related disabilities provide a good illustration of the need to understand the impact of a disability at individual, family and community levels in order to assist the individual with the disability. Prenatal cocaine exposure provides an example of this. While the problems experience by infants prenatally exposed to cocaine have not been as serious as was once feared, the problem is widespread and has many implications for disability studies and services not addressed in traditional, single-disability, age-limited training perspectives. For example, as Lesher (1999) points out, even a minor problem with attention span can result in school/learning problems and even minor problems in emotional control can result in family and social problems for the child, which can also be expected to present mental health challenges for the child. These seemingly-minor effects also have broad implications for the larger society. As Lesher (1999) points out, even slight decreases in something as conceptual as an IQ score can have broad economic and programming impact. Only a 3.3 point difference in IQ score can be enough to result in eligibility for special education placement and services, with all the attendant risks, benefits and costs entailed in such placement (Lesher, 1999). Even with the limited information available to date, it appears that the life-time risk of acquiring a disability may be increased by prenatal exposure to cocaine (Lesher, 1999), as well as by such exposure to alcohol (Church et al., 1997) and, logically, other "recreational" drugs as well.

From childhood on, as people age, the rates of disability and the need for disability services increase. However, there has also been an increase in disability prevalence among children who live in poverty which suggests that "the nature of risk and its relationship to disability may be changing" (Fujiura and Yakami, 2000, p. 187). For school-age children, specific correlations between disability and poverty have been found to be as high as .83 (LeRoy and Kulik, 2002). This implies that there are large numbers of children in need of services related to disabilities. For example, as of 1997, almost 8% of children aged 14 years and younger were reported to have disabilities; this number increases to almost 22% among children aged 15 years and older, with 43% of them receiving assistance in performing at least some of their daily living tasks (U.S. Census Bureau, 2001). Many of these children are eligible for accommodations in education related to their disabilities, and will, as adults, likely be in need of accommodations in the workforce in order to maintain independence. Nationally, as of March, 2000, 9.5% of the U.S. population ages 16 and older was work disabled, and the percentage of persons who are work disabled increases with age, from 3.9% of those ages 16 through 24 years to 21.6% of those ages 55 through 64 years (U.S. Census Bureau, 2000). The vast majority of those receiving social security disability benefits in 1999 were under the age of 65 years (89%), and the overall numbers of persons receiving such benefits increased greatly between 1980 and 2000 (U.S. Census Bureau, 2001). As the U.S. population ages, more workplace accommodations are likely to be requested. Although, as of 2000, only 3% of the U.S. workforce was 65 years or older, among those 65 and older, 12.8% do remain in the workforce, implying that an increasing percentage of the workforce will be persons over 65, with many of these being persons with disabilities (Administration on Aging, 2001). The number of persons who choose to remain in the workforce after the age of 65 may be expected to increase, as suggested by the decline in the number of Supplemental Security Income beneficiaries classified as "aged", as opposed to blind of otherwise disabled, between 1980 and 1999 (U.S. Census Bureau, 2001).

While estimates of the actual numbers of persons over 65 years, and of the number of those persons likely to be living with disabilities, vary greatly, all are indicative of a clear need to move beyond traditional training models emphasizing services to children with disabilities and their families. Siegel (1996), in reviewing estimates made by several research teams of the number of persons with disabilities likely to reside in the U.S. between 2020 and 2040 points out that, regardless of the estimate or how it is arrived at, there will be a large increase in the number of persons with disabilities over the next 20 years. In general, an aging population is one which lives with higher rates of disabilities of many kinds, requiring a variety of support services to maintain independence. For example, according to data from the 1994 Disability Supplement to the National Health Interview Survey (CDC, 1994), users of long-term care services in the community are adults (the average age is 45 years). More that half are persons who require assistance with at least some tasks necessary to maintain their independence, including the nearly 20% who work. The percentage of those with disabilities who require assistance increases with age, up to 73.6% of those aged 80 or older reporting at least one disability (Administration on Aging, 2001). Over half of these individuals report that they live with at least one severe disability and more than a third report their disability(ies) result in a need for assistance in maintaining independence (Administration on Aging, 1997). Many disabilities are particularly appropriate ones for psychological knowledge to feature prominently in direct services, regardless of the ultimate cause of the disability. Memory impairment is one such disability. As of 1998, moderate or severe memory impairment were issues for 4.4 percent of persons ages 65-69 in the U.S. (Federal Interagency Forum on Aging-Related Statistics, 2000). This percentage increases substantially with age: among those ages 70-74, it is 10.02%; among those 75-79, 12.28%; among those 80-84, 20.82% and among those aged 85 years or more, 33.27% (Federal Interagency Forum on Aging-Related Statistics, 2000).

The types of disabilities with which older Americans are faced often require different types of intervention and assistance due to the difference in the culture in which many older persons grew up. Although we often discuss cultural competence in terms of race, ethnicity, religion and language, it is also appropriate to address in terms of age. Better health and more active lifestyles later in life have produced obvious benefits. However, they have also meant exposure to disabling conditions previously experienced only by younger persons. Many service organizations are struggling to address these issues in a manner which meets the needs of older adults. For example, HIV/AIDS is increasingly viewed as a growing risk to older Americans (Palmer, 2000), presenting a disability unfamiliar in the context of services to and research about older people and often is particularly difficult to address in a culturally competent manner with older age groups. Beyond an aging population, we have an increase in the number of people with disabilities that were acquired during childhood who are now surviving into old age and developing secondary disabilities (Seelman and Sweeney, 1995). Both the primary and secondary disabilities can pose challenges in meeting the needs of older citizens, as well as challenges to misperceptions of service providers about the lifestyles of older citizens. For example, another emerging issue is that of substance abuse, which is, again, often related to disability. Research and intervention regarding substance abuse by older adults has generally focused on alcohol and prescription medications and failed to address abuse of illegal drugs (Marks, 2002). Increasingly, older people are being recognized to have problems with illegal drugs, often a result of having begun abusing drugs many years before (Marks, 2002).

HIV/AIDS and illicit substance abuse are two examples of problems which are often related to an urban environment and often believed to be primarily related to youth, yet are increasingly recognized as posing a risk to older adults. This may be the case for other risks associated with urban living as well. As of 2000, over three-fourths of those 65 years of age and older in the U.S. resided in metropolitan areas, and despite stereotypes of retirees moving "out to the country", this age group is less likely than any other to change residences (Administration on Aging, 2001).

Overall, disability demographics are tied to other changing U.S. demographics and present serious challenges to psychologists in all specialties. Our training programs must prepare them to meet those challenges effectively as a part of interdisciplinary, multicultural teams.

References

Adams, P.F., Hendershot, G.E., and Marano, M.A. (1999). Current Estimates from the National Health Interview Survey, 1996. National Center for Healt Statistics, Vital Health Statistics, Series 10, No. 200, Health and Human Services.

Administration on Aging. A Profile of Older Americans: 2001. Administration on Aging, 2001, U.S. Department of Health and Human Services, Washington, D.C.

Administration on Aging. Americans with Disabilities: 1997. Administration on Aging, 1997, U.S. Department of Health and Human Services, Washington, D.C.

Anglin, M.D., Burke, C., Perrochet, B., Stamper, E., Dawud-Noursi, S. J. Psychoactive Drugs, 32(2), 137-141, 2000.

Beckwith, L., Rodning, C., Norris, D., Phillipsen, L., et al Spontaneous play in two-year-olds born to substance-abusing mothers. Infant Mental Health Journal, Special Issue: Prenatal drug exposure and child outcome, Vol 15(2), Sum 1994, 189-201.

Behnke, M., Eyler, F.D., Garvan, C.W., and Wobie, K. The search for congenital malformations in newborns with fetal cocaine exposure. Pediatrics, 107, e74, 2001.

Benson, V., and Marano, M. (2001). Current Estimates from the National Health Interview Survey, Vital and Health Statistics, Series 10, No. 100, Health and Human Services.

Blazer, D., et al Psychiatric disorders: A rural/urban comparison. Archives of General Psychiatry, Vol 42(7), Jul 1985, 651-656.

Bolden, C. Education opens door to conquering disease. Detroit Free Press, February 6, 2002.

Booth, B. M. and Kirchner, J. E. Correlates and 6-month outcomes for co-occurring cannabis use in rural and urban at-risk drinkers. Substance Use & Misuse, Special Issue: Substance use health services research, Vol 36(6-7), 2001, 717-733.

Buss, T. F., and Abdu, R. Repeat victims of violence in an urban trauma center. Violence & Victims, Vol 10(3), Fall 1995, 183-194.

Buss, T. F., Abdu, R., and Walker, J. R. Alcohol, drugs, and urban violence in a small city trauma center. Journal of Substance Abuse Treatment, Vol 12(2), Mar-Apr 1995, 75-83.

Butterfield, F. As drug use drops in big cities, small towns confront upsurge. New York Times, February 11, 2001, Section A, p. 1.

Caton, C. L.M., Hasin, D., Shrout, P. E., Opler, L. A., Hirshfield, S., Dominguez, B., and Felix, A. Risk factors for homelessness among indigent urban adults with no history of psychotic illness: A case-control study. American Journal of Public Health, Vol 90(2), Feb 2000, 258-263.

Coyle, C. P., and Santiago, M.C. (2002). Healthcare utilization among women with physical disabilities. Medscape Women's Health eJournal, 7(4).

Centers for Disease Control and Prevention (2002). Nonfatal physical assault-related injuries treated in hospital emergency departments - United States, 2000. Morbidity and Mortality Weekly, 51(21), 456-460.

Centers for Disease Control and Prevention (1994). *Disability Supplement to the National Health Interview Survey*, Health and Human Services.

Church, M.W., Eldis, F., Blakely, B.W., and Bawle, E.V. Hearing language, speech, vestibular, and dentofacial disorders in fetal alcohol syndrome. Alcoholism: Clinical and Experimental Research, Vol. 21, 1997, 227-237.

Cuffel, B. J. Violent and destructive behavior among the severely mentally ill in rural areas: Evidence from Arkansas' community mental health system. Community Mental Health Journal, Vol. 30(5), Oct 1994, 495-504.

Dawkins, M. P. The social context of substance use among African American youth: Rural, urban and suburban comparisons. Journal of Alcohol & Drug Education, Vol. 41(3), Spr 1996, 68-85.

Falck, R. S., Siegal, H. A., Wang, J., and Carlson, R. G. Differences in drug use among rural and suburban high school students in Ohio. Substance Use & Misuse, Special Issue: Symposium on rural/urban continuum, Vol. 34(4-5), Mar-Apr 1999, 567-577.

Federal Interagency Forum on Aging-Related Statistics. Older Americans 2000: Key Indicators of Well-being. Federal Interagency Forum on Aging-Related Statistics, August, 2000, U.S. Government Printing Office, Washington, D.C.

Finch, B.K., Vega, W.A., and Koldny, B. Substance use during pregnancy in the State of California, USA. Social Science Medicine, Vol. 52, 2001, 571-583.

Fischer, E. P., Owen, R. R., and Cuffel, B. J. Substance abuse, community service use, and symptom severity of urban and rural residents with schizophrenia. Psychiatric Services, Vol. 47(9), Sep 1996, 980-984.

Fischer, K., Zhang, F., Angel, M. F., and Lineaweaver, W. C. Injuries associated with mandible fractures sustained in motor vehicle collisions. Plastic & Reconstructive Surgery, 108 (2), August, 2001, 328-31.

Fried, P.A. and Smith, A.M. Neurotoxicology and Teratology, 23, 2001, 1-11.

Fujiura, G. T., and Yakami, K. (2000). Trends in demography of childhood poverty and disability. Exceptional Children, 66 (2), 187-199.

Goldschmidt, L., Day, N.L., and Richardson, G.A. Neurotoxicology and Teratology, 22, 2000, 325-336.

Hendricks, K. R. The validity and reliability of the Comprehensive Adolescents Reasons for Drinking Scale. Dissertation Abstracts International: Section B: The Sciences & Engineering, Vol. 60(4-B), Oct 1999, 1853.

House, E. H., Durfee, M. F., and Bryan, C. K. A survey of psychological and social concerns of rural adolescents. Adolescence , Vol. 14(54), Sum 1979, 361-376.

Nans, L., Stoddard, S. (1999). Chartbook on Women and Disability in the United States. Washington: U.S. Department of Education, National Institute on Disability and Rehabilitation Research.

Kaiser Family Foundation. The Wide Circle of Caregiving, Kaiser Family Foundation, New York, New York, 2002.

Kann, L., Kinchen, S. A., Williams, B. I., Ross, J. G., Lowry, R., Grunbaum, J., Kolbe, L. J. Youth risk behavior surveillance---United States, 1999. Morbidity and Mortality Weekly Report, Surveillance Summaries, June 09, 2000, 49(SS05), 1-96.

Kolakowsky-Hayner, S. A., Gourley, E. V., Kruetzer, J. S., Marwitz, J. H., Cifu, D. X., and McKinley, W. O. Pre-injury substance abuse among persons with brain injury and persons with spinal cord injury. Brain Injury, Vol. 13(8), Aug 1999, 571-581.

Kreiner, P., Soldz, S., Berger, M., Elliott, E., Reynes, J., Williams, C., and Rodriguez-Howard, M. Social indicator-based measures of substance abuse consequences, risk, and protection at the town level. Journal of Primary Prevention Vol 21(3), Spr 2001, 339-365.

Lanoo, E., VanRietvelde, F., Colardyn, F., Lemmerling, M., Vandekerckhove, T., Jannes, C., DeSoete, G. Early predictors of morality and morbidity after severe closed head injury. Journal of Neurotrauma, Vol. 17(5), May, 2000, 403-14.

LeRoy, B., and Kulik, N. (2002), A Michigan application of the OECD Resource Model. Detroit: Developmental Disabilities Institute, Wayne State University.

Leshner, A. I. Research shows effects of prenatal cocaine exposure are subtle but significant. NIDA Notes, Vol. 14(3), September, 1999.

Leukefeld, C. G., and Edwards, R. W. Recommendations to bridge rural/urban drug-use(r) research and practice. Substance Use & Misuse, Special Issue: Symposium on rural/urban continuum, Vol. 34(4-5), Mar-Apr 1999, 785-793.

Logan, T. K. ; Schenck, J. E., Leukefeld, C. G., Meyers, J., and Allen, S. Rural attitudes, opinions, and drug use. Substance Use & Misuse, Special Issue: Symposium on rural/urban continuum, Vol. 34(4-5), Mar-Apr 1999, 545-565.

Logan, T. K., Walker, R., and Leukefeld, C. G. Rural, urban influenced and urban differences among domestic violence arrestees. Journal of Interpersonal Violence, Vol. 16(3), Mar 2001, 266-283.

Luthar, S., and D'Avanzo, K. Contextual factors in substance use: A study of suburban and inner-city adolescents. Development & Psychopathology, Special Issue: Developmental approaches to substance use and abuse, Vol. 11(4), Fall 1999, 845-867.

Marcenko, M. O., Spence, M., Rohweder, C. Psychosocial characteristics of pregnant women with and without a history of substance abuse. Health & Social Work, Special Issue: Chemical dependency, Vol. 19(1), Feb 1994, 17-22.

Marks, A. Illicit drug use grows among the elderly, Christian Science Monitor, March 27, 2002, 3.

Marsalla, A. Urbanization, Mental Health and Social Deviancy, American Psychologist, 1998, 53 (6), 624-634.

Marsalla, A., Wandersman, A., and Cantor, D. Psychology and Urban Initiatives: Professional and Scientific Opportunities and Challenges, American Psychologist, 53 (6), March, 1998, 621-623.

McKeating, E. G., Andrews, P. J., Tocher, J. I., and Menon, D. K. The intensive care of severe head injury: a survey of non-neurosurgical centres in the United Kingdom. British Journal of Neurosurgery, Vol. 12 (1), February, 1998, 7-14.

Michigan Department of Community Health. 1989 - 2000 Michigan Resident Death Files, Division for Vital Records and Health Statistics, Population Estimate (update of March 6, 2001), Office of the State Demographer, Michigan Department of Management and Budget, Lansing Michigan.

Michigan Department of Community Health. HIV/AIDS Surveillance Report, January, 2002. Lansing, Michigan.

Minnesota Department of Human Rights (2002). Immigrants, refugees and disability. The Rights Stuff, May, 2002, 10-12.

Minnesota Department of Human Rights (2002). Immigrants and mental health. The Rights Stuff, May, 2002, 13-15.

Mueser, K. T., Essock, S. M., Drake, R. E., Wolfe, R. S., and Frisman, L. Rural and urban differences in patients with a dual diagnosis. Schizophrenia Research, Vol. 48(1), Mar 2001, 93-107.

National Committee on Vital and Health Statistics. Shaping a Vision for the 21st Century Health Statistics: Interim Report, June, 2000, Washington, D.C.

O'Donnell, L, O'Donnell, C. R., and Stueve, A. Early sexual initiation and subsequent sex-related risks among urban minority youth: The reach for health study. Family Planning Perspectives, Vol. 33 (6), November-December, 2001, 268-275.

Palmer, L.D. Unsafe sex in age of viagra. www.Austin360.com/news/newstop.htm. March 12, 2000.

Rivara, F. P. Crime, violence and injuries in children and adolescents: Common risk factors? Criminal Behaviour & Mental Health, Vol. 5(4), 1995, 367-385.

SAMHSA, Office of Applied Studies, National Household Survey on Drug Abuse, 1999 and 2000.

Scaramella, L. V. and Keyes, A. W. The social contextual approach and rural adolescent substance use: Implications for prevention in rural settings. Clinical Child & Family Psychology Review, Vol. 4(3), Sep 2001, 231-251.

Seelman, K., and Sweeney, S. (1995). The changing universe of disability. American Rehabilitation, 21(3), 2-13.

Shuman, P. G. Trauma exposure, PTSD, and substance abuse in urban adolescents. Dissertation Abstracts International: Section B: The Sciences & Engineering, Vol. 62(2-B), Aug 2001, 1099.

Siegel, J. Aging into the 21st Century. National Aging Information Center, Administration on Aging, U.S. Department of Health and Human Services, Washington, D.C.

Singer, L.T., Arendt, R., Minnes, S, Salvator, A., Siegel, A.C., and Lewis, B.A. Developing language skills of cocaine-exposed infants. Pediatrics, Vol. 107, 2001, 1057-1064.

Takakuwa, K. M., Ernst, A. A., and Weiss, S. J. (2002). Residents with disabilities: A national survey of directors of emergency medicine programs. Southern Medical Journal, 95(4), 336-340.

Thurman, D. J., Alverson, C., Browne, D., Dunn, K. A., Guerrero, J., Johnson, V., Langlois, J., Pilkey, D., Sniezek, J. E. and Toal, S. Traumatic Brain Injury in the United States: A Report to Congress. Division of Acute Care, Rehabilitation Research, and Disability Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Washington, D.C., December, 1999.

Uecker, A., and Nadel, L. Spatial locations gone awry: Object and spatial memory deficits in children with fetal alcohol syndrome. Neuropsychologia, Vol. 34, 1996, 209-223.

U.S. Census Bureau. Statistical Abstract of the United States: 2001. U.S. Census Bureau, 2001, Washington, D.C.

U.S. Census Bureau. State and Metropolitan Area Data Book 1997-1998: A Statistical Abstract Supplement (5th Edition). U.S. Census Bureau, 1998, Washington, D.C.

U.S. Department of Justice. Criminal Victimization in United States, 1999: National Crime Victimization Survey, January, 2001, NCJ 184938. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Washington, D.C.

U.S. Department of Justice. 1998 National Youth Gang Survey, November, 2000, NCJ 183109. National Youth Gang Center, U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention, Washington, D.C.

Velasquez, M. M., Crouch, C., von Sternberg, K., and Grosdanis, I. Motivation for change and psychological distress in homeless substance abusers. Journal of Substance Abuse Treatment, Vol. 19(4), Dec 2000, 395-401.

Warner, B. D. and Leukefeld, C. G. Rural-urban differences in substance use and treatment utilization among prisoners. American Journal of Drug & Alcohol Abuse, Special Issue, Vol. 27(2), 2001, 265-280.

Weist, M. D., Myers, C. P., Danforth, J., McNeil, D. W., Ollendick, T. H., and Hawkins, R. Expanded school mental health services: Assessing needs related to school level and geography. Community Mental Health Journal, Vol. 36(3), Jun 2000, 259-273.

Wuethrich, B. Getting stupid. Discover, March, 2001, 54-63.

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