

C. Training Strategy Preferences

Introduction

In early discussions about the components of this assessment, a significant number of OCWTP Steering Committee members recommended collecting data on the training strategy preferences of workers employed by Ohio's child welfare agencies. Many believed that staff in their 20s and 30s would potentially have different training preferences than older staff.

Steering committee members speculated that computer electronic learning (e-learning) methods might be of particular interest to younger workers who are generally more comfortable and familiar with computers, having grown up using them at home and at school, for both work and recreation. It seemed highly plausible that they would prefer using computer technology to obtain part of their child welfare training requirements.

Therefore, the OCWTP reviewed current literature on the differences between generational cohort groups regarding the use of electronic technologies. Assessment data was also collected from caseworkers, supervisors, case aides, and child care workers regarding their own preferred learning methods. The following findings lend weight to the steering committee's original hypothesis.

Staff in child welfare agencies are increasingly using computers on their jobs. They receive and send e-mail, use word processing software for note taking, documentation, and correspondence, and obtain and record FACSIS data. Many reported using the Internet to obtain information related to their jobs. Some caseworkers are using the Family Assessment Planning Tool (FAPT) to record risk assessment information. Many case aides and residential child care workers also use computers in their daily jobs, especially for case documentation. The overriding question is whether there are generational differences in mastery of the technology and comfort level, and how this might impact OCWTP training delivery strategies.

Generational Characteristics

Generations X and Y

A cohort is a group of people who share certain common experiences, and thus potentially share certain attitudes, beliefs, or traits shaped by these common experiences. Generational cohort groups usually span approximately 20 years, and consist of people born within the same 20-year period. In general the literature describes four generations of staff in the work force today: veteran workers born between 1922 and 1943; baby boom generation workers born between 1944 and 1960; generation X workers born between 1960 and 1980; and generation Y workers, born after 1980 (also called PC, Nintendo, Millennial, Internet, and the Nexter generation).

These generational cohorts share some commonalities based on similar historical experiences. However, individuals within a cohort group also exhibit considerable individual and cultural differences, and shared characteristics cannot be presumed to apply to all members of a cohort. Therefore, in applying the following data to the child welfare work force, the many individual differences represented by people from a generational cohort group must be considered.

Generation X workers range in age from 22 to 40. They grew up when computers were gaining widespread use, and many began using computers during middle school and high school. Most are accustomed to word processing, sending and receiving e-mail, and finding information online.

Generation Y workers, born after 1980, are 22 years old and younger. In general, they began using computers and computer technology early in their lives, and tend to be familiar with many computer-based technologies such as CD-ROMs and other distance learning technologies (Kennedy, 1999).

The literature on generations X and Y suggests the following:

- Both of these generations tend to have a more sophisticated understanding of computers and associated technologies than do older workers. Many expect to use computers and computer technologies on the job, and consider their use essential for accomplishing job tasks. As a result, they may experience more frustration than older workers if computer hardware or software is unavailable or inefficient (“X – The Next Generation,” National Association of Health Care Recruiters, 2002; “Baby Boomers Teaching Generation X,” Scott and Zebrowski, 1998).

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- Many members of both generations X and Y want to improve their knowledge about and use of computer technologies. They expect to be trained on new software programs that will help them increase both their effectiveness and efficiency on the job (Scott and Zebrowski, 1998; “Preparing for the Next Work Force,” Kennedy, 1999).
- Members of generations X and Y expect other electronic technologies to be available for their use, including laptop computers, cell phones, and palm-held planning devices (National Association of Health Care Recruiters, 2002).
- Many members of both generations highly value on-the-job training (Kennedy, 1999).
- Some research suggests that generation Y workers (22 years of age and younger) prefer learning environments that combine teamwork with technology (Kennedy, 1999; “How Veteran, Baby Boomers, Generation Xers and Generation Nexters Can All Get Along in the Workplace,” Zemak, Raines, and Filipczak, 2002).
- Some research suggests that generation X workers (22 – 40 years of age) prefer Internet training strategies to instructor-led lectures (Kennedy, 1999; Zemak et al., 2002).

The Baby Boomer and Veteran Generations

Most workers from both the baby boomer and veteran generational cohort groups learned to use computers and other electronic technologies as adults. Many were already in the child welfare work force when computers were introduced and had to learn computer skills on the job. They were required to change standard child welfare operating procedures for many case-related activities in order to incorporate the use of computer technologies. Agencies continue to evolve in their use of computers and related technologies, and many older workers are successfully adapting to this evolution.

Most older workers were educated in classrooms with traditional teacher-student relationships and face-to-face communication. Many workers in the veteran generation and older members of the boomer generation are most comfortable with this style of learning (Zemak et al., 2002).

FINDINGS:

Workers' Technological Access, Comfort, and Preferences

In this assessment, a total of 143 case aides, 145 child care workers, 425 caseworkers, and 369 supervisors completed surveys which included questions regarding access, comfort, and learning preferences with respect to technology, such as the use of computers and the Internet/World Wide Web. A detailed examination of the technology-related information collected by these surveys follows. Information from these surveys represents staff from all generational cohort groups.

1. Comfort Using a Computer

All four categories of participating staff were asked a series of survey questions related to their use of and comfort level with various forms of technology, particularly in a training context. Questions focused on the use of computers, the Internet, and other electronic methods of training.

The first question focused on workers' comfort using computers. Across all four employment categories, the vast majority of participants indicated they were "very comfortable" or "moderately comfortable" using a computer.

**Table 1
Comfort Using a Computer, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Very Comfortable	63 (44.1%)	59 (40.7%)	245 (57.6%)	179 (48.5%)
Moderately Comfortable	48 (33.6%)	47 (32.4%)	139 (32.7%)	159 (43.1%)
Only Mildly Comfortable	24 (16.8%)	26 (17.9%)	35 (8.2%)	26 (7.0%)
Not Comfortable at All	8 (5.6%)	13 (9.0%)	6 (1.4%)	4 (1.1%)
Missing	0	0	0	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

2. Comfort Using a Computer to Learn New Information

Participants were asked whether they were comfortable using a computer to learn new information. Again, across all employment categories, the majority of participants indicated they were "very comfortable" or "moderately comfortable"

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using a computer to learn new information. Among caseworkers and supervisors, less than three percent indicated they were "Not comfortable at all" using a computer, compared to 7.6 percent of child care workers and 4.2 percent of case aides who gave that response.

**Table 2
Comfort Using a Computer to Learn New Information, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Very Comfortable	71 (49.7%)	65 (44.8%)	220 (51.8%)	166 (45%)
Moderately Comfortable	42 (29.4%)	42 (29%)	148 (34.8%)	165 (44.7%)
Only Mildly Comfortable	23 (16.1%)	27 (18.6%)	45 (10.6%)	29 (7.9%)
Not Comfortable at All	6 (4.2%)	11 (7.6%)	11 (2.6%)	8 (2.2%)
Missing	1 (0.7%)	0	1 (0.2%)	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

3. Frequency Of Accessing Internet/World Wide Web

A series of questions focused on workers' frequency in accessing the Internet and their comfort in using it. The most common responses to the question, "How often do you access the Internet," were "Very often," "Often," and "Sometimes." Caseworkers were the most frequent Internet users, with 58.1 percent responding either "Very often" or "Often." Generally, workers in all four employment categories indicated some use of the Internet, but 27.6 percent of child care workers and 26.6 percent of case aides reported accessing the Internet "Rarely" or "Never." (See Table 3.)

**Table 3
Frequency of Accessing Internet/World Wide Web, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Very Often	33 (23.1%)	36 (24.8%)	137 (32.2%)	92 (24.9%)
Often	37 (25.9%)	36 (24.8%)	110 (25.9%)	111 (30.1%)
Sometimes	34 (23.8%)	33 (22.8%)	110 (25.9%)	119 (32.2%)
Rarely	19 (13.3%)	14 (9.7%)	37 (8.7%)	40 (10.8%)
Never	19 (13.3%)	26 (17.9%)	31 (7.3%)	6 (1.6%)
Missing	1 (0.7%)	0	0	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

4. Comfort Using Internet/World Wide Web

Caseworkers displayed the greatest level of comfort in using the Internet, with approximately 50 percent indicating they were “Very comfortable.” 43.4 percent of child care workers, 38.5 percent of case aides, and 37.7 percent of supervisors also indicated they were “Very comfortable” using the Internet or World Wide Web. Overall, the majority of staff indicated they were either “Very comfortable” or “Moderately comfortable” using the Internet, but 15.9 percent of child care workers expressed they were “Not comfortable at all” using the Internet. (See Table 4.)

**Table 4
Comfort Using Internet/World Wide Web, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Very Comfortable	55 (38.5%)	63 (43.4%)	214 (50.4%)	139 (37.7%)
Moderately Comfortable	44 (30.8%)	41 (28.3%)	144 (33.9%)	152 (41.2%)
Only Mildly Comfortable	29 (20.3%)	16 (11.0%)	45 (10.6%)	64 (17.3%)
Not Comfortable at All	14 (9.8%)	23 (15.9%)	21 (4.9%)	13 (3.5%)
Missing	1 (0.7%)	2 (1.4%)	1 (0.2%)	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

5. Regular Access to a Computer at Agency

Staff were asked if they had regular access to a computer while at work in their agencies. Caseworkers reported the greatest access, with 98.9 percent at either a “High degree” or “Medium degree” of access, followed by 98.8 percent of supervisors, 84.6 percent of case aides, and 68.3 percent of child care workers who had “High” or “Medium” degrees of access. (See Table 5.)

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**Table 5
Regular Access to a Computer at Agency, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
High Degree of Access	107 (74.8%)	78 (53.8%)	390 (91.8%)	356 (96.5%)
Medium Degree of Access	14 (9.8%)	21 (14.5%)	30 (7.1%)	9 (2.4%)
Low Degree of Access	16 (11.2%)	23 (15.9%)	2 (0.5%)	3 (0.8%)
No Access at All	5 (3.5%)	23 (15.9%)	2 (0.5%)	0
Missing	1 (0.7%)	0	1 (0.2%)	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

6. Access to Internet/World Wide Web from an Agency Computer

Supervisors had the highest degree of access to the Internet and World Wide Web at work (78 percent), followed by caseworkers (60.5 percent), case aides (55.9 percent), and child care workers (40 percent), as indicated in Table 6. Overall, all employment categories indicated a high or medium degree of access to the Internet at their place of employment.

Interestingly, caseworkers reported, in their responses to the previous question, that 98.9 percent had a “high or medium degree of regular access to a computer at their agency.” However, in this survey item, 29.5 percent of caseworkers reported a low level of access to the Internet, or none at all, from an agency computer. It is probable that some agency computer networks have “firewalls,” as security measures, that prevent caseworkers from accessing the Internet from their desk computers. It is also possible that agency policies limit some professional staff from accessing the Internet. (See Table 6.)

**Table 6
Work Access to Internet/World Wide Web, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
High Degree of Access	80 (55.9%)	58 (40%)	257 (60.5%)	288 (78%)
Medium Degree of Access	13 (9.1%)	23 (15.9%)	42 (9.9%)	51 (13.8%)

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	Case Aides	Child Care Workers	Caseworkers	Supervisors
Low degree of access	23 (16.1%)	17 (11.7%)	44 (10.4%)	20 (5.4%)
No access at all	26 (18.2%)	47 (32.4%)	81 (19.1%)	9 (2.4%)
Missing	1 (0.7%)	0	1 (0.2%)	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

7. Preference for Computer Technology As Part of a Training Strategy

All four categories of staff were asked: “Would you prefer computer technology to be part of a training strategy?” The majority of staff indicated, “Yes, very much so,” or “Yes, I think so.” Case aides reported the strongest preference for computer technology as part of training, followed by child care workers, supervisors, and then caseworkers. (See Table 7.)

This finding is significant because it appears that caseworkers and supervisors who have the highest degree of access to computers and the Internet, and the greatest degree of comfort using computers and the Internet, did not report the highest degrees of preference for using computer technology as part of a training strategy. Case aides reported more interest in using computer technology as a training strategy than did caseworkers and supervisors.

**Table 7
Preference for Computer Technology As Part of Training, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes, very much so	66 (46.2%)	63 (43.4%)	135 (31.8%)	126 (34.1%)
Yes, I think so	52 (36.4%)	43 (29.7%)	175 (41.2%)	141 (38.3%)
I'm not sure	17 (11.9%)	26 (17.9%)	63 (14.8%)	68 (18.4%)
No, I don't think so	6 (4.2%)	8 (5.5%)	43 (10.1%)	23 (6.2%)
No, definitely not	2 (1.4%)	5 (3.4%)	7 (1.6%)	7 (1.9%)
Missing	0	0	2 (0.5%)	4 (1.1%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

8. Preference for Signing Up for OCWTP Workshop That Includes Both Classroom Work and Accessing Information Using a Computer

All four categories of staff were also asked: “Would you sign up for an OCWTP workshop that included both classroom work and accessing information using a computer?” Again, the majority of staff from all four employment categories indicated interest in an OCWTP workshop that included both classroom work and accessing information using a computer. (See Table 8.)

However, once again caseworkers and supervisors reported less preference for workshops that include computer use than did case aides and child care workers. The staff with the least access and comfort had the greater preference for training that incorporates computer use.

**Table 8
 Preference for OCWTP Workshop Using Classroom Work and Computer Work, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes, very much so	50 (35%)	54 (37.2%)	120 (28.2%)	99 (26.8%)
Yes, I think so	59 (41.3%)	57 (39.3%)	178 (41.9%)	158 (42.8%)
I'm not sure	24 (16.8%)	21 (14.5%)	57 (13.4%)	72 (19.5%)
No, I don't think so	5 (3.5%)	7 (4.8%)	50 (11.8%)	29 (7.9%)
No, definitely not	5 (3.5%)	5 (3.4%)	15 (3.5%)	9 (2.4%)
Missing	0 (0%)	1 (0.7%)	5 (1.2%)	2 (0.5%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

9. Willingness to Use Technologies to Increase Mastery of Knowledge and Skills After a Traditional Class-Structured Workshop

This question asked respondents if they would be willing to use various technologies to increase their mastery of knowledge and skills after taking a traditional classroom workshop. The purpose of this question was to assess staff interest in five specific technologies:

- a) telephone conferencing
- b) video conferencing
- c) the Internet
- d) electronic bulletin boards
- e) CD-ROMs

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The responses to these “yes” or “no” questions were remarkably similar across all four employment categories. (See TABLES 9.a-9.e.)

9.a Telephone Conferencing

Telephone conferencing was not a popular strategy for the majority of workers in all four job categories. Approximately two-thirds were unwilling to participate in telephone conferencing as a training strategy to build skills.

**Table 9.a
Willingness to Use Telephone Conferencing, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes	46 (32.2%)	42 (29.0%)	142 (33.4%)	116 (31.4%)
No	97 (67.8%)	103 (71%)	283 (66.6%)	253 (68.6%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

9.b Videoconferencing

Videoconferencing was more popular than telephone conferencing, but the majority of workers in all four job categories were still not willing to participate in videoconferencing as a training strategy to build skills. (See Table 9.b.)

**Table 9.b
Willingness to Use Videoconferencing, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes	65 (45.5%)	59 (40.7%)	201 (47.3%)	173 (46.9%)
No	78 (54.5%)	86 (59.3%)	224 (52.7%)	196 (53.1%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

9.c Internet/World Wide Web

The majority of participants in all four employment categories indicated “yes,” they would be willing to use the Internet after a traditional classroom workshop to build skills.

Table 9.c
Willingness to Use Internet/World Wide Web, by Job Category

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes	101 (70.6%)	97 (66.9%)	303 (71.3%)	256 (69.4%)
No	42 (29.4%)	48 (33.1%)	122 (28.7%)	113 (30.6%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

It should be noted that in focus groups, caseworkers talked in more detail about the use of the Internet as a training strategy. Their comments on the use of the Internet as a training tool covered a number of uses and potential drawbacks, including the following:

- Caseworkers from a medium sized central Ohio agency thought information provided online or on a CD-ROM should be used as reference materials, but should not take the place of traditional training.
- Caseworkers from a medium sized east central county thought they could occasionally get information online, but they would not have the time to participate in online or computer-based training while on the job.
- Caseworkers from a small sized northwest county thought working online would be helpful to get research information, but otherwise they preferred going to training and hearing the discussion.
- Caseworkers from a large northeast Ohio agency stated that they liked getting information from the Web, but that they looked forward to training days as an opportunity to get out of the office.
- Some caseworkers in a medium sized western county felt they would not have time to complete Internet training due to other office demands; however, other participants reported Internet training would be helpful.

9.d Electronic Bulletin Board

The use of electronic bulletin boards as a training strategy was also unpopular. More than two-thirds of staff in all four employment categories were not interested in skill-building opportunities via electronic bulletin boards, as represented in Table 9.d.

Table 9.d
Willingness to Use Electronic Bulletin Boards, by Job Category

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes	49 (34.3%)	33 (22.8%)	143 (33.6%)	129 (35%)
No	94 (65.7%)	112 (77.2%)	282 (66.4%)	240 (65%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

9.e CD-ROM

The final electronic training strategy was the use of CD-ROMs. Once again, all four employment categories most often responded “no,” that they would not be willing to use CD-ROMs to build skills after a traditional classroom workshop.

Table 9.e
Willingness to Use CD-ROM, by Job Category

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes	65 (45.5%)	65 (44.8%)	192 (45.2%)	176 (47.7%)
No	78 (54.5%)	80 (55.2%)	233 (54.8%)	193 (52.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

Caseworker discussions from focus groups provided a variety of additional feedback on the use of CD-ROMs, including the following comments:

- Caseworkers from a large sized western county stated they would not benefit from CD-ROM training, noting that they wouldn’t have time in the office to use it. They added that traditional workshops are the only break they get and that they enjoy the feedback from other workers from different agencies.
- A caseworker from a small sized east central county stated that he would not have the self-discipline to complete CD-ROM training, while another worker from the same agency commented that she liked CD-ROM training. A third worker from this agency felt computer-based training would be more boring than attending traditional training.

10. Frequency of Participating in an Online Training Class Via the Internet

Participants were also asked how frequently they participated in online training classes via the Internet. The vast majority of workers had not participated in online training classes, with caseworkers reporting the least experience with this training method. The percentage of workers reporting that they “Never” participated in such training was high, including 79 percent of case aides, 81.4 percent of child care workers, 84.7 percent of caseworkers, and 81.3 percent of supervisors. For responses to all frequencies of participation in online training classes, see Table 10.

Table 10
Frequency of Participating in an Online Training Class, by Job Category

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Very Often	2 (1.4%)	1 (0.7%)	5 (1.2%)	5 (1.4%)
Often	4 (2.8%)	5 (3.4%)	7 (1.6%)	2 (0.5%)
Sometimes	9 (6.3%)	7 (4.8%)	19 (4.5%)	24 (6.5%)
Rarely	15 (10.5%)	13 (9.0%)	30 (7.1%)	37 (10%)
Never	113 (79%)	118 (81.4%)	360 (84.7%)	300 (81.3%)
Missing	0	1 (0.7%)	4 (0.9%)	1 (0.3%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

11. Willingness to Take Advantage of a Training Session Offered Online via the Internet

The final technology question posed to all four employment categories asked whether participants would take advantage of a training session offered online via the Internet. Across all four categories, the participants indicated they would be interested in this possibility, with the majority of workers indicating “Yes, very much so,” or “Yes, I think so.” Child care workers indicated the strongest preference for online training sessions, with 31.7 percent responding “Yes, very much so.” See Table 11 for all responses by staff in all job categories regarding their willingness to participate in this method of training.

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**Table 11
Willingness to Participate in a Training Session Via the Internet, by Job Category**

	Case Aides	Child Care Workers	Caseworkers	Supervisors
Yes, very much so	38 (26.6%)	46 (31.7%)	76 (17.9%)	51 (13.8%)
Yes, I think so	69 (48.3%)	53 (36.6%)	185 (43.5%)	176 (47.7%)
I'm not sure	18 (12.6%)	27 (18.6%)	91 (21.4%)	93 (25.2%)
No, I don't think so	16 (11.2%)	7 (4.8%)	50 (11.8%)	30 (8.1%)
No, definitely not	0	11 (7.6%)	19 (4.5%)	15 (4.1%)
Missing	2 (1.4%)	1 (0.7%)	4 (0.9%)	4 (1.1%)
Total	143 (100%)	145 (100%)	425 (100%)	369 (100%)

In order to further analyze staff comfort and preferences for the use of technology as a training strategy, a reliability analysis was calculated for each employment category to determine the consistency of the measures across the entire sample. For all four groups, the coefficient alpha level for reliability was in the range of high reliability: supervisors, .82; caseworkers, .75; case aides, .84; and child care workers, .84. This suggests that a composite score on these seven items regarding comfort and interest in technology as part of training is a consistent measure across all four groups in the sample.

For each of the four employment categories--case aide, child care worker, caseworker, and supervisor--the series of seven questions, previously presented, was asked to better understand the participants' comfort level and interest in using computers and technology. In review, those questions were:

1. How comfortable are you using a computer?
2. How comfortable are you using a computer to learn new information?
3. How often do you access the Internet/World Wide Web?
4. How comfortable are you using the Internet/World Wide Web?
5. Would you prefer computer technology to be part of a training strategy?
6. Would you sign up for an OCWTP workshop that includes both classroom work and accessing information using a computer?
7. Would you take advantage of a training session offered online via the Internet?

The scores for all seven questions were then totaled into a composite score for each research participant. In Table 12, the scores are presented for the composite measure of technology issues. The possible range is from 7 to 37. Note that only participants who responded to all seven questions are included in this analysis. Therefore, the sample size varies slightly from the overall response rates indicated earlier in this report.

Table 12
Mean and Range Scores for Composite Measure of Technology, by Job Category

Category	Sample Size	Mean	Minimum	Maximum
Case Aide	138	14.02	7	29
Child Care Worker	142	14.65	7	32
Caseworker	417	13.82	7	32
Supervisor	363	14.05	7	30

As evidenced by the mean scores across the groups, there is very little difference among employment categories in terms of composite scores on technology.

Analysis by County Size and Region

Additional analyses were completed to determine differences among different sized counties and regional training centers for the seven questions. Based on the ANOVA statistics, and across all four employment categories, there were no statistically significant differences in comfort with technology among county sizes and regional training centers. This indicates that while there may be minor differences between counties of varying sizes and in different regional training centers, the overall differences were not significant. Therefore, when examining which specific variables explain comfort with technology, it is safe to assume that county size and regional training center differences are not contributing factors.

Multiple Regressions

A series of multiple regression analyses were used to determine which, if any, independent variables influenced staff members' degree of comfort with technology, the dependent variable.

A stepwise regression model was completed for each of the four employment categories: supervisor, caseworker, case aide, and child care worker. In each model, the following variables were entered:

- age
- gender
- race categorized for statistical analysis as minority and nonminority
- education
- years in current position
- years at the agency
- years in child welfare
- years in social service
- access to a computer at work
- access to the Internet
- the degree of participation in online training classes

In order to ensure appropriate analyses, the assumptions for multiple regressions were checked, including multicollinearity, normal distribution, and homoscedasticity. Upon preliminary analyses, all assumptions were confirmed.

Supervisors

Considering the stepwise regression model for supervisors, the following variables were not significant in explaining comfort with technology: race, gender, education, years in current position, years at the agency, years in child welfare, and years in social services.

Several variables were significant in explaining level of comfort with technology. These included degree of participation in online training, age, access to the Internet at work, and access to a computer at work. A greater degree of participation in online training classes increased comfort levels, as did being younger, and having a greater degree of access to the Internet and a computer at work.

Based on the adjusted R squared value, these four variables account for 10.9 percent of the variance of comfort with technology, which is statistically significant. For supervisors, the variables vary in their strength of explaining comfort with technology, with participation in an online class having the greatest

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explanatory power, followed by age, access to the Internet at work, and, finally, access to a computer at work.

Most previous research has identified age as a significant predictor of comfort with technology, with younger individuals being more comfortable. The present research supports that assumption, but also indicates that accessibility to technology in the workplace, as well as exposure to technology via previous training, also significantly explains comfort with technology. Table 13 provides the statistics of the stepwise regression model for supervisors.

**Table 13
Regression on Comfort with Technology for Supervisors**

	B	SE b	Beta
Constant	1.434		
Participation in online class	1.279	0.307	0.216***
Age	0.00827	0.024	0.175**
Access to Internet at work	0.803	0.338	0.124*
Access to a computer at work	1.991	0.923	0.113*
Adjusted R ² = .109, F (4,332) = 11.297***			

*p < .05, **p < .01, ***p < .001

Caseworkers

In the caseworker regression model, the following variables were not significant in explaining comfort with technology: race, age, education, years in current position, years at the agency, years in child welfare, and access to a computer at work. Variables that did explain comfort with technology included years in social services, degree of participation in online training, access to the Internet at work, and gender. Fewer years in social services and a greater degree of participation in online training classes increased comfort levels, as did having a greater degree of access to the Internet at work, and being male.

Based on the adjusted R squared value, these four variables account for 8.9 percent of the variance of comfort with technology, which is statistically significant. For caseworkers, the variables vary in their strength of explaining comfort with technology, with fewer years in social services having the greatest explanatory power, followed by a greater degree of participation in online training classes, a greater degree of access to the Internet at work, and, finally, being male.

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While age was not statistically significant in this regression model, years of social services was the most significant predictor. Among caseworkers, a positive correlation ($r=.708$, $p<.01$) was found between age and years in social services. The regression model, therefore, does support the assumption that younger workers are more likely to be comfortable with technology, but also provides evidence that increased participation in online training and greater access to the Internet at work are also important factors. Interestingly, gender is only significant among caseworkers, and it is not possible from the data to speculate why. Table 14 provides the statistics of the stepwise regression model for caseworkers.

Table 14
Regression on Comfort with Technology for Caseworkers

	B	SE b	Beta
Constant	8.812		
Years in social services	0.112	0.028	0.192***
Participation in online class	0.980	0.287	0.165**
Access to Internet at work	0.0603	0.173	0.170**
Gender	-1.482	0.561	-0.128**
Adjusted R ² = 0.089, F (4,387) = 10.558***			

p < .01, *p < .001

Child Care Workers

In the child care worker regression model, the following variables were not significant in explaining comfort with technology: race, age, gender, education, years at the agency, years in child welfare, and access to the Internet at work. Variables that did explain comfort with technology included access to a computer at work, years in current position, and degree of participation in online training.

Having a greater degree of access to a computer at work was the strongest predictor of comfort with technology, followed by fewer years in one's current position, and a greater degree of participation in online training classes.

Based on the adjusted R squared value, these three variables account for 26 percent of the variance of comfort with technology, which is statistically significant. While age was not statistically significant in this regression model, years in one's current position was a significant predictor, which may be correlated to age. Among child care workers, there was also a positive correlation between age and years in social services ($r = .614$).

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The regression model, therefore, does support the assumption that child care workers with less tenure in their positions are more comfortable with technology, but also provides evidence that increased participation in online training and greater access to a computer at work are also factors. Table 15 provides the statistics of the stepwise regression model for child care workers.

**Table 15
Regression on Comfort with Technology for Child Care Workers**

	B	SE b	Beta
Constant	4.214		
Access to a computer at work	1.471	0.365	0.312***
Years in current position	0.324	0.086	0.293***
Participation in online class	1.266	0.510	0.187*
Adjusted R ² = .260, F (3,128) = 16.309***			

* p < .05, ***p < .001

Case Aides

In the case aide regression model, the following variables were not significant in explaining comfort with technology: race, gender, education, years in current position, years at the agency, years in child welfare, and access to the Internet at work. Variables that did explain comfort with technology included age and access to a computer at work. Being younger and having a greater degree of access to a computer at work were the only significant predictors in this regression model.

Based on the adjusted R squared value, these two variables account for 12.7 percent of the variance of comfort with technology, which is statistically significant. In this analysis, age is a significant factor in comfort with technology. This regression model therefore, does support the assumption that younger case aides are more comfortable with technology, but also provides evidence that greater access to a computer at work is also a factor. Table 16 provides the statistics of the stepwise regression model for case aides.

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Table 16
Regression on Comfort with Technology for Case Aides

	B	SE b	Beta
Constant	7.062		
Age	0.125	0.037	0.295**
Access to a computer at work	1.127	0.499	0.196*
Adjusted R ² = .127, F (2,119) = 9.666***			

* p < .05, **p < .01, ***p < .001

As expected, previous exposure to technology, access to a computer and to the Internet at work, and, to a lesser degree, age significantly explained comfort with technology across these employment categories. Table 17 summarizes the regression findings.

Table 17
Variables Significant in Explaining Comfort with Technology, by Job Category

	Supervisor	Caseworker	Child Care Worker	Case Aide
Gender	No	Yes	No	No
Race	No	No	No	No
Age	Yes	No	No	Yes
Education	No	No	No	No
Years in current position	No	No	Yes	No
Years at the agency	No	No	No	No
Years in child welfare	No	No	No	No
Years in social services	No	Yes	No	No
Access to a computer at work	Yes	No	Yes	Yes
Access to the Internet at work	Yes	Yes	No	No
Participation in online classes	Yes	Yes	Yes	No

Overall, the variables with the most significant explanatory power of comfort with technology across employment categories were participation in online classes and access to a computer at work, followed by age and access to the Internet at work. Other variables such as gender, years in current position, and years in

social service had less influence. Race, education, years at the agency, and years in child welfare offered no explanatory power in the stepwise regressions.

As mentioned earlier, prior to calculating the regression models, ANOVAS were completed, comparing comfort level of technology across RTCs and county size for all four employment categories, and no significant differences were identified. Therefore, the findings of these regression models are not specific to one particular region or county size.

Technology and Distance Training

The following summarizes literature on distance learning technologies, reviewed during this assessment.

- Computer-based distance learning techniques are becoming more user-friendly and much more sophisticated. The field is rapidly changing, with e-learning training enhancement tools constantly being brought to the market. Internet based technologies (IBT) and their infrastructures are in great demand in order to facilitate the growing market for web-based training (American Society for Training and Development, {ASTD}, 1998).
- Regardless of the training tool (e-learning methods are training tools,) workers will still have difficulty applying newly learned skills to the job. E-learning techniques do not eliminate any of the ancillary supports workers need to gain skill proficiency. These supports include: on-the-job coaching and mentoring, positive incentives for using new skills, access to people and other tools that support performance, and clear expectations for using the skills (Training and Development Magazine, 2001, and Human Resources Focus, 2001).
- Training technologies must be user-friendly and efficient if workers are to use them on-the-job (ASTD, 1998).
- E-learning technologies are diverse. On a continuum they range from use of a single technology incorporated into a classroom workshop, to training support systems that are entirely on-line, to computer applications that assess a worker's training needs and guide them through necessary steps to use a skill (Training and Development Magazine, 2001.)

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- In order for technological strategies to be effective at knowledge and skill building, existing classroom curricula must be totally redesigned, not simply digitally adapted.
- Attention is being given to electronic training strategies that close the gap between learning and working. The goal is to create a work environment where learning and working are the same things (Tapscott, 1997).
- Most of the studies and programs that were reviewed recommended the use of “blended” training strategies or a combination of classroom workshops with on-site coaching and mentoring, and the use of a variety of carefully selected technological strategies. Furthermore, many articles reported that e-learning programs are going through a major evolution, becoming easier to use, and incorporating more sophisticated methods. Costs are also declining, a trend that will continue over the next few years.

DISCUSSION:

The data suggest that the majority of child welfare professionals have access to computers and the Internet, and are moderately or very comfortable using this technology. Comfort levels with technology were most highly associated with previous experience in online classes and access to a computer at work, followed by access to the Internet at work. Age was a factor for supervisors and case aides. There were no statistically significant differences based on county size or region.

Professional staff across all four employment categories had definite preferences for specific types of electronic training strategies, even though they might have reported little or no experience with some of those technologies. For example, online Internet training was a preferred method of training, but few staff had ever participated in that type of training. Information about experience using other technologies was not collected, and so it is unknown whether previous experiences with teleconferencing, audio conferencing, electronic bulletin boards, or CD-ROMs influenced respondents' reported unwillingness to participate in workshops that incorporate these strategies.

Use of Technology by OCWTP

Like child welfare training programs across North America, the OCWTP has used a variety of strategies to help workers transfer their learning from the classroom to the job and gain practice skills. More than a decade ago, transfer-of-learning (TOL) strategies became a major component of all OCWTP workshops, and a variety of TOL strategies are built into every curriculum.

In 1997, the OCWTP began the development of the Skill Building Certificate Training Program (SBCT) for caseworkers and supervisors. Among other strategies, these programs incorporated the use of computer technologies and other distance learning activities to help staff master skills. For the first time, the OCWTP incorporated the use of e-books, which are specially designed computer modules used to deliver textbook style information. Through the use of e-books, participants in the SBCT workshops were able to take pre- and post-workshop assessments, download homework, and interact with the trainer by asking or responding to questions on SBCT topic areas. The SBCT program also incorporated a variety of other training strategies, including the use of electronic bulletin boards, video, and audio taping.

Bridge line technology was also successfully used during the six-month SBCT workshop for caseworkers on “Interviewing Young Children.” Bridge line technology is a relatively new method of conference calling. All parties call one long-distance telephone number. Up to 30 callers can participate on the same call. It is unlike traditional conference calling; there is no delay in communication for users, and the sound and voice quality are excellent.

During the SBCT workshop, bridge line technology allowed the supervisors of participating caseworkers to talk with workshop trainers to discuss program content and on-the-job transfer-of-learning strategies. Supervisors appreciated use of the bridge line because they did not have to travel long distances to participate.

The SBCT program was extremely successful in building skills, but it was also labor intensive for the RTCs, trainers, and the OCWTP state coordinator. It was also so expensive as to prohibit its widespread use. As a result, the program is offered infrequently. The OCWTP also experienced problems with some of the technology used in the program. Not all trainees have adequate computer-based skills to use electronic technologies, so a preservice training on the use of computers had to be designed and implemented. Further, many agencies' computer networks were not equipped to access, distribute, or support these technologies. Firewalls and other security devices prohibited many caseworkers from downloading reading materials and assessments. Many trainees had to rely on fax machines to send and receive workshop materials.

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As the technological capacity of the participants and their agencies increases, and as the technologies become more advanced and user-friendly, electronic technologies could be integrated into traditional training as an effective delivery strategy that reinforces and supports learning.

The OCWTP also has a variety of technologies that could be immediately integrated into existing training. One is the *Forrester Family Case Example Videotape*, produced collaboratively by Child Welfare League of America, the state of Oklahoma, and IHS as a TRAINet project. This video demonstrates fundamental core competencies, including engagement at intake, interviewing, relationship development, assessment, and case plan development. It was developed to promote transfer of learning and skill building and can be used with new or experienced staff.

In late 2002, a CD-ROM version of the *Field Guide to Child Welfare* will be available. This CD-ROM will be searchable, allowing users to type in a content area about which they need information, and all references to that topic will be listed on screen. Searchable CD-ROMs serve as excellent desk aids and reference resources, as they allow users to quickly search for needed information at their own desks. CD-ROMs can also be used as transfer-of-learning tools before and after training. The *Field Guide to Child Welfare CD-ROM* could be used after the Core, Adoption Assessor Training, and Building Skills in Family Risk Assessment courses, providing workers with an in-depth reference to support and reinforce classroom training.

The OCWTP recently purchased the Classroom Performance System (CPS) for use in classroom training. Participants are given a wireless, handheld control to respond to questions during the workshop. Participants select a button on the control to register their answers, and group totals are immediately computed and appear on the large classroom screen. Each trainee is represented only by an assigned number, so anonymity is preserved.

The Ohio Child Welfare Training Program has also continued to increase its use of technology for administrative purposes. For example, the OCWTP website has become a valuable tool for trainees, trainers, and RTC staff. It provides information on the structure and program initiatives of the OCWTP, as well as links to detailed descriptions of standardized workshops, including Core, Preservice, and Adoption. Each RTC has its own section of the website, which they customize to disseminate their individualized information and meet regional agency needs. RTCs use these sections to post course calendars, maps, and directions to training locations; to register training participants; to highlight special events; and to provide e-mail links to RTC staff. Some RTCs use the OCWTP website more than others, depending upon their comfort level with the technology and the expertise of the RTC staff.

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The use of computers and other electronic technologies is integral to the future effectiveness of any training program. Electronic technologies may help the OCWTP overcome many of the barriers that prevent staff from mastering essential practice skills through traditional training alone. Some of those barriers include the following:

- The field of child welfare requires an extensive knowledge base and skills that require many hours of classroom time followed by on-the-job coaching;
- Child welfare workers have difficulty scheduling and attending training because of high work loads and the fact that emergencies are endemic to their jobs; and
- Supervisors' administrative demands and insufficient time diminish their ability to help workers practice skills on the job.

Electronic technology has the capacity to address many of these obstacles, but only if it is fully integrated with traditional training, training preparation, on-the-job follow-up, and supervisory coaching and mentoring. However, the decisions of when, where, and how to integrate this technology into training are complex and potentially expensive, and will require thoughtful planning and sensitivity to the needs of the training program and the comfort level of staff.

**DECISIONS OF THE OCWTP STEERING COMMITTEE REGARDING
TRAINING STRATEGY PREFERENCE**

1. **The OCWTP will design strategies to use existing OCWTP resources and products as skill-building and transfer-of-learning training interventions, and evaluate their effectiveness.** (This decision is also supported by assessment findings presented in Section VIII, *Skill Building and Transfer of Learning*.)

These strategies include the use of the *Field Guide to Child Welfare CD-ROM*, the *Forrester Family Video*, the newly acquired Classroom Performance System, and other existing resources that can be utilized without purchasing new equipment or software. These strategies will be evaluated by the OCWTP to determine their efficacy as skill-building and transfer strategies.

2. **The OCWTP will pilot additional training resources and technologies and gather feedback from trainees concerning their efficacy as skill-building and transfer-of-learning interventions.** (This decision is also supported by assessment findings presented in Section VIII, *Skill Building and Transfer of Learning*.)

The OCWTP will investigate newer technologies, such as electronic learning books, on-line training, and interactive CD-ROM training, etc. to determine costs, computer specifications for use, and the range of appropriate uses by the OCWTP before piloting selected resources.

3. **As part of the piloting of training resources and technologies, the OCWTP will evaluate selected training delivery technologies to determine their strengths and limitations.** (This decision is also supported by assessment findings presented in Section VIII, *Skill Building and Transfer of Learning*.)