Final Performance Report

Independent Living Resources, Inc.
4324 Thetford Road
Durham, North Carolina 27707-5700
919-402-0262 Fax 919-419-1651

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Principal Investigator: William V. Griffin, M.S.W., M.P.A.

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16. Abstract (Limit: 200 words) An introductory video and viewer's guide on personal safety for human service providers were developed in order to heighten awareness of risk and to reduce dangers related to threats and violence in the field of human services. The video and guide were to be used to introduce social services staffs and others to basic personal safety issues. The overall results of the research aspects are the development of a reliable instrument to measure viewer's responses to video instruction and significance in the findings from the research sessions. The video was demonstrated to be a useful tool to increase awareness and improve knowledge about worker safety in public human services settings. The Staff Safety Awareness and Knowledge Instruments developed were effective in measuring and statistically discriminating between those who had and had not experienced worker safety training. Some instructive value was also noted in the Instrument itself. Feedback from subjects indicated that both knowledge and awareness were moderately increased even among workers who were experienced through previous training. The author suggests that a more comprehensive, more topically complete set of videos addressing worker safety would be a powerful tool to improve safety and reduce incidents of assault, trauma and threats of violence.

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Significant Findings -Phase I Final Report

The research findings from this Phase I project are very encouraging. The video on worker safety was shown, statistically, to be a useful tool to increase awareness and improve knowledge about worker safety in public human services settings. The *Staff Safety Awareness and Knowledge Instrument* (SSAKI) was shown to be an effective measurement device for the purposes for which it was developed, and can statistically discriminate between those who have had worker safety training and those who have not. The SSAKI was shown to possess some instructive value of its own. Feedback from subjects indicates that both knowledge and awareness were moderately increased even among experienced workers with previous training.

Usefulness of Findings

The results support the idea that a more comprehensive, more topically complete set of videos addressing worker safety would be a powerful tool to improve safety and reduce incidents of assault, trauma and threats of same; and that the SSAKI can be refined to provide solid evidence of improved knowledge and awareness of staff who have received the training.

Abstract

The project was undertaken to develop an introductory video and viewer's guide on personal safety for human service providers. The intent of the proposed products are to heighten awareness to areas of risk and to reduce dangers related to threats and violence in human services. The video was developed and produced to introduce social services staffs and others to basic personal safety issues. These products will have great importance to agencies in developing approaches to personal safety for their staffs. The overall results of the research aspects are the development of a reliable instrument to measure viewer's responses to video instruction and significance in the findings from the research sessions.

General Scientific and Technological Aims

The aim of the project in Phase I was to develop and produce one 30-minute introductory video on personal safety in the workplace and to develop a staff awareness and knowledge assessment instrument to measure the change in safety awareness and knowledge as a result of viewing the video, or participating in other safety training (Staff Safety Awareness and Knowledge Instrument—SSAKI). The video was the first in a proposed series to increase the internal staff development capacity of social service agencies in the area of staff personal safety issues. This first video, titled *Safe at Work*, was designed to elevate social service agencies' awareness and to assist them in developing a process for dealing with personal safety issues in the workplace. The educational aim of the Phase I video was to inform and assist social services staffs at all levels in clarifying the areas of concern for personal safety within their programs. The video was also intended to serve as a vehicle for agencies to present to their governing bodies (boards of commissioners, city councils, legislatures, etc.) an overview of the issues that raise the levels of concern of their staffs in relation to personal safety. The presentation format blended a safety committee discussion with footage of real-life field and office situations. The research goal of the project was to evaluate whether the video

affected viewers' attitudes about personal safety and increased their understanding of what personal safety encompasses. As part of the research goal, the SSAKI was developed and field tested during all combinations of "treatment," including the "video enhanced" training, employing a controlled, experimental design.

Program Development

Three focus groups were used to help the research team develop program content. The research team included the principal investigator, project research consultant, producer/writer, and media production specialist. The focus groups were facilitated by two staff development and training specialists from Mecklenburg County Department of Social Services, Charlotte, North Carolina, and Durham County Department of Social Services, Durham, North Carolina. The video script incorporated feedback from the three focus groups. Details and findings of each group are described below.

Focus Group #1: Management Evaluating Video Treatment

The six participants in the first focus group were all social services management staff currently working in a large metropolitan area (SMSA population: approximately 1 million). The six represented adult, child protective, and child welfare services, clerical, and training staff supervision and administration. All participants work on a team-based configuration and are part of management teams. Four participants were female and two were male. Two of the six were African-American. The principal investigator (PI) and a site-based staff development specialist were present. The PI presented a treatment of the program detailing the production format and the model used, and descriptions of the characters and action. The group made the following recommendations:

- Field aspects of the agency's work are very important and they wanted to make sure that a good balance between field and office was achieved in the video.
- There needed to be a piece covering use of agency vehicles and the need for regular maintenance.

Focus Groups #2 and #3: Direct Service Staffs Evaluating Video Treatment

Group #2 was held at the same site as group #1. Group #3 was held at a site approximately 200 miles from the first site. This second site was in a rural/urban mix county—population 195,000. The major population base was a city of approximately 150,000. Fourteen staff attended these groups; seven females and seven males. The ethnic makeup was: seven African-American, one Asian, and six Caucasians. This group was similar to group #1 in that participants represented adult and child protective services, child welfare, clerical, training and staff development, and income maintenance; a representative from home health aides and the planning department were additions. The groups made the following recommendations:

- The portrayal of field aspects seemed limited. There seemed to be more emphasis on office safety.
- The group also wanted to ensure that administrators would realize from the tape that safety was not going to be seriously considered without overall agency support.

- The planning person brought up the idea of portraying the economical value of safety programming. Economic considerations include the costs in dollars needed in the development of safety programming and other costs, such as reputation.
- Using Latino/a instead of Hispanic.
- Portray client as having a history of violence in dealing with a particular gender group rather than just women.
- Not refusing service to an intoxicated client but "at that point" consider an alternate plan.
- Clients feel powerless when dealing with social services and not necessarily "victimized."

The last four comments above are references to specific wording in the "treatments" (video script) each person reviewed. Each participant received the treatment prior to the meeting, allowing them to review the material before the focus group met.

Program/Video Content

Safe at Work , the introductory safety program, was produced as a 30-minute video. It presents formulation of a safety program through the work of a committee and portrays the first meeting of a safety committee. The committee is composed of individuals representing various staffs within an agency. Members include representatives from fiscal, human resources, clerical and reception, and direct service staffs. Gender, ethnicity and disabilities are balanced by the inclusion of a person in a wheel chair, males and females, African-American, Latino, and Caucasian staff.

The videotape takes the viewer through a brainstorming process. The chairperson starts out by asking committee members to suggest any areas they see as needing scrutiny for personal safety. The chairperson suggests a basic outline and asks the group to express their concerns within each area. As the group makes suggestions, the chairperson records these on a flipchart set up at the front of the room. As items and areas of concern are suggested the video intersperses these with actual work scenes, such as office and field interactions with clients, field staff visiting an apartment complex and individual homes, security guards patrolling agency grounds, clients waiting in the reception area, and scenes that depict possible and actual confrontations, including brandishing of a weapon.

The tape focuses on the development of topics and establishes the concept of the committee working on details in coming meetings. The 30-minute tape highlights:

- The need for a planned approach to workplace safety,
- The need for input from representatives of all staffs in an agency,
- The need for a comprehensive view of agency operations and safety factors, and
- The need for agency support and resources.

Viewer Manual

A manual was produced for viewers of the videotape. The manual was designed as an eight page brochure integrating text and photographs captured from the video program. The manual contains the following:

- Cover page
- Table of Contents
- Introduction to Video and Model
- Reference to OSHA Guidelines for Preventing Workplace Violence for Health Care and Social Service Workers
- Development of Safety Committees
- The Brainstorming Process
- Questions about the video
- Note section
- Information on purchasing safety materials and order form

Project Evaluation

General

Presentation of the video and other training activities occurred in two North Carolina County Departments of Social Services. County A was a large metropolitan area with a SMSA of approximately one million people. County B was a medium sized county (approximately 200,000 people) with one major population center of approximately 150,000. All sessions were held in county office buildings.

Four sessions were held at each site with an average attendance of 24. Registration was coordinated by local staff development personnel. Participants were asked to register and pick one of four scheduled offerings. Each offering corresponded to one of the four treatment conditions (see below). Sessions were held over two consecutive days at each site. One session was held each morning and one each afternoon. The sessions were approximately two-hours in length.

Subjects

Subjects included 184 agency workers representing either the Division of Social Services or Division of Youth Services. Fifty three percent (n=97) of the subjects came from County A, and 47% (n=87) came from County B.

Racial distribution among the subjects very closely paralleled the racial make up of the agencies: 53% were African American; 43% were white, and 4% were Hispanic, Asian, or "other." Overall, workers were very experienced, with 51% having more than 10 years of experience, and a combined total of 72% having more than 6 years of experience.

A total of 66% of workers received previous training, but the distribution of previous training was not equal between sites, and this created some statistical problems during analysis of main and interaction effects (see below). A much smaller percentage of County A's staff had received previous safety training (47%) than County B (88%). Using a Chi-Square analysis, this difference was statistically significant at $p<.001$.

Design and Procedures

At each site the subjects were divided into four groups, each group representing a different treatment condition. Originally, it had been proposed that subjects be randomly assigned to the four treatment conditions, but practical realities of conducting field research precluded randomization. Rather, liaisons at each site requested that staff self

select one of four available presentations, until each session had approximately 24 participants. It appears that this strategy resulted in some imbalance among those who had previous training on worker safety and the particular treatment condition experienced.

However, four groups of approximately equal size (n's ranged from 18 to 25 with an average of 24) were employed at each site, meeting the requirements of the 2x2 design. The purpose of the 2x2 design was to test: a) the main effect of the video on staff knowledge and awareness of safety issues, when compared to subjects that did not receive the video, but received traditional training; and b) the main effect of taking a pre-test on knowledge and awareness prior to receiving either the video or traditional training (i.e., to test for any instructional value of the pre-test). There was also the possibility that the video and pre-test might interact, to enhance overall learning.

These requirements resulted in the need for four groups, each group meeting one of the following conditions:

Group 1: video, with pre-test and post-test;
Group 2: no video, with pre-test and post-test;
Group 3: video, with post-test only;
Group 4: no video, with post-test only.

This design allowed the testing of the main effect of the video condition (between groups), and main effect of the pre-test condition (within groups), and the interaction of the video and pre-test conditions.

Measures

The Staff Safety Awareness and Knowledge Inventory (SSAKI) was developed specifically for this project, as no previously developed instruments appropriate for this research were known to exist. The SSAKI relies on Likert-type items that scale awareness, knowledge and perceptions of knowledge gained during the training. Two versions of the SSAKI were developed, identical in all respects except that the post-test version contained items on perceived knowledge gained and behavioral intentions based upon training.

In an attempt to imbue the scale with high face- and content validity, items on the SSAKI were derived from the script of the video. A total of 31 Likert-type items were employed on the pre-test, and 36 Likert-type items and 5 open-ended behavioral intention items were employed on the post-test. Each Likert-type item employed a 7-point scale with traditional anchors (e.g., strongly agree - strongly disagree; no knowledge whatever - fully knowledgeable, etc.).

To test main effects and interactions a composite scale score consisting of the sum total of all retained items was used. Several items were eliminated due to problems in their construction or lack of ability to discriminate between pre- and post-training subjects. (Individual items were analyzed for their ability to discriminate between pre-training and post-training subjects; this analysis is described in a later section.) A total of 25 Likert-type items were retained, which resulted in a possible low composite score on the SSAKI of 25, and a possible high composite score of 175.

Hypotheses

It was hypothesized that:

1. if the video was an effective training aide, the composite mean SSAKI score on the post-test for the video treatment group would be higher than the composite mean for the non-video group;
2. if there was educational value to taking the pre-test, the composite mean SSAKI score on the post-test would be higher for the groups that took the pre-test, when compared to the post-test only groups;
3. there would be an interaction between the video and the pre-test conditions such that the group that received both would have the highest composite mean SSAKI score, when compared to the other three groups; and
4. the SSAKI would be able to discriminate between those that had experienced the safety awareness training and those that had not, regardless of other factors, such that the composite mean score on the SSAKI post-test would be higher than the composite mean score on the SSAKI pre-test, within the groups that received both tests.

Analyses

To test hypotheses 1, 2 and 3, above, a fixed model ANOVA was used, with the main effect of "video/no video" and "pre-test/no pre-test" being between groups factors. The interaction of the two main effects was also tested. To test hypothesis 4, above, a matched pairs t-test was used, since this was a within-subjects treatment involving half of the subjects.

To be sure that the subjects were "randomly " distributed across the four treatment groups with regard to categorical variables relating to demographics, Chi-Square analyses were performed, with non-significant findings being assumed to meet assumptions of randomization.

Results

The composite mean SSAKI post-test score for the groups that viewed the video is 127.03, whereas the mean for the groups that did not view the video is 123.5. This difference is statistically significant ($F= 4.34$: $df=1,163$; $p< .05$). Thus, the main effect of viewing the video (hypothesis # 1) is confirmed.

The composite mean SSAKI post-test score for the groups that received both the pre-test and the post-test is 127.5, whereas the mean for the groups that received the post-test only is 123.1. This difference is statistically significant ($F=6.78$; $df=1,163$; $p <.01$). Thus, the main effect of receiving the pre-test (hypothesis # 2) is confirmed.

The following table presents the composite mean scores of the groups that received the various combinations of treatment conditions:

	Post-Test Only	Pre-Test and Post-Test
No Video	122.0	125.0
Video	124.2	129.9

It can be seen that the mean for the no-video/post-test only group is the lowest; the mean for the video/pre-test and post-test group is the highest; and the means for the other two video and pre-test combinations are in between these other means. Thus, the mean scores are in the right arrangement to support hypothesis # 3, that there is an enhancing interaction between the pre-test and the video. However, the interaction term is not statistically significant ($F=.65$; $df=1,163$; $p=.42$). Clearly, the greatest amount of variance is accounted for by the two main effects. However, there are circumstances in the arrangement of subjects across the treatment conditions that may account for the lack of significance of the interaction term (see below).

The composite mean SSAKI pre-test score for both groups receiving the pre-test is 121.1, whereas the mean for those same subjects on the SSAKI post-test (following training) is 127.1. This difference is statistically significant ($t=-6.89$; $df=79$; $p<.001$). Thus, the SSAKI is able to discriminate between subjects that have had the training and those that have not had the training, confirming hypothesis # 4. Additional analyses were performed on individual items within the SSAKI; these results are discussed later in the section on Scale Development.

Discussion of Main Effects and Interactions

The two main effects are statistically significant, indicating that the video is an effective training aide, and that there is some educational value in taking the pre-test prior to receiving the training. This value may be the result of creating a "response set" or "training expectancy" that those not receiving the pre-test do not share. The main effect of the delivery of the pre-test needs further investigation.

It should be noted that while the differences between the composite mean SSAKI scores on both main effects are statistically significant, the differences are not large. This is very likely to be due, at least in part, to the fact that the large majority of subjects (66%) had received prior training on worker safety. Thus, the pre-training scores of those who took the pre-test were quite high (121.1 out of a possible 175.0), so the potential increase in SSAKI scores was likely mitigated by the high degree of knowledge and awareness of the subjects prior to training. This observation actually can be seen as a strength, realizing that the 30 minute, orientation video was able to reliably increase the knowledge and awareness of highly experienced, knowledgeable workers. It is likely that the increase in scores would be much greater if inexperienced subjects or subjects without prior exposure to worker safety training had been used in the study. Phase II will attempt to locate less experienced, less knowledgeable subjects (at least some of them should be so) to examine this possibility.

Further, Phase II will utilize about 2 hours of video training, in addition to the 30 minute orientation video, so the potential for impact of the video-enhanced training will increase. This increase in video exposure should result in higher scores on the SSAKI post-test.

The high degree of experience and previous exposure to training may have contributed to the lack of significance of the video-by-pre-test interaction term. To examine this possibility, previous exposure to training and other demographic factors were cross-tabulated with treatment conditions to see if subjects were evenly distributed across

the various combinations. Neither race nor years of experience were found to be other than randomly distributed across treatment conditions. However, the same was not true for prior exposure to worker safety training. In fact, using the Chi-Square technique, exposure to prior training was found to be statistically related to assignment to various treatment conditions ($p<.001$). Proportionally, more people with prior training fell into the combined video groups, and proportionally more people without experience fell into the pre-test/no video group. Thus, the video-by-pre-test interaction that was hypothesized was likely to have been confounded by previous training, mitigating the potential for the combined treatments to influence the previously exposed subjects. Recall that the mean scores for the four groups appeared to suggest that the interaction was present, but it failed to reach statistical significance. The likely explanation for the statistical artifact of uneven distribution across treatment groups is the self-selection of groups or "worker units" into the four scheduled sessions at each site. This possibility will be guarded against in Phase II in order to re-examine the possibility of an interaction between these main effects.

Discussion of Scale Development (SSAKI)

The SSAKI, developed specifically for this research project, has been shown to reliably discriminate between subjects who have and have not had the training. This capability is true even with relatively small mean score differences among groups, likely due to worker experience and subjects' exposure to prior experience. Further, the SSAKI has some instructive value when taken prior to receiving the worker safety training. The SSAKI has considerable potential as an assessment and evaluative measurement device, though the "instructive" feature complicates its use in repeated measures settings. As with any new instrument, it presented both strengths and weaknesses that were revealed during its application in this project.

Individual t-tests were performed between the pre-test and post-test items using repeated measures techniques. Of the 31 original items, 15 were found to statistically significantly differentiate between the pre-training and post-training subjects. A 95% confidence interval was used, 2-tailed.

The restriction of a 2-tailed application is noteworthy, because in a few cases where the differences were not insignificant, the means changed in an unexpected direction. This finding led to a closer examination of individual scores and several of the items were found to be "double barreled." This is a nettlesome phenomenon in scale construction that is often not revealed until sufficiently large field test samples are obtained to allow it to manifest during analyses. An example of a double barreled question is one where subjects are asked to rate their level of knowledge on a particular item, and the subjects vary greatly on their ratings (sometimes "loading" on the scale in a bipolar fashion). Some subjects might have very little knowledge, and the training might increase their knowledge, resulting in a higher post-test score. On the other hand, some subjects might rate themselves as being knowledgeable on the pre-test, but the training makes them realize that they know less than they thought. In this latter instance, their post-test rating is actually lower than their pre-test rating, even though it could be said that their knowledge was increased. The statistical result of this is little movement in the composite mean scores, and a higher than normal standard deviation. Both of these factors render the item

a source of error variance. Several items on the SSAKI demonstrated this tendency, and the items need to be reworked before the SSAKI is used again in application.

Several other items demonstrated means score changes in the expected direction, but the differences were small or the variance larger than that which would permit a statistically significant finding. On the basis of their directionality, these items were included in the composite means SSAKI scores used in the analyses herein to test main effects and interactions. The items may have reduced the size of main effects, and may also be partly responsible for the apparent lack of interaction effects. It is speculated that the lack of significance is due to several factors, including lack of sufficient content in the orientation video to change knowledge or awareness, or awkward wording in the question or the anchors. In addition to reworking certain items for clarity, the more comprehensive videos to be developed in Phase II should increase the likelihood that the SSAKI will detect true and meaningful changes.

Viewer Feedback and Self-Assessment

The SSAKI post-test provided five opportunities for viewers to rate their increase in knowledge as a result of the training session. The five areas selected were: assessing risks relating to staff safety, understanding the link between supervision and caseworker safety; understanding how building design and set-up affect safety; improving safety while in the field; and, understanding staff victimization and trauma. In each case staff rated themselves on a seven point scale with the anchors being "my knowledge was not increased at all," and "my knowledge was increased a great deal."

The composite mean scores for the groups were analyzed for main effects and interaction effects and none were found. However, in each case the means associated with the main effects ("pre-test" and "video") were slightly higher than their counterparts. This reflects the same pattern as the significant findings in the SSAKI data, but the variance in the self-rating data tended to be larger and the mean differences smaller (differences between means from 0.2 to 0.3 in all cases; around means scores very close to the 5 scale midpoints of 4.0; SDs ranged from 1.5 to 1.7).

The self rating data indicate that the orientation video was seen as moderately instructive and informative, even to highly experienced and previously trained staff. The results should be more compelling with less experienced/untrained staff. This will be explored in Phase II.

Many subjects provided suggestions or statements about how they might change their behavior to improve their safety, as a result of this orientation training. The comments ranged from the general to the very specific, and covered a broad array of issues touched on in the video and other parts of the training. Generally, comments related to increased vigilance; increased communication about risks, incidents and concerns; changing work patterns to reduce risks; working in teams or with police in high risk situations; generally taking the idea of improving worker safety more seriously, and so forth. Virtually all the comments were appropriate, and it is expected that with the increased topical coverage in Phase II that the behavioral change suggestions will become more specific and more focused.

List of Publications

Safe At Work: Viewer's Guide - a 16-page 7"x 3½" document to accompany the video produced under the grant.

Safe At Work Video - a twenty-three minute video on personal safety.

The products were developed specifically to meet the aims of the project and are the basis for a projected Phase II program.

Specific Aims (From Phase I Grant Application)

The goal of this project is to heighten staff awareness to areas of risk and reduce both exposure and actual violence to human service workers through a video-based training program that teaches personal safety skills and awareness of risk. In Phase I, a 30-minute video will be written and produced that introduces child welfare staff to basic personal safety issues. In Phase II, program content will be expanded to provide in-depth examination of critical issues introduced in the Phase I video. Content will also be adapted to make it relevant to a wide range of human service providers, such as those in public health, mental health, youth services, and other social services settings. The training programs, which will provide high quality skill-based training, will be marketed as both a key segment of comprehensive on-site training and as stand-alone videos with accompanying manuals to state and local child welfare, public health, mental health, and social service agencies.

Phase I Objectives

1. Develop content for the video to be produced in Phase I, select the specific issues to be addressed in the video-based programming series, and determine how to maximize the effectiveness and value of program content and format.
2. Write treatments for the video program produced in Phase I.
3. Conduct fact-gathering focus groups with managers and staff from child welfare settings to evaluate the treatments.
4. Produce a video program (approximately 30 minutes). The program will introduce child welfare staff at all levels—from front desk receptionist to top level administrators—to the need for increased awareness about staff personal safety and provide specific steps that can be taken to respond to work conditions reflecting varying levels of risk. Realistic vignettes illustrating staff personal safety will be developed that draw upon the actual experiences of child welfare staff.
5. Produce a viewer guide that summarizes and reviews the video program.
6. Evaluate the effectiveness of the introductory program.