

Washington Assessment of the Risks and Needs of Students

WARNS



USER MANUAL

Washington Assessment of the Risks and Needs of Students

WARNS

User Manual



Washington State
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RESEARCH

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Release Date: May 1, 2015

Photos: The images used throughout this user manual are of models and are used for illustrative purposes only.

Recommended Citation:

George, T., Coker, E., French, B., Strand, P., Gotch, C., McBride, C., McCurley, C.
(2015) *Washington Assessment of the Risks and Needs of Students, WARNS User Manual*. Olympia, WA: Center for Court Research, Administrative Office of the Courts.

Acknowledgments

The Washington Assessment of the Risks and Needs of Students youth survey and all related products were made possible with the generous support of the John D. and Catherine T. MacArthur Foundation. As the lead entity for the Models for Change initiative in Washington State, the Center for Children and Youth Justice provided valuable assistance and guidance for the duration of this project.

We are very grateful to the juvenile courts and other agencies who participated in the development, research, and implementation of the WARNS. These include Benton-Franklin Juvenile Court, Clark County Juvenile Court, Pierce County Juvenile Court, Spokane County Juvenile Court, Thurston County Juvenile Court, Educational Service District 101, and West Valley High School (Spokane).

Dr. Sarah Walker of the University of Washington, and Dr. Greg Benner of the University of Washington, Tacoma, Center for Strong Schools both served on the steering committee that provided guidance and oversight during the final testing phase, and we thank them for their invaluable contributions to this project. We would also like to thank Jessica Beaver from Washington State University for her assistance with statistical analyses, as well as Catherine Pickard (AOC-WSCCR) and Shannon Greer (UW-T) for their help in data collection and editing. Rachael Sanford (AOC-WSCCR) formatted and reformatted this manual through multiple revisions, and we thank her for her patience and attention to detail.

Finally, a very special thanks to Dr. Tom George, formerly of the Administrative Office of the Courts, who developed and piloted the WARNS and drafted this manual. Without his leadership this initiative would not have been possible. We are deeply indebted to Dr. George for his expertise and commitment to the WARNS project.



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SECTION I. A USER'S GUIDE TO THE WASHINGTON ASSESSMENT OF THE RISKS AND NEEDS OF STUDENTS (WARNS)

1.1 INTRODUCTION

The Washington Assessment of the Risks and Needs of Students (WARNS) is a brief (76 to 81-item)¹ self-report measure for 13 – 18 year-old youth designed to allow schools, courts, and youth service providers to assess individual risks and needs that may lead to truancy and/or school failure, and to target interventions accordingly. The WARNS takes approximately 10 to 30 minutes to administer, and measures both past and current experiences in several domains that are critical to healthy social, emotional, and educational development for the general student population as well as for juvenile status offenders.

The WARNS is appropriate for use with juvenile status offenders, especially truant youth. It is also appropriate for use by school districts to provide early intervention services to students with poor attendance records. It is usually administered online via remote access to a secure server located in the Washington State Center for Court Research (WSCCR), the research arm of the Administrative Office of the Courts. While the online version is preferable, a paper-and-pencil version is available upon request. WSCCR is responsible for overseeing all aspects of the administration and use of the WARNS.

Section I of this manual provides an overview of the WARNS, instructions for accessing and administering the instrument, and different options for producing reports. This section will provide qualified users with the knowledge and skills needed to effectively use the WARNS to assess the needs of truant or other at-risk youth. Section II provides more detailed information on the different sections of the WARNS and how and why they were included in the instrument. Section II provides the information needed to accurately interpret WARNS reports and allow qualified practitioners to use this knowledge to provide appropriate interventions. Section III is targeted to researchers and others interested in the research base that established the reliability and validity of the WARNS for use with the intended populations.

1.2 OVERVIEW

Needs Scales

All items on the WARNS provide valuable information that can assist youth service providers, administrators, school or court staff, researchers, and other stakeholders with understanding youths' past experiences and current functioning. The WARNS contains six "Needs" Scales, each consisting of between five and nine items (40 items total). All six areas have been linked to truancy, delinquency, and/or dropping out of school (Hammond, Linton, Smink, & Drew, 2007; Howell, 2003; Loeber and Farrington, 1998). Scores on a scale are used to determine whether a youth has a low, moderate, or high need for intervention in that area. The six scales are:

- Agression-Defiance
- Substance Abuse
- Family Environment
- Depression-Anxiety
- Peer Deviance
- School Engagement

Two of the scales assess a common distinction among types of behavior problems in childhood and adolescence: externalizing behaviors and internalizing behaviors. Externalizing

¹Depending upon the decision to include the five "sensitive questions" referred to herein.

behavior, measured by the Aggression-Defiance scale, refers to the tendency to act-out one's distress in an aggressive, irritable, and defiant manner. The Depression-Anxiety scale, on the other hand, assesses levels of internalizing behaviors, which tend to take the form of depression and anxiety, and may result in intense sadness, hopelessness, and sleeping and eating problems, among others (American Psychiatric Association, 2000).

A third Needs Scale screens for substance abuse. Substance abuse is an increasing problem among adolescents, especially marijuana use. Marijuana use has been linked to a number of school-related problems, especially truancy and dropping out of school (Henry & Huizinga, 2007; Henry et al., 2009). The Substance Abuse scale screens for the frequency of alcohol, marijuana, and "hard drug" use.

Three other Needs Scales assess a youth's functioning in three critical social contexts: peer relationships, the family environment, and the school environment. The Peer Deviance scale assesses a variety of problematic behaviors among the youth's friends such as criminal activity, drug use, truancy, and physical aggression. The Family Environment scale focuses on a youth's relationships with their parents and on characteristics of the home environment. The School Engagement scale assesses how much students like going to school, their engagement with the educational material, and their feelings of connectedness to teachers and staff.

In addition to the items that compose the six Needs Scales, the WARNS contains a number of other items found to be strong predictors of truancy, delinquency, and dropping out of school (Hammond et al., 2007; Howell, 2003; Loeber & Farrington, 1998). A few items can also be used to obtain a rough assessment of the validity of a student's responses (e.g., the number of reported arrests could be checked against official data). These items address basic demographic information, family functioning and organization, school attendance and engagement, criminal history, barriers to school attendance, and any history of trauma. They are organized by content domain on the WARNS Report.

A number of other items related to the social, emotional, and educational development of students are included. Some were selected because of their general interest among stakeholders (e.g., experiences of being bullied, gang involvement), while others exist to determine if they can improve the reliability and validity of the Needs Scales (e.g., frequency of cigarette smoking for the Substance Abuse scale).

Finally, while all of the items on the WARNS can be considered sensitive to varying degrees, five items are particularly sensitive in nature. Three questions ask the youth about a family history of drug and alcohol abuse, domestic violence, and incarceration; one asks about the youth's experiences of physical and sexual abuse; and one asks about the youth's sexual orientation. As will be explained in Section II, three administration options are available with the WARNS, one of which pertains to the sensitive questions section of the survey. The sensitive questions may not be appropriate for all testing situations, and agency administrators and survey administrators must carefully consider a number of factors before deciding whether or not to include these items.

1.3 POTENTIAL USES AND BENEFITS OF THE WARNS

Needs Assessment and Treatment Planning

For counselors, case managers, and other individuals working with at-risk youth, the WARNS provides a method to quickly gather and synthesize important information about a

youth's developmental experiences and current functioning. It is best used during the initial stages of engagement with the youth to better understand his or her specific risks and needs, guide conversations, and develop a successful intervention plan.

The WARNS should not be used for diagnostic purposes or as the sole source of information in treatment planning, but instead as one of several strategies available to professionals to assist in identifying past and current challenges that may be negatively affecting school engagement and attendance.

The WARNS is uniquely designed to allow professionals to prioritize services for those youth most at-risk for school failure, including dropping out of school. Scores on the six Need Scales can be used to match youth to targeted interventions. For example, less intense, group-level interventions may not be effective with high-risk students, but may be beneficial for those with moderate levels of need.

As stated in the User Agreement, the WARNS may only be used in the best interest of the youth. It may not be used when considering or determining any punitive sanctions or to place students into certain educational classrooms or with a population of youth with similar results.

For administrators, teachers, program managers, and others seeking to better understand the group of youth with whom they work, the WARNS can be administered in a group format to any number of students as long as the confidentiality of students' responses can be assured during and after administration. If a given site is interested in the aggregate results for a group of individuals, the Washington State Center for Court Research can provide the site administrator with the individual-level data in Excel format for further analysis.

Individual Progress Monitoring or Program Evaluation

Individual service providers and stakeholders who are interested in whether or not their efforts were successful in bringing about meaningful change in the lives of youth may want to administer the WARNS both before and after an intervention. The WARNS was designed to measure recent changes in the perceptions and experiences of adolescents. All items on the six Needs Scales and several additional items inquire about youths' functioning during the past two months. Therefore, individuals and groups can be assessed both before and after most interventions to help determine if youth have improved in critical areas of development.

WARNS Reporting

The online version of the WARNS produces a detailed individual-level report immediately following the survey administration (if requested by the administrator). The report contains the youth's identification number and demographics at the top of report. Next, the level of need is presented for each of the six Needs Scales. The levels of need (low, moderate, high) are color coded for quick and easy identification of the results. Following the Needs Scales, information from every item on the survey (except the demographic questions) is presented and organized by the content of the items. If the administration choice was to ask the sensitive questions and include them on the report, the responses to these questions appear at the end of the report.

1.4 USING THE WARNS: PREPARATION

Registration

Courts, schools or other agencies interested in administering the WARNS may apply to use the instrument by completing and submitting a WARNS User Agreement (See [Appendix A](#)). The User Agreement can be obtained by either contacting the WSCCR at warns@courts.wa.gov or by using in the version provided in [Appendix A](#).

The User Agreement should be printed, filled out, signed, scanned and emailed to the Washington State Center for Court Research (WSCCR) at warns@courts.wa.gov. An individual with signing authority for the agency must sign the completed User Agreement. Any subsequent changes to the User Agreement, including the addition or modification of the list of qualified administrators who will have access to students' responses, may be requested by submitting a revised, signed User Agreement.

Any site or individual wanting to administer the WARNS must describe the purpose of its use, the population of youth who are to receive the survey, the approximate number of surveys to be administered, and the date range for administration. The individual or individuals responsible for interpreting the results of the WARNS for any purpose, including but not limited to evaluation or the provision of specific interventions, must be identified on the User Agreement and possess the appropriate qualifications. Qualified individuals include psychiatrists, clinical or counseling psychologists, certified school counselors, registered psychiatric nurses or nurse practitioners, social workers, or persons designated by a court as qualified to interpret risk assessments of court-involved youth.

Each site must designate a primary administrator to serve as the main source of communication with WARNS staff. The primary administrator is responsible for distributing all materials, instructions, codes, passwords, and results to other approved administrators. She or he is also responsible for informing others of the terms and conditions in the User Agreement and ensuring the integrity of the WARNS survey and administration process. The primary administrator, and other administrators who will have access to students' responses, must be designated on the User Agreement.

Once the User Agreement is reviewed and approved, applicants will receive a notice of registration via email (usually within two weeks). At that time, users will receive the survey link, a set of access codes and passwords, a copy of appropriate parent and student consent forms, and other login and administration instructions. If the approved user requires a paper administration, they will be sent a printable copy of the WARNS via email.

Cost

The WARNS is provided free of charge to schools and agencies in Washington State. It was designed to minimize costs associated with other aspects of administration and reporting. Only brief training is required to administer the WARNS, the survey takes just 10 – 30 minutes to complete, and survey results from the WARNS Online are provided in real time.

The WARNS was designed primarily to aid individuals working with youth in gathering and synthesizing relevant information and highlighting specific areas in which the student may be in need of services. Therefore, the primary costs associated with using the WARNS are the subsequent efforts made to promote students' social, emotional, and educational development.

Ownership and Access to Data

The WARNS User Agreement specifies that all data resulting from either paper or online administration of the survey becomes co-owned by the signing agency and the Washington State Center for Court Research. All submitted data are stored on secure servers within the Administrative Office of the Courts in de-identified format and are accessible only by approved Center staff. Data may be used by the Center for Court Research for further survey development or other research purposes at its own discretion and without notification to the submitting agency. The identity of submitting agencies will not be released in publications or to third-parties without the consent of the submitting agency.

Submitting agencies may request in writing an extract of their own data. Data will be provided to the agency in a mutually agreed upon format within approximately 30 days of the administration. If the agency indicates on the User Agreement that the sensitive questions will be asked but the answers will not appear on the WARNS Report, then the sensitive questions data will not be released to the agency.

Respondent data will not be released to third-parties without prior written approval of the submitting agency. However, the Center for Court Research may share results of data analyses in the aggregate to third-parties without prior approval so long as the results do not identify a specific school, school district, or agency.

Ethical and Legal Considerations

Under most circumstances, parent and student consent is required prior to administration of the WARNS. The only exception is when screening and assessment activities are included as part of a valid court order. Consent forms have been developed for use by the Administrative Office of the Courts (AOC). Agencies wishing to use different consent forms must submit those forms to the AOC for approval prior to administration.

The WARNS contains questions of a personal nature, some of which may implicate the youth or others in possible crimes or other misdeeds (e.g., drug use by self or peers, truancy, physical assault, theft). The User Agreement specifies that the WARNS may only be used in the best interests of the youth, that is, to provide appropriate targeted interventions for truant youth.

The use of the WARNS responses to impose punishment or sanctions or to implicate the youth in a crime, or interpreting a response as an admission of guilt would be a gross misuse of this instrument. Schools, courts, and other agencies should establish policies regarding the use and retention of student information prior to administration to safeguard the rights and welfare of every youth. Further, the youth should be fully informed as to how his or her information will and will not be used.

In addition, some questions that appear as part of the sensitive questions may require action on the part of the administrator, especially the question regarding past physical and sexual abuse. The WARNS User Agreement specifies that each administrator must understand and comply with all rules, requirements, and laws regarding the reporting of physical and sexual abuse.

Consideration must also be given to the requirements of the Family Educational Rights and Privacy Act (FERPA). If WARNS Reports are maintained by the school, they should be maintained separately from the students' educational records in order to avoid inappropriate and potentially damaging disclosure. Schools should consult with legal counsel when establishing policies regarding the retention of WARNS Reports.

1.5 ADMINISTERING THE WARNS

Administration Overview

The WARNS can be administered to an individual student or group of students in a variety of settings. As mentioned previously, most students can complete the WARNS in approximately 10-30 minutes, depending upon their level of concentration, reading and comprehension abilities. Unless required by a valid court order, documented parent and student consent are required prior to administration.

Youth taking the WARNS should be allowed to complete the survey in a quiet, comfortable space free of distractions. The WARNS is currently available only in English, and is written at approximately a fifth-grade level (although the question content is intended for high school students). Some students may have difficulty reading or understanding certain words or phrases, therefore an administrator should remain nearby to answer any questions and to ensure appropriate use of the survey instrument. An administrator may also read the questions to students, although the students should be encouraged to answer independently if possible.

Individual youths may take the survey in succession on a single device or simultaneously on several devices. System limitations, however, require that no more than 30 students be administered the online survey at the same time. If conditions preclude access to the WARNS online, the WSCCR can provide a pencil and paper version. In this case, the site administrator will need to enter the responses directly to the online site before the survey can be scored.

The WARNS can be administered by any individual at an approved site as long as those individuals do not access students' responses and a qualified administrator is available to address any issues that may arise. Administrators approved for viewing individual students' responses will be provided with a password to access the survey results, which can be saved to a secure location.

The online survey can be administered using any web-enabled device. However, it is recommended that only devices with screens approximately 10 inches or larger be used for administration. Depending upon the type of device used for administration, formatting within the WARNS Report and the process of saving reports will vary. Administrators should become familiar with the device or devices to be used as well as the process for saving reports, if desired, to a secure drive or cloud-based storage service. When using the online WARNS, surveys are electronically scored and the results are available immediately to the survey administrator. Care should be taken to delete or secure survey results after administration to ensure student confidentiality.

Special Considerations

Response Validity

As a self-report instrument, a variety of factors can influence the validity of the youths' responses. Youth may over-report problematic behavior in order to receive attention or services, or underreport behavior in order to avoid the same prospects. The latter may be especially likely in juvenile justice settings if the youth feels his or her responses may lead to current or future punitive actions. Youth may also answer questions in random fashion as an act of defiance or due to a lack of understanding. The WARNS survey does not have any built-in methods that attempt to assess the veracity of youths' responses. However, the WARNS Online does have a place at the end of the survey for administrators to indicate their impression of the validity of the responses based on how the youth behaved during the administration.

While one can never be certain that every respondent has answered as honestly and accurately as possible, a number of important steps can be taken to increase the likelihood of a hassle-free and valid administration.

Sensitive Questions

One consideration includes the nature of, and reaction to, the sensitive questions by students, parents, and stakeholders. Another important consideration is whether there are legal requirements for reporting information to authorities if questions (e.g., sexual abuse) are answered in the affirmative and viewed by others. In addition, survey administrators should prepare for strong emotional reactions to the questions by the youth. Mental health professionals should be made available in case of strong emotional reactions to the questions or as a follow-up resource. Finally, the survey administrator should possess the necessary interpersonal skills and knowledge to appropriately handle youths' responses to these items and to refer them to mental health resources if necessary.

Given these considerations, both administrators and youth have options whether or not to include the sensitive questions and/or other questions that are not directly related to the six Needs Scales. These three options are:

- 1) Include the sensitive questions with the full version (81 question total)
- 2) Do not ask the sensitive questions (76 questions total)
- 3) Needs Only version. For this option, only the demographic questions and the 40 items that make up the six Needs Scales (Aggression-Defiance, Depression-Anxiety, Substance Abuse, Peer Deviance, Family Environment, and School Engagement) are asked (44 questions total).

Preparation

1. Obtain and document informed parental and student consent

It is the responsibility of the approved agency and administrators to obtain consent from the student's parent or legal guardian prior to administration unless the assessment is part of a valid court order. If a student's identity will be connected to his or her results, a parent has two options: to agree or not agree to their child taking the survey.

The WARNS User Agreement specifies that under most circumstances, completing the survey must be voluntary on the part of the youth, unless required by a valid court order. Administrators should read the consent form aloud while having students follow along, then answer any questions. Schools or agencies may also inform students of other information regarding consent as long as all information in the provided consent form is covered. The student consent appears on the back of the parent consent form. If a student decides he or she does not want to take the survey or answer a question that requires a response, simply terminate the survey. Informing students of their rights, explaining how their information will be used, and enlisting their cooperation are critical steps toward ensuring data validity.

Once a school or agency has been approved to administer the survey, the appropriate consent forms will be sent to the school or agency for possible use (consent forms differ depending upon the type of administration selected). Completed consent forms are to remain with the students' records and must be made available for review by WARNS staff if requested. The parent and student consent forms for an anonymous administration appear in [Appendices B](#) and [C](#), and for a student-identified administration in [Appendices D](#) and [E](#). Modifications to the forms, or different forms, may be submitted to the Administrative Office of the Courts for approval prior to administration. Please allow approximately two weeks for the review process.

2. Consider the students' abilities

- Does the student have at least fifth-grade English reading and comprehension abilities?
- Does the student have the visual ability to read the text on the paper survey or the screen of devices to be used (e.g., laptops, tablets)?
- Does the student have the manual dexterity to accurately answer questions on all devices or paper?

3. Choose and prepare a mode of online access

- Where will administration occur (e.g., in the field, a set location, or does it vary)?
- Does the environment have a reliable internet connection? If using a wireless device, does the type of connection (e.g., wi-fi or cellular) match the device's capabilities?
- Is the battery life of the device suitable for administrations in the field, and is the device charged and ready for use or are a power cord and power source available?
- Can you easily save the WARNS Reports, if desired? Do you have a storage device or have you established an account for cloud-based storage? Is the process secure?
- Is the WARNS survey link easily accessible on every device to be used?
- Have you tested the device and taken a sample survey?

4. Have the necessary information ready

- Do you have the list of unique login ID numbers? IMPORTANT: Do not reuse login ID numbers, and use IDs in sequential order.
- Do you have the login password?
- Do you have your Administrator's Code?
- Do you know your site's administration option?
- Do you have the WARNS Report password (if applicable)?
- If you will be saving or receiving reports and want to identify students, have you created a log and assigned a unique local ID to each student's name?

5. Survey Environment

- Is the environment quiet, comfortable, and free of distractions?
- Can the youth enter responses privately?
- Are resources available to answer youths' questions and respond to issues?

1.6 ONLINE ADMINISTRATION

Step-by-Step Instructions

Step 1: Follow the link provided in the approval notification to the WARNS Online site.

You should see the following page:

Please enter your authentication information.

Id

Password

Step 2: Enter an unused respondent (login) ID from the sequence provided on the approved User Agreement.

Step 3: Enter the login password provided on the approved User Agreement.

Note the version number of the Youth Survey. Revisions will be indicated with a different version number and will be documented in the Manual and in email notifications.

Washington Assessment of the Risks and Needs of Students (WARNS 1.0.1)

USER AGREEMENT:

I, or someone from my agency, has signed and submitted the Washington Assessment of the Risks and Needs of Students (WARNS) User Agreement supplied by the Washington State Administrative Office of the Courts. I have received confirmation from the Washington State Administrative Office of the Courts that I have been approved to administer the WARNS. I have read, understand, and will fully comply with the terms and conditions of use as described in the User Agreement.

I understand that administration of the WARNS without prior approval is strictly prohibited.

The WARNS survey may not be copied, reproduced, translated, or retransmitted in part or whole without prior written permission.

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I do not agree

I agree

Step 4: Read the terms and conditions on the User Agreement. Note, “I agree” must be selected in order to proceed with administration.

ADMINISTRATOR PAGE

Date: (mm/dd/yyyy)

Administrator's Code

Respondent's Local ID Number:

ADMINISTRATION OPTIONS:

- FULL version with SENSITIVE QUESTIONS asked and INCLUDED in report(s)
- FULL version with SENSITIVE QUESTIONS asked but NOT INCLUDED in report(s)
- FULL version; DO NOT ASK sensitive questions
- NEEDS ONLY VERSION
- ANONYMOUS ADMINISTRATION (no individual WARNS Reports)

Have you obtained signed Parent and Student Consent forms, or is screening and assessment included as part of a valid court order for this youth?

- No
- Yes (required)

Step 5: After entering the date of administration, enter your unique Administrator Code that appears on the approved User Agreement.

Step 6: Enter a unique local ID for each respondent. If saving survey results, or if a parent has agreed to make the student's identity known to the Center for Court Research, maintain a record of local IDs and the respondents' name, date of birth, and gender for your records.

Step 7: see section below on Administration Options

Step 8: Inform the respondent about the WARNS and indicate if you have obtained parent and student consent, or if screening and assessment is part of a valid court order.

The sensitive questions appear in the survey as shown below:

Have you ever lived in a home where an adult physically hurt someone else in the home (other than you)?

Yes No

Have you ever lived in a home with someone who had drug or alcohol problems?

Yes No

Have any of your parents ever spent more than 30 days in jail or prison?

Yes No

Has an adult ever physically or sexually hurt you?

Physically Sexually None

Are you gay, lesbian, bisexual, or transgender?

Yes No Don't know

Note that local laws may require the administrator to report suspected abuse to authorities if he or she views.

Previous

Next

As mentioned above, three options exist for the handling of the sensitive questions.

- (1) Full version with SENSITIVE QUESTIONS asked and INCLUDED in the report(s):

This option will give the respondents the choice to answer the questions, and the responses to all survey questions will appear on the WARNS Report that is produced immediately following the completion of the survey. The notification given to respondents appears as:

IMPORTANT! The questions on the next page are very personal. You do not have to answer them if you don't want to. Your teacher or counselor WILL SEE your answers.

Previous

Next

- (2) Full version, DO NOT ASK SENSITIVE QUESTIONS:

This option will skip the sensitive questions page, but all other questions will be asked and reported.

(3) NEEDS ONLY VERSION:

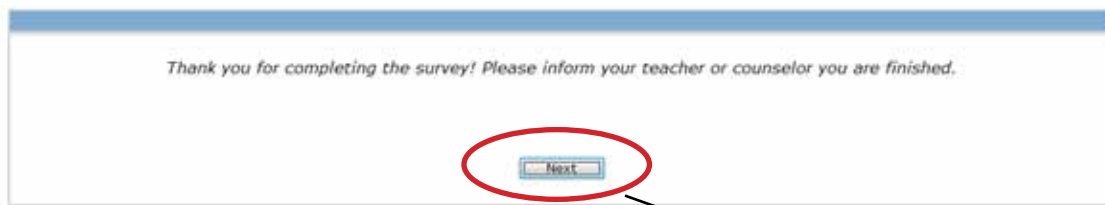
This option allows users to administer only the demographic questions and the approximately 50 questions that result in the low, moderate, and high classifications for the six Needs Scales (Aggression-Defiance, Depression-Anxiety, Substance Abuse, Peer Deviance, Family Environment, and School Engagement). All responses will appear on the report. This option is provided for circumstances in which a youth may have limited reading and/or comprehension abilities. It may also be used in order to reduce the administration time of the survey. This option is NOT recommended for regular administration as it limits information for potential research and clinical use.

After entering the information on the Administrator Page, the survey is ready for the respondent to complete.

After the respondent completes the survey, the following screen will be displayed:

Obtaining Reports

When the youth has completed the survey, the administrator will select “next” and the following page will be displayed:



Step 9: Select “Next”.

FOR OFFICIAL USE ONLY:

Step 10: Provide your impression of the validity of the respondent's answers.

Did the respondent seem to take the survey seriously and answer the questions honestly and accurately?

Yes Probably yes Probably no No Unsure

OPTIONAL: Describe any issues or behaviors that may have affected the validity of the responses (e.g., goofed off, noisy environment)

Step 11: Describe any issues or behaviors that may have affected the validity of the answers.

Enter the required PASSWORD to obtain the WARNS REPORT (password is case sensitive):

Step 12: To obtain the WARNS Report, enter the password that was supplied on the approved User Agreement. If your site has chosen an anonymous administration, no password will be provided.

EXIT to submit data WITHOUT GETTING A REPORT:

Exit

Next

IMPORTANT! Individual WARNS Reports cannot be obtained after exiting the system.

Individual-Level Reports

A detailed individual-level report (referred to as a WARNS Report) is available immediately following online administration. Reports may be printed or saved in PDF format or another file type depending upon the device used for administration and available resources. In addition, reports may be saved to a cloud-based service or other secure storage device for easy online storage, access, and file sharing. If a WARNS Report is not printed or saved prior to exiting the survey, it cannot be reproduced later.

The WARNS Report contains the youth's identification number and demographics at the top of report. Next, the level of need is presented for each of the six Needs Scales. The levels of need are color coded for quick and easy identification of the results. Following the Needs Scales, information from every item on the survey (except the demographic questions) is presented and organized by the content of the items. If the administration choice was to ask the sensitive questions and include them on the report, the responses to those questions appear at the end of the report.

After entering the WARNS Report password, the following page will be displayed (note: the report is not presented in it's entirety here).

WARNS REPORT (0.9.2)

RESPONDENT ID: 123

ADMINISTRATION DATE: 12/21/2012

GENDER: Male

AGE: 20

GRADE: 9

RACE/ETHNICITY: American Indian/Alaska Native

NEEDS LEVELS:

AGGRESSION-DEFIANCE: **LOW**

DEPRESSION-ANXIETY: **LOW**

SUBSTANCE ABUSE: **LOW**

PEER DEVIANCE: **LOW**

FAMILY ENVIRONMENT: **HIGH**

SCHOOL ENGAGEMENT: **HIGH**

WARNS: ITEM RESPONSES

FAMILY

Currently living with: **Step-mom**

of homes in past 2 years: **None (homeless)**

Ever lived in foster care: **Yes**

The following page will be displayed after the WARNS Report. To save or print the report, select “Yes, print or save report” or the “Previous” button to return to the report. Using your internet browser, go to

File > Print or *File > Save As*

You can then print the report or save it as a PDF file or other file type. You can also save the document to a cloud-based file storage service for later viewing, sharing, and printing. Be sure to save the report in a secure location to ensure student confidentiality.

Would you like to print or save a copy of the WARNS Report?

Selecting "Yes" will return you to the report. Use the "Print" or "Save As" feature from your browser.

Yes, print or save report

No, exit survey

Step 14: Exit the survey after printing or saving.

Previous
Next

Step 13: Print or save report.

The following page will be displayed at the conclusion of the WARNS Online. FOR ADDED SECURITY, BE SURE TO CLOSE THE BROWSER TO PREVENT FUTURE RESPONDENTS FROM VIEWING OTHERS' ANSWERS.



SECTION II. A PROFESSIONAL'S GUIDE TO INTERPRETING WARNS RESULTS

2.1 THE NEEDS SCALES: OVERVIEW

All of the items that compose the Needs Scales are measured on a four-point likert-style rating scale indicating the frequency of the thought, behavior, or emotion during the previous two months. The responses are as follows:

- *Never or hardly ever*
- *Sometimes*
- *Often*
- *Always or almost always*

Each item on a scale receives a score from zero to three. Higher scores reflect more problematic functioning. Most items are written with reference to a problem behavior (e.g., *I got into physical fights*), though some assess positive feelings (e.g., *I felt close to my parents*) and are therefore reverse scored. Scores are then summed across all items for each of the scales.

WARNS Risk Scores

If prioritizing services for higher-risk youth is a goal of survey administration, WARNS risk equations, scores, and categories have been developed to assess risk for delinquency² over one-year and two-year periods from the date of administration. A scoring and classification sheet for female and male truants can be found in [Appendix F](#). Scoring and classification should not be used for other populations of students given that the equations, classification, and predictive accuracy would undoubtedly vary.

Levels of Need

Scores for each of the Needs Scales are categorized into one of three needs levels: *low, moderate, or high* need for intervention. Several early studies (discussed in detail in Section III) were conducted to determine the reliability and validity of the six needs scales and the accuracy of the WARNS in predicating truancy and distinguishing between youth with and without histories of truancy. The cut-points for the levels for each scale were determined by clinical judgment and through consideration of the score distributions of different groups of youth included in the initial stages of WARNS development (e.g., high school students, truants, offenders). The percentages of youth falling into three levels of need were also compared to the percentages of youth at varying risk/need levels found with other common screening and assessment instruments. Cut-points vary across the Needs Scales. Several examples of patterns of responses for each scale and how they correspond to different levels of need are presented below to provide professionals with the necessary knowledge to interpret the results for each of the needs scales.

²Risk for delinquency was defined as the probability of a court referral for an At-Risk Youth petition or a criminal offense.

2.2 THE SIX WARNS NEEDS SCALES

1. Agression-Defiance (8 items)

The Aggression-Defiance scale is composed of eight items that assess the frequency of youths' externalizing behaviors during the previous two months. Five items assess aggression and three assess defiant behavior. Regardless of frequency, aggressive behaviors, including destructive behavior towards people or property, are a significant and serious concern. They also tend to be strong predictors of current and future aggressive behaviors (Loeber & Farrington, 1998). Therefore, *sometimes* engaging in all of the aggressive behaviors, even without being defiant, is enough to warrant at least a moderate need for further evaluation and treatment. . The items are:

- 2. I got into physical fights
- 7. I lost my temper and hit or yelled at someone
- 24. I threatened to hurt someone
- 36. I picked on or bullied other kids
- 41. I got so angry I hit or broke something

Individuals who are aggressive also tend to act-out by defying authority, breaking rules, and lying to others. However, not all individuals with externalizing behavior problems are aggressive. Some youth in need of intervention tend to engage in problematic defiant and oppositional behavior characterized by disobedience, stealing, and/or damaging property. Three items on the Aggression-Defiance scale measure these behaviors. Because these behaviors can be considered relatively common in adolescence when they occur infrequently and in the absence of aggression, youth who report that they engage in defiant behavior only *sometimes* but do not report aggressive behavior are categorized as having a low need for intervention. However, if youth report that they *often* engage in defiant behavior, scores will reflect a moderate or high need for intervention depending on the co-occurrence of aggression. The three defiance items are:

- 27. I lied, disobeyed, or talked back to adults
- 43. I lied, hustled, or conned someone to get what I wanted
- 45. I damaged or stole something on purpose

Examples of response patterns, one corresponding to each level of need, are presented below:

	Low (0-4)	Moderate (5-7)	High (8+)
2. I got into physical fights	Never (0)	Sometimes (1)	Sometimes (1)
7. I lost my temper and hit or yelled at someone	Sometimes (1)	Often (2)	Often (2)
24. I threatened to hurt someone	Sometimes (1)	Sometimes (1)	Sometimes (1)
27. I lied, disobeyed, or talked back to adults	Sometimes (1)	Sometimes (1)	Often (2)
36. I picked on or bullied other kids	Never (0)	Never (0)	Never (0)
41. I got so angry I hit or broke something	Never (0)	Sometimes (1)	Sometimes (1)
43. I lied, hustled, or conned someone to get what I wanted	Never (0)	Sometimes (1)	Often (2)
45. I damaged or stole something on purpose	Never (0)	Never (0)	Sometimes (1)

Exhibit 2.1 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS Aggression-Defiance scale. Students completed the WARNS anonymously during the first period of a typical school day. Truancy was defined according to a student's response on the item, "In the past year, how many times did you skip or cut class?" Students who indicated they skipped class *about once or twice a month* or more were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class either *about once or twice a month, about once a week, or more than once a week*.

Overall, two-thirds (66%) of all high school students reported a low level of need for intervention regarding aggression and/or defiance, 17% indicated a moderate level of need, and 17% indicated a high level of need for intervention. Males were significantly more likely to score in the moderate and high needs categories than females (males = 21% in each of the moderate and high categories; females = 13%; see Appendix G).

Research indicates that truancy is related to defiant behavior, conduct problems, bullying, and delinquency (Egger et al., 2003; Loeber, 1990; McAra, 2004; Wood et al., 2012). Therefore, one would expect truant students to score higher on the Aggression-Defiance scale. In the high school sample, truant students were, in fact, significantly more likely to indicate they engaged in aggressive and defiant behavior. More than twice as many truants (30%) than non-truants (14%) had scores indicating a high need for intervention.

Criminal offending is another example of defiant behavior. The defiance of social norms and laws may be aggressive in nature (e.g., crimes against people) or non-aggressive (e.g., property crimes). A number of items on the Aggression-Defiance scale, if endorsed, could indicate aggressive or non-aggressive behavior that results in an arrest. In addition, delinquent youth tend to lack the ability to adequately control their anger and often lash out at others. Therefore, one would expect a large proportion of juvenile criminal offenders to have a high need for intervention in this area.

Exhibit 2.1. Comparison of truant and non-truant high school students on the Aggression-Defiance scale

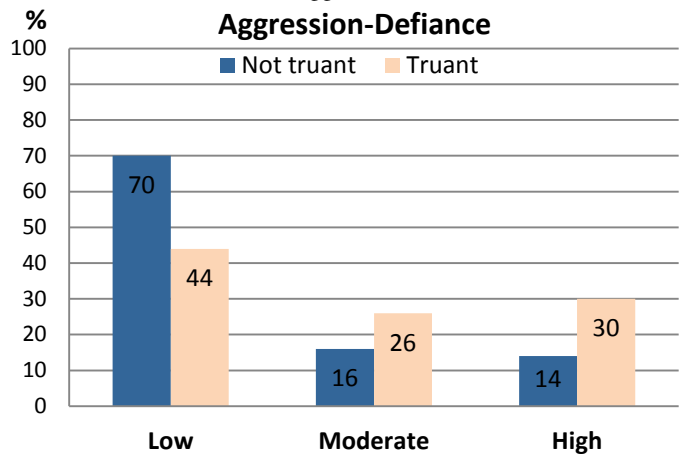
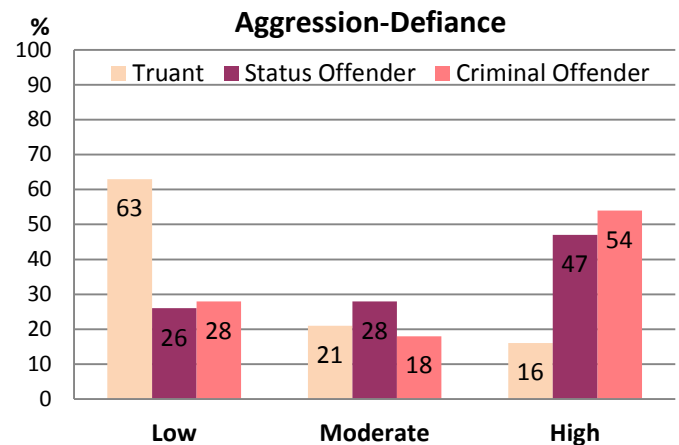


Exhibit 2.2. Comparison of truant, status offenders and criminal offenders on the Aggression-Defiance scale



Another group of youth, status offenders, are also defiant by definition. In Washington State, status offending behavior consists generally of running away, incorrigibility, substance abuse, and truancy. Therefore, one would also expect status offenders to have a high level of need for intervention related to aggression and defiance as well as other areas of need measured by the WARNS.

To examine whether the WARNS could adequately discriminate between relatively high-risk juvenile offenders (status and criminal) who should theoretically score higher on the Aggression-Defiance scale than lower-risk truants, 306 youth from the same county were categorized according to their levels of need. The status offenders (n = 51) and criminal offenders (n = 67) completed the WARNS while attending a day detention school, while the comparison group of 188 truant students completed the WARNS during meetings with a school-based case manager soon after appearing before a truancy board. The school-based truants had been referred to the truancy board after a relatively low number of unexcused absences. Therefore these students are considered a lower-risk truant sample in general. Unlike the high school sample which used an anonymous administration, these youth were informed that their responses were confidential, but not anonymous.

Results of the comparisons are presented in [Exhibit 2.2](#). A significantly larger percentage of status offenders (47%) and criminal offenders (54%) attending a day detention school were identified as having a high need for intervention related to aggression and defiance compared to truants who appeared before a community truancy board (16%).

2. *Depression-Anxiety (8 items)*

In contrast to those who primarily externalize their distress through aggression and defiance, some individuals may internalize their distress and experience feelings of depression and/or anxiety. When symptoms of depression and anxiety are frequent or severe, physical, social, and psychological functioning may decline. Youth may engage in suicidal behaviors, self-harm, or drug use; physical symptoms may develop; cognitive functioning may decline; and general performance at school or work usually deteriorates (American Psychiatric Association, 2000; Jaycox et al., 2009). While depression and anxiety may be distinct constructs in adulthood, research and clinical practice suggests these emotions tend to occur together in adolescence (Hinden et al., 1997).

Four items assessing symptoms of depression and four items assessing symptoms of anxiety compose the Depression-Anxiety scale. While feelings of depression and anxiety are quite common in adolescence, symptoms that occur *often* or *always* and for a prolonged period warrant further evaluation and treatment. The four depression items measure the frequency of symptoms such as sadness, hopelessness, and lack of concern. These items are:

- 9. I felt like nothing could cheer me up
- 14. I felt down, sad, or unhappy
- 29. I felt hopeless about the future
- 39. I didn't care about anything or anyone

The four items assessing anxiety indicate a level of distress that is beyond one's typical experience or is interfering with cognitive and physical functioning. Somatic complaints such as nausea, or difficulty breathing, eating, or sleeping, often occur at heightened levels of anxiety.

The items are:

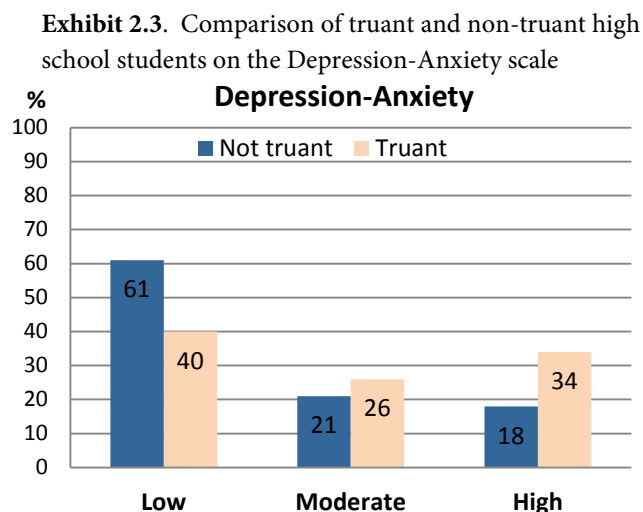
- 16. I was so worried or bothered by things it was hard to concentrate
- 25. I had trouble sleeping or eating because I couldn't get something off my mind
- 31. I felt more tense, irritated, or worried than usual
- 37. I got so nervous I felt sick, had trouble breathing, or felt shaky

Examples of response patterns, one corresponding to each level of need, are presented below:

	Low (0-6)	Moderate (7-10)	High (11+)
9. I felt like nothing could cheer me up	Never (0)	Sometimes (1)	Often (2)
14. I felt down, sad, or unhappy	Sometimes (1)	Often (2)	Often (2)
16. I was so worried or bothered by things it was hard to concentrate	Sometimes (1)	Sometimes (1)	Sometimes (1)
25. I had trouble sleeping/eating because couldn't get something off mind	Sometimes (1)	Sometimes (1)	Often (2)
29. I felt hopeless about the future	Sometimes (1)	Sometimes (1)	Sometimes (1)
31. I felt more tense, irritated, or worried than usual	Sometimes (1)	Often (2)	Often (2)
37. I got so nervous I felt sick, had trouble breathing, or felt shaky	Never (0)	Sometimes (1)	Often (2)
39. I didn't care about anything or anyone	Never (0)	Never (0)	Sometimes (1)

Exhibit 2.3 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS Depression-Anxiety scale. Students completed the WARNS anonymously during the first period of the school day. Truancy was defined according to a student's response on the item, "In the past year, how many times did you skip or cut class?" Students who indicated they skipped class *about once or twice a month* or more were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class either *about once or twice a month, about once a week, or more than once a week*.

Overall, 58% of all high school students reported a low level of need, 22% indicated a moderate level of need, and 20% indicated a high level of need for intervention. Females were significantly more likely to score in the moderate (26%) and high needs (23%) categories than males (moderate = 18%; high = 17%).



Research has found that depression and anxiety are more common among truants than non-truants (Egger, 2003; Kearney, 2003). Similar findings occurred with the high school sample using the WARNS. Almost twice as many truants (34%) than non-truants (18%) had scores indicating a high need for intervention.

Little theoretical work or research evidence exists to guide hypotheses regarding differences in depression and anxiety among school-based truants, or status and criminal offenders attending a secure day-reporting school. Given that criminal offenders often engage in risk-taking behaviors with little regard for others, one might expect these youth to score lower on depression and anxiety, while status offenders and truants would score higher. To investigate differences among the groups, 51 status offenders and 67 criminal offenders completed the WARNS while attending a day detention school, while the comparison group of 188 truant students completed the WARNS during meetings with a school-based case manager soon after appearing before a truancy board.

As seen in [Exhibit 2.4](#), status offenders were most likely to have a high need for intervention regarding depression and anxiety (37%) than either truants (21%) or criminal offenders (19%).

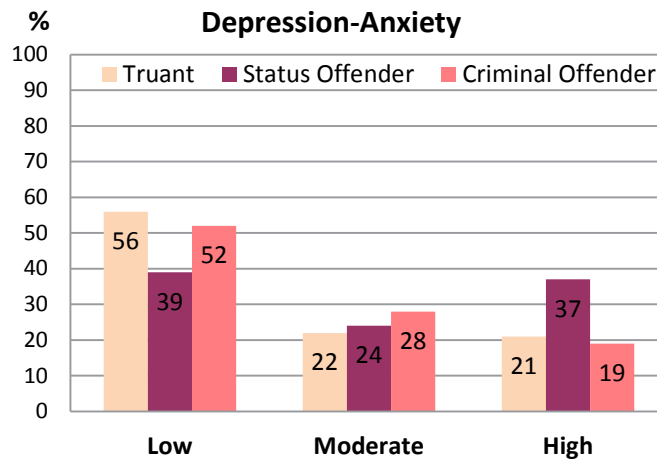
3. Substance Abuse (5 items)

Substance use among adolescents is a great concern among parents, service providers, and others. While experimentation with alcohol or drugs is common during high school, substance use that occurs more than rarely or interferes with school, work, or other activities is strongly associated with many negative outcomes such as truancy, status offending, criminal offending, school failure, and mental health problems (Hammond et al., 2007; Howell, 2003; Loeber & Farrington, 1998).

The Substance Abuse scale is composed of five items. One item each asks the youth how frequently he or she uses alcohol (#22), marijuana (#40), and “hard drugs (#34),” another item addresses the severity of drug or alcohol use (#15), and the fifth item assesses whether drugs or alcohol interferes with school (#38). Because even occasional drug or alcohol use may be a concern, youth are categorized as having a moderate need for intervention even if they say they just sometimes use alcohol and marijuana. The five items are:

- 15. I got sick, passed out, or couldn't remember what happened because of alcohol and drugs
- 22. I drank two or more alcoholic beverages (beer, wine, liquor) in a day
- 34. I used drugs such as cocaine, ecstasy, meth, or pills
- 38. I missed or skipped school to use or recover from drugs or alcohol
- 40. I smoked or used marijuana (pot, weed)

Exhibit 2.4. Comparison of truants, status offenders, and criminal offenders on the Depression-Anxiety scale



Examples of response patterns, one corresponding to each level of need, are presented below:

	Low (0 - 1)	Moderate (2-4)	High (5+)
15. I got sick, passed out, couldn't remember because of alcohol/ drugs	Never (0)	Never (0)	Sometimes (1)
22. I drank two or more alcoholic beverages (beer, wine, liquor) in a day	Sometimes (1)	Sometimes (1)	Sometimes (1)
34. I used drugs such as cocaine, ecstasy, meth, or pills	Never (0)	Never (0)	Never (0)
38. I missed or skipped school to use or recover from drugs or alcohol	Never (0)	Never (0)	Sometimes (1)
40. I smoked or used marijuana (pot, weed)	Never (0)	Sometimes (1)	Often (2)

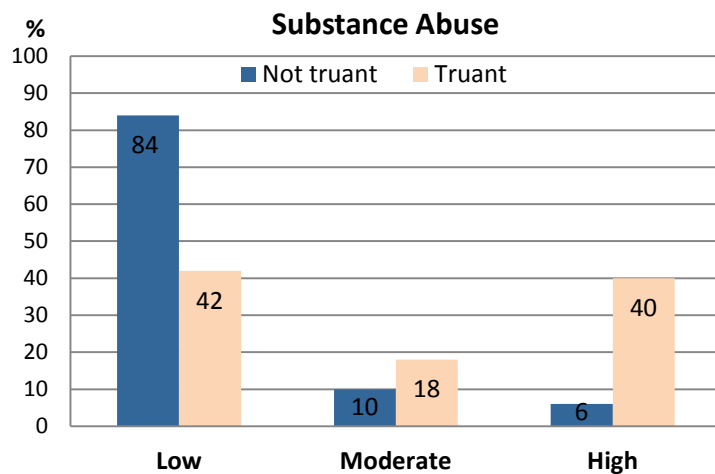
Exhibit 2.5 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS Substance Abuse scale. Students completed the WARNS anonymously during the first period of the school day. Truancy was defined according to a student's response on the item, "*In the past year, how many times did you skip or cut class?*" Students who indicated they skipped class *about once or twice a month or more* were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class *either about once or twice a month, about once a week, or more than once a week.*

Results of the anonymous administration with high school students indicated that over three-fourths (77%) reported a low level of need, 11% indicated a moderate level of need, and 11% indicated a high level of need for intervention. A greater percentage of males scored in the moderate and high needs categories (12% in each) than females (11% and 10%, respectively), but the differences were not statistically significant.

With respect to truant students, research has consistently found greater use and abuse of alcohol, marijuana, and other illegal substances (Egger et al., 2003; Henry, 2007; Henry & Huizinga, 2007; Henry et al., 2009; McAra, 2004). In the high school sample, the truant students were more than four times more likely to report substance abuse on the WARNS (9% for non-truants, 40% for truants). Further, more than half of all truants (58%) had scores indicating a moderate or high need for intervention.

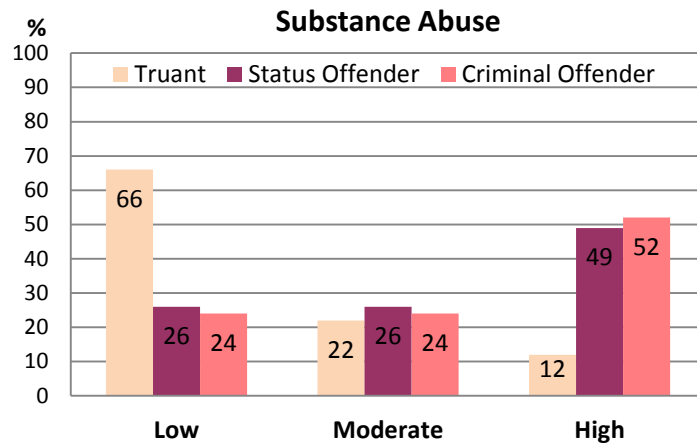
Research has also consistently found greater substance use and abuse among delinquent youth, though whether any differences exist between status offenders and criminal offenders is unclear. Given that the status and criminal offenders were attending a day-detention school, and that frequent drug use is one reason a youth may receive an at-risk youth petition (i.e., a status offense), it was expected that these youth would report a greater degree of substance abuse on the WARNS than the truants who were still enrolled in a traditional or alternative high school.

Exhibit 2.5. Comparison of truants and non-truants on the Substance Abuse scale.



To investigate differences among the groups, 51 status offenders and 67 criminal offenders completed the WARNS while attending a day-detention school, while the comparison group of 188 truant students completed the WARNS during meetings with a school-based case manager soon after appearing before a truancy board. As shown in [Exhibit 2.6](#), results indicated that approximately half of the status offenders (49%) and criminal offenders (52%) had a high need for intervention compared to 12% of the truant students. It should be noted that a high need for intervention indicates either occasional use of alcohol, marijuana, *and* other illegal substances, or frequent use of at least one substance. In addition, approximately one-quarter of all three groups of students had a moderate need for intervention, indicating either occasional multi-drug use, or heavy or frequent use of a single drug.

Exhibit 2.6. Comparison of truants, status and criminal offenders on the Substance Abuse scale



4. Peer Deviance (5 items)

During adolescence, youth develop strong associations with their peer group and close friends. Teens often begin exploring different types of activities and relationships within these contexts and begin testing social norms and rules with greater intensity. The peer group is highly influential in the process. Considerable evidence indicates that peers often encourage their friends to initiate, maintain, or escalate deviant activities such as truancy, delinquency, or drug use. Elliot and Menard (1996) note, “One of the most stable and well-established findings in delinquency research is that the delinquent behavior of an individual is positively related to the actual or perceived delinquent behavior of that individual’s friends” (p. 29).

Five items assess peer deviance across a variety of behaviors: drug use, delinquency, truancy, trouble at school, and fighting. Youth whose friends engage in these activities are more likely to engage in them themselves. Youth may also be more likely to admit to deviant behavior among their friends more so than themselves. The five items are:

- 11. My friends got drunk or high from alcohol, marijuana (pot, weed), or other drugs
- 19. My friends did things that could have got them arrested
- 30. My friends got into trouble at school
- 35. My friends skipped or cut class
- 47. My friends got into physical fights

Examples of response patterns, one corresponding to each level of need, are presented below:

	Low (0-4)	Moderate (5-8)	High (9+)
11. My friends got drunk/high from alcohol, marijuana, or other drugs	Sometimes (1)	Often (2)	Always (3)
19. My friends did things that could have got them arrested	Sometimes (1)	Sometimes (1)	Often (2)
30. My friends got into trouble at school	Sometimes (1)	Often (2)	Often (2)
35. My friends skipped or cut class	Sometimes (1)	Sometimes (1)	Often (2)
47. My friends got into physical fights	Never (0)	Never (0)	Sometimes (1)

Exhibit 2.7 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS Peer Deviance scale. Students completed the WARNS anonymously during the first period of the school day. Truancy was defined according to a student's response on the item, "*In the past year, how many times did you skip or cut class?*" Students who indicated they skipped class *about once or twice a month or more* were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class either *about once or twice a month*, *about once a week*, or *more than once a week*.

Overall, approximately one-half (54%) of all high school students reported a low level of need, 31% indicated a moderate level of need, and 15% indicated a high level of need for intervention. A slightly higher percentage of males scored in the moderate (33%) and high needs categories (16%) than females (29% and 13%, respectively), though the differences were not statistically significant.

Based on previous research that found truant students tend to have more deviant and delinquent peers (Henry & Huizinga, 2007; McNeal, 1999), it was expected that the self-identified truants in the traditional high school sample would be no different. Results indicated that 41% of the truants reported moderate peer deviance and 32% reported high peer deviance, compared to 29% of the non-truants in the moderate category and 12% in the high category.

The status and criminal offenders had engaged in considerable deviant behavior and as a result were attending a day-detention school. It was expected that they would report more deviant peers than the truants who were still in a traditional or alternative high school. To investigate differences among the three groups, 51 status offenders and 67 criminal offenders completed the WARNS while attending a secure, day-reporting school, while the comparison group of 188 truant students completed the WARNS during meetings with a school-based case manager soon after appearing before a truancy board. The results showed that 12% of truants, 37% of status offenders, and 49% of criminal offenders had a high need for intervention regarding their deviant peers (Exhibit 2.8).

Exhibit 2.7. Comparison of truant and non-truant high school students on the Peer Deviance scale.

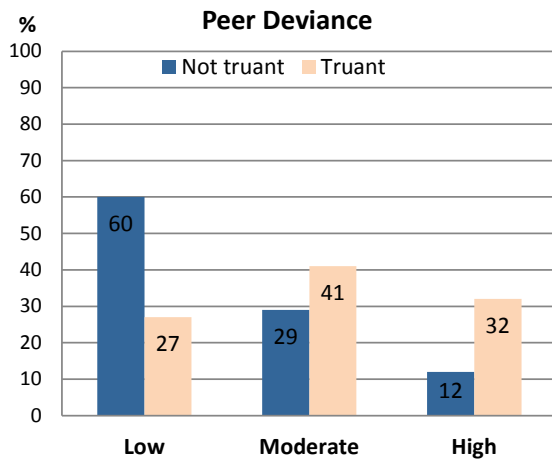
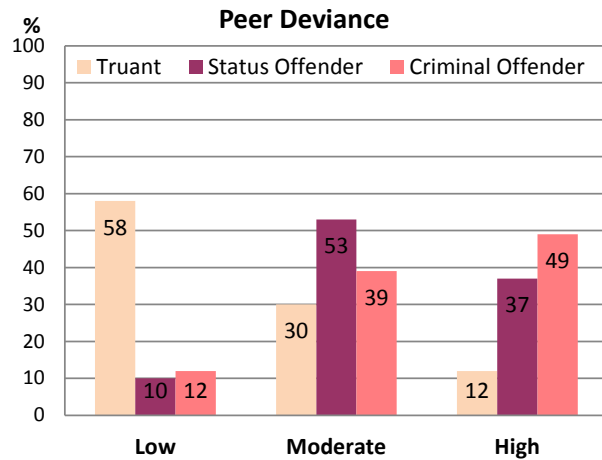


Exhibit 2.8. Comparison of truants, status offenders, and criminal offenders on the Peer Deviance scale



5. Family Environment (5 items)

Parents continue to play a vital role in the social and emotional development of their children throughout adolescence. As teens seek independence from their parents, and develop stronger associations and intimacy with their peers, the nature of the parent-child relationship changes. The way in which parents and teens adjust to this transition has significant implications for the teens' current and future functioning. While family conflicts are common during this period, they are usually temporary and have few, if any, long-term negative ramifications. However, if during this transition a parent and youth do not adjust their relationship, and if a parent engages in control, harsh punishments, and little cognitive and emotional engagement, negative outcomes become much more likely (Loeber & Stouthamer-Loeber, 1986).

Youth need ongoing positive relationships with their parents and a supportive home environment for healthy development. Parents provide a secure base from which to explore the world, and continue to provide important physical, cognitive, and emotional support and guidance. The five items on the Family Environment needs scale are designed to assess the general quality of the parent-child relationship and environment. They are not designed to screen for serious or abusive altercations. Two items assess parental support (#28, #50), one assesses conflict (#21), one assesses feelings of closeness (#3), and one item assesses a youth's general attitude towards the home environment (#6). Four of the items are framed positively and are, therefore, reverse scored. Higher scale scores indicate a more dysfunctional home environment. The five items are:

- 3. I felt close to my parents*
- 6. If I wanted to do homework, my parents' home was a good place to be*
- 21. I got into arguments with my parents
- 28. I could talk to my parents if I had a problem*
- 50. My parents would help me with my homework if I asked*

Examples of response patterns, one corresponding to each level of need, are presented below:

	Low (0-6)	Moderate (7-9)	High (10+)
3. I felt close to my parents*	Often (1)	Often (2)	Never (3)
6. If I wanted to do homework, my parents' home was good place to be*	Often (1)	Often (1)	Sometimes (2)
21. I got into arguments with my parents	Sometimes (1)	Often (2)	Often (2)
28. I could talk to my parents if I had a problem*	Sometimes (2)	Sometimes (2)	Never (3)
50. My parents would help me with my homework if I asked*	Always (0)	Often (1)	Often (1)

*Reverse scored

Exhibit 2.9 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS Family Environment scale. Students completed the WARNS anonymously during the first period of the school day. Truancy was defined according to a student's response on the item, "In the past year, how many times did you skip or cut class?"

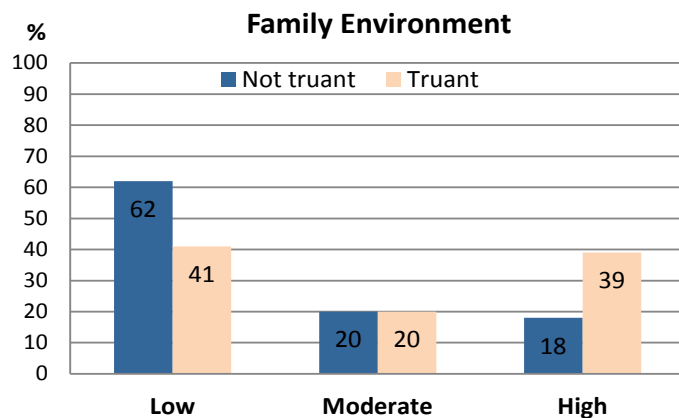
Students who indicated they skipped class *about once or twice a month or more* were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class *about once or twice a month, about once a week, or more than once a week.*

Fifty-nine percent (59%) of high school students reported a low level of need, 21% indicated a moderate level of need, and 20% indicated a high level of need for intervention. A slightly higher percentage of females scored in the moderate and high needs categories (22% in each) than males (19% in each), though the differences were not statistically significant (see Appendix G).

With respect to truant and non-truant students, research suggests that truants have a higher degree of family conflict, and they have parents who provide little monitoring or supervision (McAra, 2004; McNeal, 1999). The Family Environment scale on the WARNS measures a youth's level of attachment to parents and the home (including family conflict). Therefore it was expected that truant youth would report a higher need for intervention in this area. The results from the research with the traditional high school sample did, in fact, find this to be the case. More than twice as many truants scored in the high needs category (39%) than did non-truants (18%).

Research also indicates that youth with more serious and chronic offending tend to have poorer family functioning characterized by conflict, lack of involvement, disruption and deviancy (Gorman-Smith et al., 1998). To investigate potential differences among delinquent youth, 51 status offenders and 67 criminal offenders completed the WARNS while attending a secure day-reporting school; a comparison group of 188 truant students completed the WARNS during

Exhibit 2.9. Comparison of truant and non-truant high school students on the Family Environment scale



meetings with a school-based case manager soon after appearing before a truancy board. It was expected that a greater percentage of status and criminal offenders would have a high need for intervention with respect to family functioning. However, results indicated a similar percentage of youth (approximately one-quarter to one-third) were categorized as high need across all three groups (see [Exhibit 2.10](#)).

The Family Environment scale of the WARNS may not be appropriate for distinguishing among high levels of family discord and disengagement that could lead to different patterns of offending behavior. However, the difference noted among truants and non-truants in the high school sample suggests this scale may indicate early signs of difficulties which may be amenable to therapeutic intervention.

6. *School Engagement (9 items)*

School engagement is rarely included in typical social and emotional assessments. However, how one adapts and performs in the challenging school environment has major implications for a youth's life. High school is a time of significant social, emotional, physical, and cognitive development. One's adjustment during this period is often a determining factor in one's life trajectory. A lack of school engagement is associated with truancy, delinquency, and drug use in adolescence, and is predictive of dropping out of school, adult criminal offending, and poor financial outcomes in adulthood, among others (Chase, et al., 2014; Gonzalies, et al., 2014).

The School Engagement scale consists of nine items. Four items assess feelings of connection to the school environment and the task of learning. These items are:

1. I liked going to school
17. I learned things in class that will be important later in life
26. I thought about dropping out of school
44. My classes were interesting

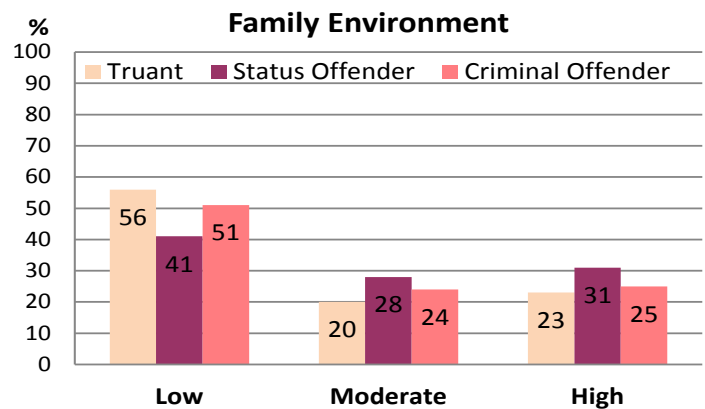
Two additional items assess youths' efforts to succeed in school. They are:

23. I studied for my quizzes and tests
32. I got my homework completed and turned in on time

Three items assess youths' attitudes and connections to teachers and school staff, including the following:

8. I felt supported and respected by the adults at school
13. I could talk to an adult at school if I had a problem
42. My teachers cared about me

Exhibit 2.10. Comparison of truants, status and criminal offenders on the Family Environment scale.



Examples of response patterns, one corresponding to each level of need, are presented below:

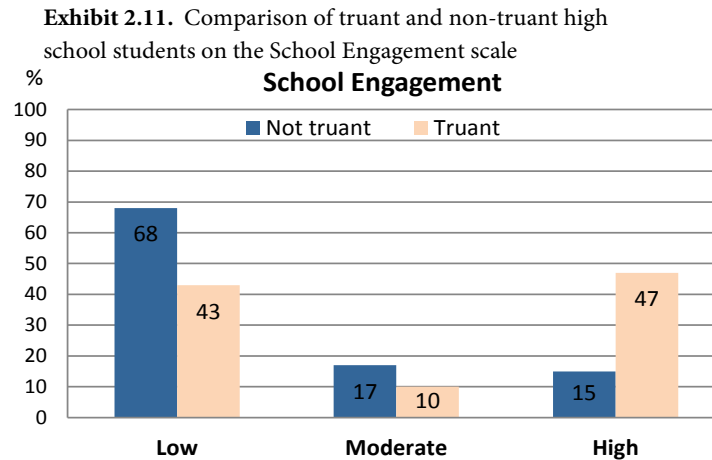
	Low (0-13)	Moderate (14-17)	High (18+)
1. I liked going to school*	Often (1)	Sometimes (2)	Sometimes (2)
8. I felt supported and respected by the adults at school*	Often (1)	Often (1)	Sometimes (2)
13. I could talk to an adult at school if I had a problem*	Sometimes (2)	Sometimes (2)	Never (3)
17. I learned things in class that will be important later in life*	Often (1)	Sometimes (2)	Sometimes (2)
23. I studied for my quizzes and tests*	Often (1)	Sometimes (2)	Sometimes (2)
26. I thought about dropping out of school	Never (0)	Sometimes (1)	Sometimes (1)
32. I got my homework completed and turned in on time*	Often (1)	Sometimes (2)	Sometimes (2)
42. My teachers cared about me*	Often (1)	Sometimes (2)	Sometimes (2)
44. My classes were interesting*	Sometimes (2)	Sometimes (2)	Never (3)

*Reverse scored

Exhibit 2.11 displays the percentage of truant and non-truant high school students who scored within each level of need on the WARNS School Engagement scale. Students completed the WARNS anonymously during the first period of the school day. Truancy was defined according to a student's response on the item, "*In the past year, how many times did you skip or cut class?*" Students who indicated they skipped class *about once or twice a month* or more were classified as truant. Ninety students met this definition, with approximately equal numbers indicating they skipped class either *about once or twice a month, about once a week, or more than once a week*.

Research on the WARNS with the traditional high school sample found that nearly two-thirds (64%) of high school students reported a low level of need, 16% indicated a moderate level of need, and 20% indicated a high level of need for intervention. Males (25%) were significantly more likely to score in the high needs category than females (15%; see Appendix G).

While truancy itself would seem to indicate a high degree of school disengagement, it is not necessarily the case. Some students may enjoy their classes, teachers, and the school environment, yet skip class for other reasons (e.g., to care for a sibling or parent; physical or mental health issues). Other students may be engaged, yet be so credit deficient or have other more rewarding experiences available to them that they choose not to attend school. Despite these possibilities, research indicates that truant students are more likely than non-truants to have negative views of teachers, their teaching, and the school environment (Henry & Huizinga, 2007; McAra, 2004). A comparison of self-identified truants and non-truants on the School Engagement scale of the WARNS found that nearly half (47%) of the truants had a high need for intervention compared to 15% of the non-truants.

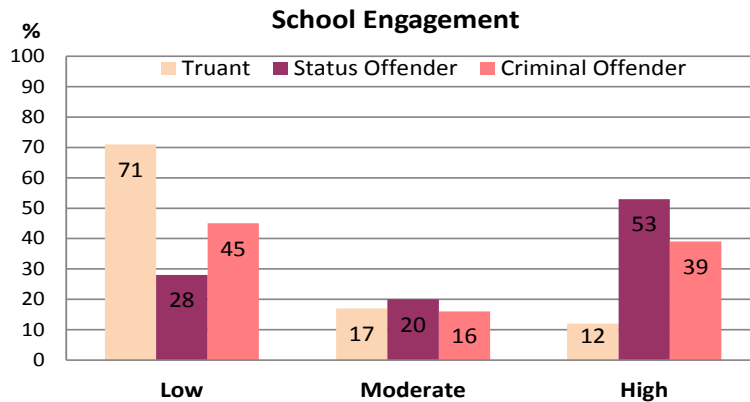


Status offending and criminal offending are also related to truancy and school disengagement (Howell, 2003; Loeber & Farrington, 1998). Because many of the status offenders in the WARNS studies were attending the day-detention school due to chronic truancy and failure to comply with court orders to attend school, it was expected that they would evidence a high degree of school disengagement (i.e., a high need for intervention). The criminal offenders, who could be engaged with school yet still be required to attend the day-reporting school due to the committed offense, were expected to have a lower level of disengagement.

To investigate differences among the three groups, 51 status offenders and 67 criminal offenders completed the WARNS while attending a day-detention school, while the comparison group of 188 truant students completed the WARNS during meetings with a school-based case manager soon after appearing before a truancy board. Over half (53%) of the status offenders were considerably disengaged and had a high need for intervention, as were 39% of the criminal offenders. Both groups had a significantly higher percentage of disengaged students than the school-based truant group (12%) ([Exhibit 2.12](#)).

The low percentage of the school-based truants that had a high need for intervention with school engagement was unexpected. One possible explanation is that the truancy board process and the interactions with a case manager that had already occurred may have created a sense of optimism that their various needs were going to be addressed. Another possibility relates to the fact that they were defined as truant due to the number of unexcused absences they had accrued. Even though they may have missed school for a valid reason, they may not have followed appropriate procedures to have their absences documented as excused rather than unexcused. Finally, the school from which the sample was drawn had an active tracking and referral system, and the students tended to appear before the truancy board with a relatively low number of unexcused absences compared to other sites. When examining data from the other sites and limiting the sample to only self-identified truants using the same procedure as with the anonymous administration in the traditional high school, the percentage with a high need for intervention rose to 41%. More research is needed with truant populations to better understand school engagement issues and how best to intervene.

Exhibit 2.12. Comparison of truants, status offenders and offenders on the School Engagement scale



2.3 Other WARNS Items

The WARNS contains a number of other items important to risk and needs assessments. Most of these items have been found to be significant predictors of truancy, delinquency, and school drop-out (Hammond et al., 2007; Howell, 2003; Loeber & Farrington, 1998). These items are organized by content domain on the WARNS Report. The items, with response options in parentheses, are presented below.

Demographics

- Age (12 through 20³)
- Grade (5 – 12)
- Gender (Female, Male)
- Race/ethnicity
(American Indian/Alaska Native; African-American/Black; Asian; Hispanic/Latino; Pacific Islander; White/Caucasian)

Family

- Which adults do you currently live with?
(Mom, Dad, Step-mom, Step-dad, Grandmother, Grandfather, Other adult(s), No adult)
- How many different homes have you lived in during the past 2 years?
(None (homeless), 1, 2, 3 - 5, 6 or more)
- How many times have you been in foster care?
(0, 1, 2, 3 or more)
- Did any of your sisters or brothers drop out of junior high or high school?
(Yes, No, I don't have any brothers or sisters)
- How many times have you run away or been kicked out of your home for more than a day?
(0, 1, 2, 3 – 5, 6 or more)

³Even though the WARNS was designed for 13 – 18 year-olds, it may be appropriate for slightly younger or older students depending upon the circumstances. However, the survey is not yet validated for use with students not yet in high school.

School

- How many different schools have you attended in the past 2 years?
(1, 2, 3 – 5, 6 or more)
- Have you ever been held back or not promoted to the next grade in school?
(Yes, No)
- What were your most recent grades at school?
(Mostly A's and B's, Mostly B's and C's, Mostly C's and D's,
Mostly D's and F's)
- In the past YEAR, how many times did you skip or cut class?
(Never, A few times all year, About once or twice a month, About once a
week, More than once a week)
- How many times in your life have you been suspended or expelled from school?
(0, 1, 2, 3-5, 6-10, 11 or more)
- How far do you think you will go in school?
(Won't finish high school, High school diploma/GED, Associate's,
advanced degree)

Criminal History

- How many times have you been arrested or charged with a crime?
(0, 1, 2, 3 – 5, 6 or more)
- How old were you the first time you were arrested or charged with a crime?
(10 – 20, Never arrested or charged with a crime)
- How many times have you spent at least one night in juvenile detention?
(0, 1, 2, 3 – 5, 6 or more)

Barriers to Attendance

Four items assess a student's current experiences and may play an important role in truant behavior. These items are:

- Do you have a learning disability (LD), a mental health problem, or a behavior disorder (like ADD/ADHD)? (Yes, No)
- How often do you babysit or provide care for someone during school hours?
(Never, Sometimes, Often)
- Do you have any health problems that make you miss a lot of school? (Yes, No)
- How often do you have trouble getting a ride to school?
(Never, Sometimes, Often)

Trauma

- Have your parents divorced or separated in the last year? (Yes, No)
- Have you ever seen anyone very badly hurt or killed in person (not on TV, video, or computer)? (Yes, No)
- Did anyone you felt close to die in the last year? (Yes, No)
- Has anyone ever hurt you on purpose so badly that you went to a doctor or called the police (not during sports)? (Yes, No)

Finally, the WARNS includes a number of items that were not included in the six Needs Scales. Some were included due to their general interest among stakeholders (e.g., experiences of being bullied, gang involvement), while others exist to determine if they can improve the reliability and validity of the Needs Scales.

These items include the following:

- Things in my home were stressful
- I had little interest or pleasure in doing the things I usually like to do
- Other kids at school picked on or bullied me
- I cut, burned, or hurt myself on purpose
- I smoked cigarettes
- I broke the rules at home, work, or school
- I got into trouble at school (kicked out of class, disciplined, suspended)
- I stayed out past my curfew or overnight somewhere without telling my parents
- I did things that could have got me arrested
- I hung out with gang members



SECTION III. A RESEARCHER'S GUIDE TO THE DEVELOPMENT, RELIABILITY AND VALIDITY OF THE WARNS

3.1 CRITICAL CONCEPTS IN TEST CONSTRUCTION: SCORE RELIABILITY AND VALIDITY

Classical test theory assumes that each person has a *true score* (the score the person would receive if there were no errors in measurement). Note that no assessment, especially in the educational, social, and behavioral sciences, is free of error; all measures reflect some degree of random error so the true score is always an unknown. Therefore, a person's obtained score on the WARNS is an approximation of the person's true score. The difference between the obtained score and the true score is measurement error. Higher reliability values indicate scores on an assessment have minimal error. To confirm the reliability of the scores on the WARNS, score reliability was examined in two forms:

- Internal consistency indicates the homogeneity of item responses within the WARNS Needs Scales. That is, it indicates the extent to which items are correlated with one another and free of measurement error.
- Test-retest reliability indicates the stability of a child's scores when tested at multiple points in time over a short period.

Test validation is the most essential and fundamental aspect of test construction (AERA, APA, NCME, 2014). Ultimately, test score validity is said to refer to the degree to which the decisions based on test scores and the inferences on which the decisions are based, are justified by supporting evidence (Linn, 2005). Many forms of evidence contribute to a body of work that supports the construct validity of test scores for a given purpose (Messick, 1989). We provide several pieces of evidence for the WARNS scores:

- Evidence based on test content (content validity) answers the question, "Do WARNS items sample risk and needs skills considered important by researchers and educators?"
- Evidence based on internal structure (construct validity) answers the question, "To what extent do WARNS scores indicate a child's standing on distinct measured traits?"
- Evidence based on fairness (construct validity) answers the question, "Do persons of similar need/risk level have the same chance of endorsing WARNS items regardless of group membership (e.g., male vs. female)?"
- Evidence based on associations with other variables (criterion-related validity) answers questions such as:
 - "Do WARNS scores correlate with comparable and related measures?"
 - "Is there evidence to suggest the WARNS is measuring intended constructs when compared to measures that are assessing different constructs?"

3.2 EARLY DEVELOPMENT EFFORTS

Dr. Tom George developed the WARNS and was responsible for all of the pilot and preliminary studies referred to in this sub-section. Development of the Washington Assessment of the Risks and Needs of Students (WARNS) began in the summer of 2008 in Washington State with discussions among juvenile justice professionals about the need for a risk and needs assessment for status offenders and low-level juvenile criminal offenders. The WARNS was modeled after the widely used and validated Washington State Juvenile Court Assessment for juvenile offenders (Barnoski, 2004). However, rather than develop an assessment that required a lengthy in-person interview process, and given the large number of youth for whom the instrument was potentially applicable, logistical and resource considerations led to the development of a brief self-report measure which could be administered efficiently and economically on a large-scale basis.

The domain and item development process began with a review of the research literature on correlates and predictors of truancy, delinquency, and dropping out of school (e.g., Hammond et al., 2007; Howell, 2003; Loeber & Farrington, 1998). Next, a review was conducted of validated research and clinical instruments developed to assess juvenile offending, child and adolescent psychopathology, and educational engagement and outcomes. Examples of instruments that were reviewed included the Washington State Juvenile Court Assessment (Barnoski, 2004), the Youth Self Report (Achenbach & Edelbrock, 1991), the Minnesota Multiphasic Personality Inventory for Adolescents (Butcher et al., 1992), the Reynolds Adolescent Depression Scale (Reynolds, 2002), the Strengths and Difficulties Questionnaire (Goodman, 2001), the Global Appraisal of Individual Needs (Dennis, White, Titus, & Unsicker, 2006), the Problem Oriented Screening Instrument for Teenagers (Rahdert, 1991), and the National Center for School Engagement Student Survey (National Center for School Engagement, 2004). Finally, given the emphasis on assessing social and emotional needs of youth, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 2000) was reviewed for additional symptoms and disorders to consider for inclusion on the WARNS.

Based on these reviews, broad areas of assessment were identified that would appropriately address youths' risks for problematic outcomes as well as their social and emotional needs. Items were developed to assess youths' historical risk factors in areas such as school performance, family functioning, criminal justice, and traumatic experiences. Because of the focus on at-risk students, another set of items addressed recent school performance, educational expectations, and barriers to attendance. Questions in these areas had a variety of multiple response options. Finally, eight domains were selected for item development given their importance for healthy social, emotional, and educational functioning: Aggression, Defiance, Anxiety, Depression, Substance Abuse, Peer Deviance, Family Environment, and School Engagement. These domains were envisioned as distinct areas of need which could be assessed with multi-item rating scales. Item pools were then generated for each domain. A four-point rating scale assessing the frequency of specific thoughts, feelings, and behaviors during the previous two months was chosen for measurement. The four rating-scale response options were: Never or hardly ever, Sometimes, Often, and Always or almost always.

Early Pilot Studies

Preliminary pilot studies were conducted in 2009, followed by a validation study that ran from late fall of 2009 through the spring of 2012. These studies provided strong evidence for the reliability and validity of the WARNS. For the first pilot study, the WARNS was administered to 18 status offenders and 20 juvenile criminal offenders on probation in two counties in Washington. The focus was on the amount of time needed to complete the WARNS, the minimum reading and comprehension level needed, the clarity of assessment items, and administration issues. As a result of this initial pilot study, response options for some items not on the Needs Scales but necessary for the assessment were reduced, wording was simplified, and a number of items were eliminated from consideration.

In the fall of 2009, a larger pilot study was conducted with 669 ninth through twelfth-grade students in a mid-sized traditional high school in western Washington. Demographic characteristics of the students were similar to the statewide adolescent population, with 51% of the sample consisting of males and 69% identifying as White. Asian-Pacific Islander and African-American students were slightly underrepresented while Hispanics were slightly overrepresented in this sample. Based on an analysis of the results, the initial eight Needs Scales were reduced to six scales comprised of 40 items total. The results of a factor analysis determined that a seven-factor solution best represented the underlying constructs; however two of the scales were theoretically related to school experiences and so were combined in the School Engagement Scale. An additional 38 items were retained for risk assessment and related purposes (see Appendix H for a full discussion of the results of the factor analyses and internal reliability studies referred to here).

Validation Study Involving Truant Youth

Given the intent of the WARNS to be used primarily with status offenders and other at-risk youth, a reliability and validity study was conducted with 964 adolescents who were 13 to 17 years old and who had been referred to juvenile court on a truancy petition. In Washington State, students who accumulate seven unexcused absences in a month or ten in a year are required by law to have a truancy petition filed in the courts.

Juvenile court staff in six counties across the state administered the WARNS during their court or intervention process between November 2009 and May 2012. Students voluntarily completed the WARNS either at the time they appeared in court for a truancy workshop with or without a hearing, while attending a community truancy board meeting, during case management activities within a month after an initial meeting or hearing, or while attending a day-detention school for youth with a history of status offenses and/or criminal offenses. Juvenile court staff reported that students completed the WARNS, on average, in approximately 15 minutes and required little assistance. After completion of the administration phase of the study, follow-up data on subsequent juvenile court contacts was collected for an additional 12 to 24 months. A factor analysis was performed that replicated and verified the original six-factor solution. Item reliability was again found to be strong for the group as a whole. Further item analyses by gender and racial/ethnic subgroup resulted in alpha coefficients ranging from acceptable to very good for all subgroups with just two relatively minor exceptions (see [Appendix I](#) for a full discussion of the analyses and results of the validation study).

Predictive Validity

A main purpose of the WARNS is to identify relative risk for problematic outcomes in order to facilitate early intervention. An early pilot study examined predictive validity with respect to delinquency. This study used the population of 964 youth referred to above. Analyses were performed separately for females and males, and delinquency was defined as any court referral for an At-Risk Youth (ARY) petition or criminal offense that occurred within two years after the WARNS administration (refer to [Appendix J](#) for details on design and analysis of this study). The results showed a moderate association between the WARNS risk scores and delinquency outcomes (both ARY and criminal offense) for both females and males in each risk category (see [Exhibit 3.1](#) and [Exhibit 3.2](#), below).

These findings are important to stakeholders seeking to identify the highest-risk truants for targeted interventions. If reducing delinquency is a primary concern, then providing evidence-based services to high-risk truants will likely be more effective than providing services to low-risk truants. Over time, the improvement in youths' lives and the associated cost-savings from reduced delinquency could be substantial (National Center for School Engagement, 2013). However, the likelihood of continued problematic behaviors among the low and moderate risk youth should not be ignored given that the truants are already at-risk as a result of poor school attendance. The most beneficial approach will likely involve utilizing the information obtained from the WARNS within the context of evidence-based intervention practices (Strand & Lovrich, 2014). It should be noted that the risk equations presented in this manual should only be used with court-referred truant populations. Other populations of interest would undoubtedly have different risk equations with varying level of predictive accuracy.

Exhibit 3.1. Percentage of females in each risk category with an ARY petition or criminal offense within two years of taking the WARNS

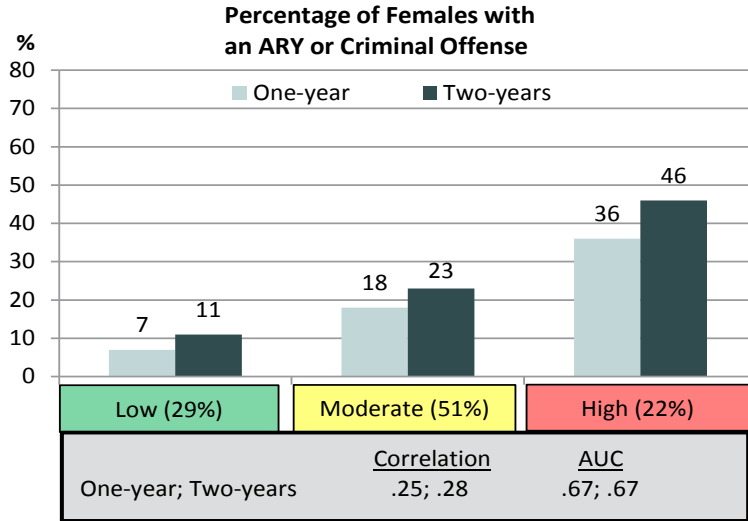
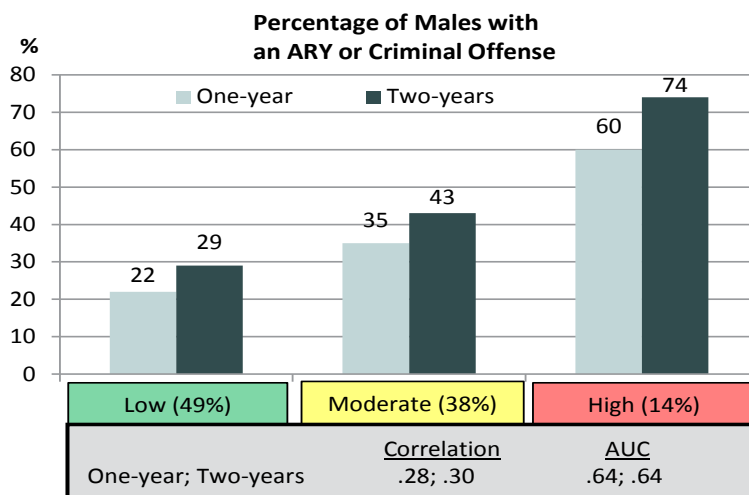


Exhibit 3.2. Percentage of males in each risk category with an ARY petition or criminal offense within two years of taking the WARNS



3.3 ITEM REVIEW INFORMATION AND RELIABILITY - 2014 STUDIES

A series of studies were conducted in 2014 in order to build upon the previous successful efforts described above, and to provide additional reliability and validity evidence to continue the support for the WARNS. These new studies provide strong evidence for the WARNS in identifying the needs of youth who are truant or at-risk for truancy. Data from the 2009 High School sample reported earlier ($n = 669$) were used for item analysis for all the questions on the WARNS. Classical test theory (CTT) and item response theory (IRT) methods were employed to examine the psychometric properties of items in order to determine the ability of scores from the WARNS to accurately screen students for risks and needs. Item intensity (i.e., average level of endorsement for an item) and item discrimination (i.e., how well an item differentiates between individuals who are high and low on the measured trait) were examined for the total scale and each subscale. For the given purpose of the instrument, most item intensities in the CTT analysis were expected to be just above the middle of the scale (i.e., between 1.5 and 2.5). Item discrimination values greater than 0.40 indicated an item was acceptable, a value between 0.30-0.39 indicated an item needed little to no revision, values between 0.20-0.29 indicated a need for item revisions, and values less than or equal to 0.19 indicated an item may need to be deleted or reconsidered with content considerations. IRT graded response models were employed on the total scale and each subscale, and discrimination and intensity estimates were observed. Typically, intensity values (b) range from -3 (very low level of the trait required for item endorsement) to $+3$ (very high level of the trait required for item endorsement). Values of discrimination (a) typically range from 0.0 to 2.0, but can go much higher.

IRT information functions were examined to graphically depict where on the continuum of the measured trait each subscale provided the most information. As stated above, given the purpose and intended uses of the WARNS, the instrument would optimally provide the most information on individuals just above the middle of the trait distribution. In this case, a test information curve would possess a broad peak over θ (i.e., person estimate) values of 0 to 2. A test information curve shape deviating from this expectation may suggest a need for scale revision.

Internal Consistency and Reliability - Overview

The next step in the process involved an analysis of the internal reliability of the items forming each scale. Internal consistency indicates the extent to which items on the WARNS are correlated with one another and free of measurement error. Analyses of internal consistency reliabilities for the total scale and each subscale were conducted using a common measure of internal consistency reliability, Cronbach's coefficient alpha. The higher the value of the coefficient generally results in consistent scores. Ideally, internal consistency reliability estimates above 0.70 are acceptable for most purposes (e.g., identifying low or high aggression traits; Nunnally & Bernstein, 1994) and estimates above 0.80 are good reliability indicators.

The final WARNS instrument consisted of 40 items composing the Needs Scales, and 38 items maintained for the prediction of risk, potential utility for intervention efforts, and other research purposes. Item intensities values on the total scale ranged from 1.14 to 2.95. Item discrimination values on the total scale ranged from 0.36 to 0.58 (CTT) and 0.75 to 1.89 (IRT), respectively. Internal consistency reliability for the total scale met the criterion for use for decisions about individuals ($\alpha = 0.93$). Subscale reliabilities ranged from 0.78 to 0.87, with values of as follows: Aggression-Defiance = 0.82, Depression-Anxiety = 0.87, Substance Abuse = 0.78,

Peer Deviance = 0.83, Family Environment 0.79, and School Engagement = 0.84. Subscale scores have lower reliability values compared to the total score, as expected. Subscales typically demonstrate lower reliability estimates, given shorter scale length, reduced variability, and a select area of the distribution each targets.

Concurrent Validity

Two-hundred and forty-four students from several local alternative high schools participated in the concurrent validity study of the WARNS. The Problem-Oriented Screening Instrument for Teenagers (POSIT) (National Institute of Health, 2009,) was chosen as a comparison instrument. The POSIT is generally used for youth who have already proven to be at-risk for poor outcomes, and is used to identify specific areas of need. The full POSIT is a 139-item yes/no scale consisting of 10 complete subscales, including substance abuse, mental health, family relations, peer relations, educational status, vocational status, social skills, leisure and recreation, and aggressive/delinquent behavior. Four scales that had no counterpart on the WARNS (Vocational Status, Leisure/Recreation, Physical Health and Social Skills) were removed for the purposes of the present study. The remaining six subscales that resembled the WARNS subscales were: Aggressive Behavior/Delinquency; Mental Health; Substance Use and Abuse; Peer Relations; Family Relations, and Educational Status. This left a total of 93 dichotomous items on the POSIT (yes = 1, no = 0) compared to 50 four-point Likert-scale items on the WARNS (Never or hardly ever = 0, Sometimes = 1, Often = 2, Always or Almost always = 3).

Exhibit 3.3. Pearson R correlations between POSIT subscales and WARNS subscales

		POSIT SUBSCALES					
		Aggressive Behavior Delinquency	Mental Health	Substance use and Abuse	Peer Relations	Family Relations	Educational Status
WARNS SUBSCALES	Aggression Defiance	.76 (p<.01)	.54 (p<.01)	.49 (p<.01)	.61 (p<.01)	.38 (p<.01)	.50 (p<.01)
	Depression Anxiety	.49 (p<.01)	.77 (p<.01)	.400 (p<.01)	.53 (p<.01)	.45 (p<.01)	.60 (p<.01)
	Substance Abuse	.43 (p<.01)	.307** (p<.01)	.86 (p<.01)	.45 (p<.01)	.25 (p<.01)	.22 (p<.01)
	Peer Deviance	.63 (p<.01)	.48 (p<.01)	.47 (p<.01)	.71 (p<.01)	.33 (p<.01)	.44 (p<.01)
	Family Environment	.40 (p<.01)	.52 (p<.01)	.28 (p<.01)	.46 (p<.01)	.75 (p<.01)	.45 (p<.01)
	School Engagement	.50 (p<.01)	.44 (p<.01)	.33 (p<.01)	.41 (p<.01)	.44 (p<.01)	.50 (p<.01)

Exhibit 3.3 presents the correlations among subscale scores on the WARNS and the POSIT. The correlations between five of the six paired subscales were very strong and highly significant. The WARNS demonstrated very high concurrent validity with on the POSIT on the Aggression-Defiance, the Depression-Anxiety, the Substance Abuse and the Family Environment Scales. At .71, the Peer Deviance Scale was also highly correlated with the Peer Relations Scale on the POSIT.

On other hand, the WARNS school engagement scale and the POSIT educational status scale showed only a low to moderate (.50) correlation. The best explanation for this discrepancy is that these scales do not measure the same thing, and thus the low correlation is not unexpected. As [Exhibit 3.4](#) shows, the WARNS School Engagement scale clearly measures just that – enjoyment of school, relationships with teachers and other aspect of what is commonly thought of as school engagement. The POSIT educational status scale, on the other hand, is more geared towards learning disabilities and experiences with school with a focus on the negative. Therefore it is not surprising that these two scales are not highly correlated.

Exhibit 3.4. Item comparison between the WARNS School Engagement scale and the POSIT Educational Status scale

WARNS	POSIT
<p>SCHOOL ENGAGEMENT - 9 items</p> <p>1. I liked going to school*</p> <p>17. I learned things in class that will be important later in life*</p> <p>26. I thought about dropping out of school</p> <p>44. My classes were interesting*</p> <p>23. I studied for my quizzes and tests*</p> <p>32. I got my homework completed and turned in on time*</p> <p>8. I felt supported and respected by the adults at school*</p> <p>13. I could talk to an adult at school if I had a problem*</p> <p>42. My teachers cared about me*</p>	<p>EDUCATIONAL STATUS -15 items</p> <p>109. Do you have a hard time following directions?</p> <p>24. Are you a good listener?</p> <p>33. Are you a good speller?</p> <p>41. Do you get As and Bs in some classes and fail others?</p> <p>46. Are you a good reader?</p> <p>52. Have you ever read a book cover to cover for your own enjoyment?</p> <p>72. Is it easy to learn new things?</p> <p>103. Do you have trouble with written work?</p> <p>113. Do you have a good memory?</p> <p>116. Do you have a hard time planning and organizing?</p> <p>117. Do you have trouble with math?</p> <p>121. Does school sometimes make you feel stupid?</p> <p>130. Do you feel you study longer than your classmates and still get poorer grades?</p> <p>133. Is school hard for you?</p> <p>137. Do you have trouble finding the right words to express what you are thinking?</p>

Test-Retest Score Reliability

The WARNS may be used to place examinees in long-term intervention programs, therefore it is desirable to have evidence of strong degrees of stability in test scores. In most situations where the WARNS test is applicable, the test administrators would be concerned with how consistently examinees respond to the WARNS at different times. The primary concern would be the measurement errors attributed to the fluctuations in an examinee's observed score around their true score because of temporary changes in the examinee's state. However, errors in test administration, test scoring, marking by examinees, and other temporary fluctuations in behavior may also impact observed scores. In order to estimate the impact of these errors on test score reliability, the test- retest method is utilized. Ninety-five students at a local Skills Center (alternative high school) completed the WARNS assessment, and then took the exact same assessment again with an interim period of one week (7 days).

Exhibit 3.5. Results of test-retest reliability for each subscale of the WARNS, taken exactly 1 week (7 days) apart

WARNS total and subscales	Test-Retest Correlation Coefficients
Total	.90, p <.01
Aggression/Defiance	.79 p <.01
Depression/Anxiety	.86 p <.01
Substance Abuse	.65 p <.01
Peer Deviance	.82 p <.01
Family Environment	.91 p <.01
School Engagement	.83 p <.01

As [Exhibit 3.5](#) (above) shows, the WARNS test-retest reliability is impressive – with consistently high correlations across all six Needs Scales. The test-retest reliability estimate (coefficient of stability) for the total score (all sub-scales combined) was highly significant (.90). The sub-scale scores had reliability estimates ranging from moderate (.65) to highly significant (.91) with a median reliability estimate of .83.

Inter-rater Agreement

Due to time constraints, one topic that was not included in the current series of studies was the assessment of inter-rater reliability to determine if a youth and parent agreed about the youth's experiences. We relied on the evidence from the 2012 studies to document this form of agreement. During development of the WARNS, a parent version of the assessment was created to assess inter-rater agreement and gather additional data about a youth's prior experiences and current functioning.

Scales were identical on the youth and parent versions with the exception of the pronouns referring to the youth. While youth and parent perspectives often differ with respect to an individual's emotions and behaviors, the correlation of the two respondents on the same scale is expected to be higher than the correlation of different scales. For example, a parent's rating of a youth's depression should be more strongly related to the youth's rating of depression than the youth's rating of, for example, school engagement. Inter-rater correlations for valid psychological assessments typically range from 0.50 - 0.70.

Appendix K presents the inter-rater correlations for the 318 sets of youth and parent assessments on the Needs Scales. Correlations between youths and parents ranged from 0.52 to 0.61 on the same scales, and in all instances the same-scale correlations were stronger than the cross-scale correlations (range = 0.16 - 0.45). These results again indicate good agreement of the WARNS.

In addition, five other WARNS items appeared on both the youth and parent questionnaires: living with mom only, currently homeless, siblings dropped out of school, chronic health problems, and history of a disability or disorder. The agreement of these items was assessed using percent agreement and Cohen's kappa statistics. The percent agreement ranged from 81% - 99%, and kappas ranged from 0.60 - 0.71, again indicating acceptable reliability (see Appendix K).

3.4 VALIDATION EVIDENCE

Internal Structure

Participants from 13 different sites across the state of Washington, including school districts and high schools were administered the WARNS. There were 1,997 adolescent participants aged 11 to 19 with 53.7% identifying as male and 44.7% identifying as Caucasian.

Evidence to support the test score structure of the WARNS instrument was collected via confirmatory factor analysis (CFA). A theory-driven analysis, CFA requires a priori specification of the relationship of indicators to underlying traits (items to domains). Specifically, CFA was used to test model-data fit of the WARNS's theoretical six-factor structure (i.e., the six domains such as aggression-defiance). The factor structure was examined in MPlus 7.1 (Muthén & Muthén, 1998- 2012) with weighted least squares means and variance adjustment (WLSMV) estimation to account for ordinal data (e.g., data on a rating scale). The data were split into two random halves for cross-validation. Four models were tested on each half of the data to see which model was the best fit: a one-factor model (i.e., general need/risk factor), a six-factor model (i.e., the six domains), a higher-order model (i.e., the six first-order factors and one second-order factor), and a bi-factor model (i.e., six first-order factors and a separate general factor). Model fit was evaluated using a combination of fit indices. The standardized root mean square residual index (SRMR) and Root Mean Square Error of Approximation (RMSEA) were used with values < 0.08 suggesting good model fit; comparative fit index (CFI) values > 0.95 indicated good fit (Brown, 2006; Hu & Bentler, 1999).

The factor pattern coefficients based on the bi-factor model appear in Exhibit 3.6. The pattern coefficients represent the correlations within the WARNS and illustrate the relationships between items and the general and domain specific factors. The high values associated with the general factor support the measurement of that factor, and the non-zero values of the six domain specific factors support the use of these scores after controlling for the general factor to add explanatory power to models of interest with other external variables. Model fit statistics for each model across both halves of the data appear in Exhibit 3.7. The bi-factor model was deemed best fitting for both halves of the data, which provides cross-validation evidence that the model fits well across samples and that the theoretical structure of the WARNS is supported. This structure supports the use of a total need/risk score as well as scores on the six domain factors.

Exhibit 3.6. Factor pattern coefficients for the six-dimensional bi-factor structure of the WARNS

Item	Factor						
	Need (Total)	Aggression-Defiance	Depression-Anxiety	Substance Abuse	Peer Deviance	Family Environment	School Engagement
1	0.373						0.515
2	0.474	0.275					
3	0.559					0.573	
4	0.437					0.544	
5	0.524	0.573					
6	0.459						0.599
7	0.432		0.651				
8	0.673				0.392		
9	0.414						0.523
10	0.387		0.759				
11	0.520			0.482			
12	0.409		0.675				
13	0.310						0.590
14	0.580				0.568		
15	0.569					0.126	
16	0.526			0.480			
17	0.415						0.525
18	0.683	0.439					
19	0.507		0.667				
20	0.656						0.105
21	0.632	0.335					
22	0.598					0.598	
23	0.443		0.590				
24	0.490				0.593		
25	0.418		0.708				
26	0.445						0.485
27	0.552			0.540			
28	0.564				0.424		
29	0.487	0.538					
30	0.352		0.623				
31	0.527			0.687			
32	0.676		0.323				
33	0.583			0.606			
34	0.626	0.469					
35	0.405						0.637
36	0.607	0.355					
37	0.366						0.621
38	0.661	0.288					
39	0.593				0.429		
40	0.431					0.622	

Exhibit 3.7. Confirmatory factor analysis fit indices by model and halves

Model with First Half (N=434)	χ^2	<i>df</i>	<i>p</i>	RMSEA	90% C.I.	CFI	SRMR	WRMR
1-factor	4,351.772	740	< 0.01	0.106	0.103-0.109	0.673	0.137	2.934
6-factor	1,694.422	725	< 0.01	0.056	0.052-0.059	0.912	0.081	1.598
Higher-order	1,889.810	734	< 0.01	0.060	0.057-0.064	0.895	0.090	1.785
Bi-factor	1,622.165	700	< 0.01	0.055	0.052-0.059	0.917	0.079	1.537
Model with Second Half (N=433)	χ^2	<i>df</i>	<i>p</i>	RMSEA	90% C.I.	CFI	SRMR	WRMR
1-factor	4,360.287	740	< 0.01	0.106	0.103-0.109	0.648	0.133	2.931
6-factor	1,686.454	725	< 0.01	0.055	0.052-0.059	0.906	0.078	1.565
Higher-order	1,927.550	734	< 0.01	0.061	0.058-0.065	0.884	0.088	1.785
Bi-factor	1,676.326	700	< 0.01	0.057	0.053-0.060	0.905	0.077	1.545

Note: Bi-factor Model deemed best fitting for both halves of the data.

Measurement Invariance and Issues of Fairness

The evaluation of items for item bias, differential item functioning (DIF), was conducted to ensure fairness in scores derived from the instrument. DIF analysis ensures that students of equal need/risk from different groups (e.g., gender, race/ethnicity) have the same chance of exhibiting risk or no risk as measured by the WARNS. In other words, users can be confident identification of students for intervention is based on true differences in the measured traits and not a students' affiliation with a group (AERA, APA, & NCME, 2014). DIF was examined across groups (i.e., boys vs. girls; Caucasian vs. Latino; Caucasian vs. other groups) using logistic regression (LR) on the total score from each subscale. To classify an item as exhibiting DIF, the chi-square (χ^2) difference test was used to compare models as variables were entered into the model; an ordinal R^2 value was used as an effect size measure. A significant χ^2 difference test and R^2 difference ≥ 0.130 were used as criteria to identify DIF items (Zumbo, 1999).

None of the items on the WARNS exhibited DIF of concern in any group comparison. This finding provides evidence that students who are assessed for risk using the WARNS instrument are identified for risk and intervention based on true differences in the measured traits and not their group affiliations.

Multi-group CFA

Another method for investigating measurement invariance and ensuring comparable measurement across groups is to test the fit of the factor structure across the same groups employed in the DIF analyses. Multi-group confirmatory factor analysis (MCFA) is a popular

method for examining factor invariance and can be used to detect invariance for test items. MCFA requires certain parameters, such as the factor loadings, to be constrained (i.e., fixed) equal across groups in order to ensure that the model fits both groups equally (i.e., the model does not favor or fit one group over the others). Two sets of analyses were conducted in which the model was fit across two groups at a time. The first analysis constrained parameters across gender (girls and boys), and the second analysis constrained parameters across ethnicity (Caucasian and Hispanic). Each analysis had a baseline model (i.e., no constraints in the model) and a fully constrained model. The fit for the fully constrained model is expected to be worse, yet not significantly different from the baseline model if the model is invariant across groups.

Model fit was evaluated using a combination of fit indices. The Root Mean Square Error of Approximation (RMSEA) was used with a value of < 0.08 suggesting good model fit, the comparative fit index (CFI) with a value of > 0.95 indicated good fit (Brown, 2006; Hu & Bentler, 1999), and the Weighted Root Mean Square Residual (WRMR) with values ≤ 1.00 indicating good fit. The Chi-square Difference Test allows for model comparisons to see if the change between models is great enough to determine whether the model is invariant across groups or not. The results from these analyses can be seen in [Exhibit 3.8](#). The models across group comparisons were deemed to be invariant indicating that the WARNS structure and resulting scores work equally well across these groups.

Exhibit 3.8. Multi-group confirmatory factor analysis bi-factor model fit indices

Group	χ^2	<i>df</i>	<i>p</i>	RMSEA	90% C.I.	CFI	WRMR
Gender							
Female	1,361.295	700	< 0.01	0.053	0.049-0.057	0.928	1.298
Male	1,597.473	700	< 0.01	0.056	0.052-0.059	0.903	1.399
Combined Baseline	2,945.280	1,400	< 0.01	0.054	0.051-0.057	0.916	1.908
Combined Constrained	2,977.520	1,546	< 0.01	0.050	0.047-0.052	0.922	2.016
Race/Ethnicity							
Caucasian	1,243.888	700	< 0.01	0.052	0.047-0.057	0.937	1.207
Hispanic	1,386.860	700	< 0.01	0.055	0.050-0.059	0.903	1.339
Combined Baseline	2,633.231	1,400	< 0.01	0.053	0.050-0.057	0.922	1.803
Combined Constrained	2,785.210	1,546	< 0.01	0.051	0.048-0.054	0.922	1.956

Known Group Differences

Validity evidence based on differences across known groups (e.g., a previous arrest vs. no arrest) supports the instrument's ability to identify youth for maladaptive behaviors (AERA, APA, & NCME, 2014). Outcomes of higher risk of maladaptive behaviors (e.g., aggression) are expected for students with certain characteristics such as those who may have been arrested or suspended. Known-group mean differences were conducted using independent t-tests to examine students' total and domain scores between groups of students who had been suspended (fewer than two times vs. three or more times) and/or arrested (never arrested vs. arrested). Affiliated effect sizes (*d*) were defined as small (0.2), medium (0.4), and large (0.8) (Cohen, 1988).

Data met normality and homogeneity of variance assumptions in all but a few t-test analyses and robust tests were employed as needed. The results indicated that students who had been suspended three or more times and students who had been arrested exhibited significantly higher means on all of the scales except the Depression-Anxiety and Family Environment scales, compared to students who had been suspended two or fewer times or had never been arrested. See [Exhibit 3.9](#) for results. Effect sizes ranged from 0.26 to 0.67 on significant differences.

Exhibit 3.9. Known group comparisons by groups and scales

Scale	Suspended ≤ 2 times			Suspended ≥ 3 times			<i>t</i> -value	<i>p</i>	<i>df</i>	<i>d</i>
	N	Mean	SD	N	Mean	SD				
Total	432	21.22	12.13	328	27.30	14.73	-6.08	< 0.01	624.49	0.46
Aggression-Defiance	432	3.29	3.07	328	5.77	4.45	-8.68	< 0.01	552.07	0.67
Depression-Anxiety	432	6.09	4.83	328	6.58	5.14	-1.34	0.179	758.00	0.10
Substance Abuse	432	1.25	2.01	328	2.23	2.73	-5.47	< 0.01	577.11	0.42
Peer Deviance	432	4.24	3.28	328	5.78	3.51	-6.22	< 0.01	758.00	0.46
Family Environment	432	6.34	3.92	328	6.93	3.86	-2.06	0.040	758.00	0.15
School Engagement	432	13.43	5.31	328	15.45	5.60	-5.07	< 0.01	758.00	0.37

Scale	Never arrested			Arrested			<i>t</i> -value	<i>P</i>	<i>df</i>	<i>d</i>
	N	Mean	SD	N	Mean	SD				
Total	440	21.32	12.46	320	27.31	14.43	-5.99	< 0.01	625.35	0.45
Aggression-Defiance	440	3.63	3.52	320	5.36	4.22	-5.96	< 0.01	609.71	0.45
Depression-Anxiety	440	6.03	4.90	320	6.67	5.04	-1.74	0.082	758.00	0.13
Substance Abuse	440	1.07	1.75	320	2.51	2.87	-7.97	< 0.01	489.97	0.63
Peer Deviance	440	4.23	3.29	320	5.84	3.48	-6.50	< 0.01	758.00	0.48
Family Environment	440	6.35	3.98	320	6.93	3.77	-2.04	0.042	758.00	0.15
School Engagement	440	13.70	5.56	320	15.13	5.38	-3.57	0.004	758.00	0.26

Classification Analysis

To see how effective the WARNS may be at discerning between adolescents based on need for intervention, total scores were examined in tandem with student arrest and suspension records. Logistic regression analyses were undertaken to attempt to identify “cut scores” above which respondents would be much more likely to have a suspension or arrest on their record. Respondents with total scores above the cut score were labeled at-risk, suggesting a need for intervention. Cut scores were evaluated in terms of a) resulting sensitivity and specificity estimates and b) the areas under the Receiver-operating characteristic (ROC) curve. Sensitivity concerns the ability of an instrument to detect individuals who may be at risk for a certain outcome—suspension or arrest, in the current analysis. Sensitivity levels should exceed 70% (Distefano & Kamphaus, 2007). Specificity describes the capability of an instrument to limit the amount of “false-positives”. ROCs plot all potential pairs of sensitivity-specificity outcomes obtained from the logistic regression analysis (Zweig & Campbell, 1993). An area under an ROC may be calculated to obtain an overall estimate of how accurately a test classifies individuals. Areas may range from .5 to 1.0, with the top end of the range indicating a test of perfect discriminating capability.

Male (n=1,007) and female (n=851) respondents were analyzed separately, which produced a slight improvement in overall sensitivity and specificity estimates relative to analyses of the whole sample. This methodology was also consistent with prior investigation of risk prediction from WARNS scores (George, 2012). Among male respondents, 42% had record of a suspension and 40% had been arrested. Among female respondents, 25% had been suspended and 27% had record of an arrest.

In the logistic regression analyses, either a suspension (1=had been suspended at least once) or arrest (1=had been arrested at least once) variable was entered as the dependent variable. The total WARNS score served as the sole predictor in each model. In each analysis, a potential cut score was identified at a point that achieved an optimum predictive balance—high sensitivity estimates without sacrificing too much specificity. This process was then repeated by looking across the two analyses within each gender. The final selected cut scores were 17 for boys and 20 for girls. [Exhibit 3.10](#) displays the sensitivity and specificity estimates associated with these cut scores. Areas under the ROCs ranged from 0.645 to 0.685. These areas are comparable to the results obtained from previous investigation of the classification accuracy of the WARNS. In that investigation, scores on subsets of the Needs Scales and various responses to items related to behaviors and experiences (e.g., number of times in detention overnight) were entered into equations to predict criminal offense outcomes. Areas under the ROC curves in this analysis ranged from 0.64 to 0.67.

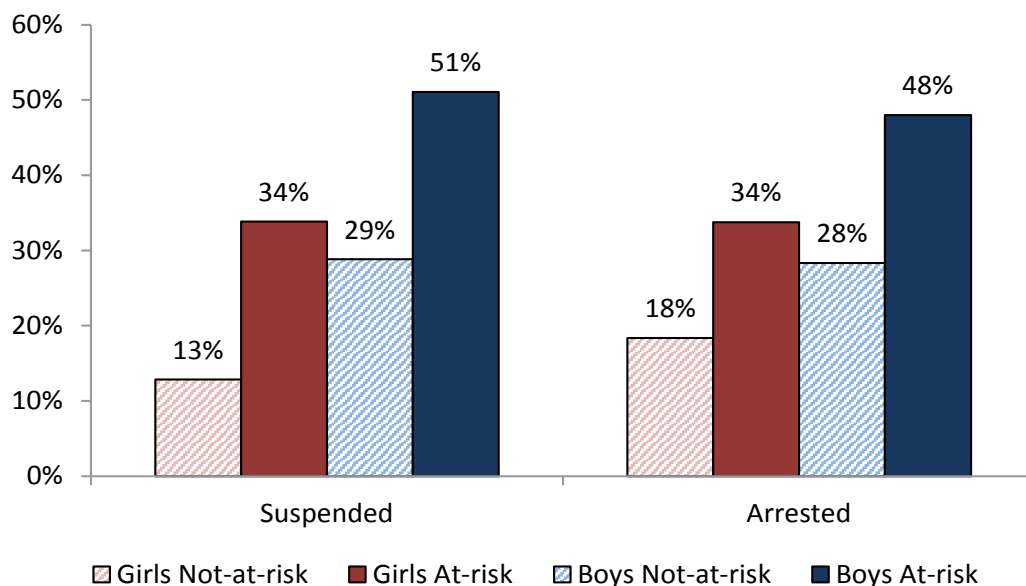
Exhibit 3.10. Sensitivity and specificity estimates *(%) for WARNS total cut scores

	Boys		Girls	
Outcome	Sensitivity	Specificity	Sensitivity	Specificity
Suspension	73	49	77	51
Arrest	72	48	70	50

*Cut score for boys = 17; cut score for girls =20

[Exhibit 3.11](#) displays the percentages of respondents who would be labeled at-risk according to their WARNS total score against actual records of suspension or arrest. Across boys and girls, there were higher proportions of at-risk respondents with a suspension or arrest on their record than respondents with total scores falling below the cut score. However, there were also relatively large proportions of suspensions and arrests among these respondents categorized as not at-risk. For example, among male respondents with a cut score above 17, 51% had been suspended at least once, but 29% below the cut score also had a record of suspension.

Exhibit 3.11. Percentage of adolescents with suspension or arrest records by risk category



In general, it seems that while some uses of a total score on the WARNS may be justified (e.g., comparing groups, creating norms, research purposes) such a score is not very powerful for identifying risk of suspension or arrest. To examine ways in which the WARNS may support prediction of such outcomes, it might be best to focus on the domain level, and isolate the domain scores (e.g., aggression-defiance) that should theoretically demonstrate the highest degree of association with the arrest outcome. Then the process could be repeated with a new set of domain scores for the suspension outcome. Such analyses would need guidance from content experts. Options for obtaining predictive evidence outside the existing data set should be considered as well. Perhaps the best predictive evidence would come from a survey of the general student population in the appropriate grades with queries of the educational and court system databases at one, two, and maybe even five years after survey administration to track the outcomes of respondents.

3.5 SUMMARY OF TEST RELIABILITY AND VALIDATION EVIDENCE

Evidence demonstrates that the WARNS scores have strong reliability. The scores have:

- High internal consistency.
- A high degree of test-retest reliability.
- A high degree of inter-rater reliability.

Evidence demonstrates that:

- Test content in the WARNS is supported.
- The WARNS factor structure is supported.
- The WARNS items function similarly across major identified groups.
- Correlations with external variables reveal that WARNS scores are correlated as expected with other measures.
- The WARNS scores show expected differences in expected groups.

Major forms of reliability and validity evidence were provided to support the WARNS scores and inferences. However, exhaustive validity evidence is impossible to collect given (a) building validity evidence is an ongoing process, (b) an assessment program or assessment developer cannot foresee all uses of the scores, and (c) a test developer cannot predict every type of child that may be assessed. However, the evidence we do present provides a strong foundation for the use of the WARNS.



3.6 NEXT STEPS

Future research on the WARNS should ensure that the instrument remains up-to-date and useful to school and court professionals providing services to truant youth. The research agenda will obviously depend in part upon user experience and related questions and challenges that arise as the WARNS becomes more widely used. Current objectives for future work on the WARNS include the following:

- New predictive validity studies every 5 years, including the revision and/or development of risk equations for different groups of youth (i.e., non-court involved truant youth versus status offenders).
- Refinement of the Needs Scales based upon research advances in the domains covered, again every 5 years. A particular area of importance is school engagement, a domain that has begun to receive a great deal of attention in the field of education.
- User-based external validity studies of the WARNS in different real-life situations. This is important to establish the validity of the WARNS when used in diverse situations including but not limited to school-based versus court-based populations, the broader group of “at-risk” youth, individuals versus groups, or prescribing interventions versus evaluating the impact of interventions.
- The development of a version of the WARNS specific to younger students in order to provide early intervention, ideally before court-involvement occurs.

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APPENDICES

Appendix A: WARNS User Agreement

Appendix B: Sample Parent Consent Form for an Anonymous Administration

Appendix C: Sample Student Consent Form for an Anonymous Administration

Appendix D: Sample Parent Consent Form for a Student-Identified Administration

Appendix E: Sample Student Consent Form for a Student-Identified Administration

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Appendix I: Detailed Results of 2009 Reliability and Validity Study with 964 Truant Adolescents Needs Scales

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Appendix K: Inter-Rater Reliability (Correlations) of the WARNS Youth Report and Parent Report (n = 312 pairs)

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Appendix A: WARNS User Agreement

Washington Assessment of the Risks and Needs of Students (WARNS)

USER AGREEMENT

Organization: _____

Address: _____

City: _____ **State:** _____ **ZIP:** _____

Purpose of use and population of youth:

Approximate # of surveys: _____ **Time period of administration(s):** _____

Administration method: **WARNS ONLINE (choose option below):** **PAPER**

- _____ Ask the sensitive questions and have the answers appear on the WARNS Report
- _____ Ask the sensitive questions, but do not have the answers appear on the WARNS report
- _____ Do not ask the sensitive questions
- _____ Needs only version
- _____ Anonymous administration (Site Report only; no individual WARNS Reports)

Primary administrator of the WARNS:

Name: _____ **Job title:** _____

Email: _____ **Phone:** _____

Other administrators of the WARNS (not necessary if anonymous administration):

Name: _____ **Job title:** _____

Name: _____ **Job title:** _____

Name: _____ **Job title:** _____

Name: _____ **Job title:** _____

Definitions

“Administer”: To read the answers given, discuss the answers with the Respondent, and interpret the results of the WARNS survey. To ensure all records are stored, retained, and destroyed in accordance with this Agreement and applicable laws.

“Assessment”: A series of questions designed to assist schools or courts in determining the risks and needs of the person or group of persons responding to the questions.

“Confidential Information”: Any combination of information that identifies and describes an individual, including Respondent’s name in conjunction with Social Security number, protected health information, protected school information, and financial account information.

“Content”: All questions, responses, instructions, notes, reports, and other information contained in both hard copy and online version(s) of the WARNS, the WARNS Report, and in the WARNS User Manual.

“Data”: The responses of the User and Respondent.

“Private Information”: Any information provided for the WARNS that is in relation to a Respondent’s private or family life, specifically answers to those questions described in the WARNS User Manual as “sensitive.”

“Respondent”: The youth who takes the WARNS survey.

“Sensitive Questions”: Those questions identified in the WARNS User Guide as “sensitive questions.”

“User”: The entity responsible for administering the WARNS survey to the Respondent.

“WARNS”: Acronym for Washington Assessment of the Risks and Needs of Students.

“WARNS Administrator”: A psychiatrist, psychologist, psychiatric advanced registered nurse practitioner, psychiatric nurse, a social worker, a school counselor with an Educational Staff Associate certificate, a person who has at least a Bachelor’s Degree in a relevant field and has worked with at-risk youth more than five years, or a person designated by a court to perform risk assessments of youths who are in the court system.

“Youth”: A person who has reached his or her 12th birthday, but is younger than 19 years of age.

Warranties to AOC

- a. By accepting the terms of this Agreement, User warrants that it possess the legal authority to enter into this Agreement.
- b. By accepting the terms of this Agreement, User is acknowledging responsibility for payment for use of this Agreement as an individual or as the legal representative of the entity.

Permitted Use

User agrees that the best interest of the Respondent will take precedent at all times during the administration of WARNS and its subsequent interpretation. If the assessment is given to a group of students where the results are anonymous and not linked to a student, any teacher employed by the school district may distribute and collect the assessment. WARNS may only be administered and interpreted by a WARNS Administrator. WARNS will only be used as an assessment tool. If used by a school or other educational entity, WARNS may only be used to assess the educational, emotional, and social needs of the Respondent.

Prohibited Use

WARNS may not be used when considering or determining any punitive sanctions and may not be used for any other purpose except to assist the User with assessing a Respondent’s, or a group of Respondents’, needs and risks, without the signed consent of the Washington State Court Administrator or the Court Administrator’s designee. WARNS will not be used as a mental illness diagnostic tool not will it be used as the sole source of information for determining

intervention or treatment. WARNS shall not be used for classroom assignment or to place Respondent with a population of Respondents with similar results or scores.

Consent Agreement

The decision to take the WARNS assessment is voluntary, unless screening or assessment is included as part of a valid court order. When not ordered by the court, there must be written documentation signed by the Respondent and the guardian that demonstrates the Respondent and the guardian are aware that the decision to take the WARNS is voluntary and optional.

A generic blanket consent form, signed by the student's legal guardian, may be evidence of parental consent only when WARNS is given to a large group of students where the results are anonymous and cannot be linked to a specific Respondent. The User must verify the blanket consent form has been signed by the Respondent and guardian prior to having the student take the WARNS, and the blanket consent form must have language that either specifically permits the taking of the WARNS or states that the parent or guardian consents to the child taking risk and needs assessments distributed by the school district.

If the WARNS is given to an identified Respondent, the User will ensure that the Respondent and Respondent's legal guardians are aware that taking the WARNS is voluntary by using the attached consent forms. No changes will be made to the forms without prior approval from the Administrative Office of the Courts (AOC) Contracts Manager. User agrees that the Respondent and the Respondent's parent or legal guardian shall review and sign the consent form prior to Respondent taking the WARNS assessment. A copy of the signed consent form shall remain either with the assessment results if results are retained or with other Respondent records. If either the Respondent or the Respondent's legal guardian refuses to sign the consent form, the WARNS will not be given to Respondent. Respondent may refuse to answer any question on the WARNS and any decision not to answer a question will be respected by the User. Respondent shall not be pressured in any manner to answer the WARNS questions. No Respondent will be rewarded in any manner for taking the WARNS nor shall any Respondent be penalized in any manner for either refusing to take the WARNS or for refusing to answer some of the questions.

Confidentiality

User agrees to hold in confidence information received from Respondent. All content will be considered confidential. User recognizes the disclosure of confidential or private information may give rise to irreparable injury to Respondent and AOC, inadequately compensable in damages and that, accordingly, consents to AOC or Respondent obtaining injunctive relief as well as any other legal remedies which may be available. User understands that a breach of confidentiality may be grounds for immediate removal from use of WARNS and termination of this User Agreement.

Required Reporting of Physical and Sexual Abuse

User has reviewed and understands the laws surrounding the reporting of sexual or physical abuse to law enforcement. User will comply with any and all these rules, requirements, and laws and will report to law enforcement any suspected abuse based on a Respondent's answers.

Indemnification

User agrees to defend, indemnify, and hold harmless the AOC, its employees, and the State of Washington from all loss, risk of loss, and damages (including expenses, costs, and attorney fees) sustained or incurred because of, or by reason of, any claims, demands, suits, actions, judgments, or executions for damages of any and every kind and by whomever and whenever made or obtained, allegedly caused by, arising out of, or relating in any manner to any use made of the information or data obtained under this Agreement.

Ownership

All data is co-owned by the User and the AOC. AOC reserves the right to use the data for any and all research purposes without consent from the User. No reports, publications, materials, etc., produced by the AOC will contain identifying information of WARNS Respondents without the signed consent of the Respondent. Users may request a data file from the AOC with all the information supplied by the Users and Respondents, with the exception of answers to the Sensitive Questions. Under no circumstances will any private information be released by the AOC unless required by law or court order.

General Terms and Conditions

- a. **Conflict of Authority** - If any provision of this Agreement shall be deemed in conflict with any statute or rule of law, such provision shall be deemed modified to conform to statute or rule of law.
- b. **Governing Law** - This Agreement shall be governed in all respects by the laws and statutes of the State of Washington. The jurisdiction for any action hereunder shall be the Superior Court for the State of Washington. The venue of any action hereunder shall be in the Superior Court for Thurston County, Washington.
- c. **Records Maintenance** - User agrees to retain all books, records, documents, signed consent forms, and other materials relevant to this Agreement, including records of all Respondents who take the WARNS, for six years after termination of this Agreement and make them available at all reasonable times to inspection, review, or audit by personnel authorized by the AOC and other officials so authorized by law. The User further agrees that the AOC shall have the right, at any time, to monitor, audit, and/or review the activities and policies of the User in order to assure compliance with this Agreement.
- d. **Severability** - If any term, condition, or application of this Agreement is held invalid, such invalidity shall not affect any other terms, conditions, or applications of this Agreement which can be given effect without the invalid term, condition, or application; to this end the terms and conditions of this Agreement are declared severable.
- e. **Waiver/Modification** - Any failure of AOC to enforce any provision of this Agreement shall not constitute a waiver of any rights under such provision or any other provisions under this Agreement.
- f. **Assignment** - The User cannot assign or transfer this Agreement to any other entity or person.
- g. **Entire Agreement** - This Agreement sets forth the entire agreement between User and the AOC regarding WARNS and supersedes all previous discussions and agreements. Understanding, representations, or warranties not contained in this Agreement shall not be binding on either party.
- h. **Termination** - The provisions of this Agreement shall survive the termination of the use of WARNS.

Authority

The individual signing this Agreement on behalf of the User represents and warrants that he or she has the power and authority to bind the User, and that no further action, resolution, or approval from the User is necessary to enter into this Agreement.

Signature

Printed Name

Title

Date

Washington Assessment of the Risks and Needs of Students

PARENT OR GUARDIAN CONSENT FORM

PURPOSE OF THIS SURVEY: This survey asks your child about past and current experiences in his or her life. The purpose of the survey is to help adults at your child's school or agency better understand the risks and needs of students in order to develop better programs that promote social, emotional, and educational development.

WHAT YOUR CHILD WILL DO: If you and your child decide to participate, your child will be asked to complete one survey which will take approximately 15 – 20 minutes. The questions will ask about past and current experiences. Some questions are personal. If you or your child don't want to answer them, those questions can be skipped or the survey can be ended. Your child's identity will not be associated with his or her answers.

RISKS: Some of the questions may cause discomfort or embarrassment. If your child feels upset after the survey, the school or agency is required to have someone available to help them.

BENEFITS: There are no direct benefits, but your child may find it interesting to complete this survey. With your child's information, your school or agency may be able to find or develop better programs to promote social, emotional, and educational development.

CONFIDENTIALITY: Your child's answers will be ANONYMOUS. Only an identification number will appear with your child's answers. Your school or agency will keep all answers in a locked drawer or on a secure computer while in their possession. Answers also will be sent to the Washington State Administrative Office of the Courts (AOC) for processing, analysis, and storage. Answers will be stored on a secure computer protected by the AOC. Your child's identity cannot be determined from any information stored by the AOC.

PARTICIPATION AND WITHDRAWAL: Your child's participation is completely voluntary, and he or she does not have to participate. There is no penalty or loss of benefit by not participating, except that your school or agency may not be able to help students as well. Your child may stop participating at any time.

I agree _____ do not agree _____ to have my child take the survey.

Parent or Guardian's signature: _____ Date: _____

Your child's name: _____

Questions or Concerns? Please contact someone at your school or agency. Ask your child's teacher or counselor.

Washington Assessment of the Risks and Needs of Students

STUDENT CONSENT FORM

PURPOSE OF THIS SURVEY: To understand your experiences in and out of school so better programs can be developed to help you and other students.

WHAT YOU WILL DO: If you decide to participate, you will be asked to complete one survey which will take approximately 15 – 20 minutes. The questions will ask about past and current experiences. Some questions are personal. If you don't want to answer them, just skip those questions or end the survey.

RISKS: Some of the questions may cause discomfort or embarrassment. If you feel upset after the survey, someone is available to help you. Ask your teacher or counselor.

BENEFITS: There are no direct benefits, but you may find it interesting to complete this survey. If your teacher or counselor will see your answers, it may help them understand you better and find programs to help you.

CONFIDENTIALITY: Your answers are ANONYMOUS. Only an identification number will appear along with your answers. Your school or agency will keep your answers in a locked drawer or on a secure computer. They will then be sent to the State of Washington for storage on a secure computer. There is no way to determine your identity from your answers on any computer.

PARTICIPATION AND WITHDRAWAL: Your participation is completely voluntary, and you don't have to participate. There is no penalty or loss of benefit by not participating, except that your school or agency may not be able to help you as well. You may quit at any time.

Questions or Concerns? Please contact someone at your school or agency. Ask your teacher or counselor.
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Washington Assessment of the Risks and Needs of Students
PARENT OR GUARDIAN CONSENT FORM

PURPOSE OF THIS SURVEY: This survey asks your child about past and current experiences in his or her life. The purpose of the survey is to help adults at your child's school or agency better understand the risks and needs of students in order to develop better programs that promote social, emotional, and educational development.

WHAT YOUR CHILD WILL DO: If you and your child decide to participate, your child will be asked to complete one survey which will take approximately 15 – 20 minutes. The questions will ask about past and current experiences. Some questions are personal. If you or your child don't want to answer them, those questions can be skipped or the survey can be ended. Your child's teacher or counselor will have access to your child's answers. He or she will use this information to better understand your child and to find or develop programs to promote better social, emotional, and educational development. Any individual, school, or agency is required to use this information only in your child's best interests.

RISKS: Some of the questions may cause discomfort or embarrassment. If your child feels upset after the survey, the school or agency is required to have someone available to help them.

BENEFITS: There are no direct benefits, but your child may find it interesting to complete this survey. With your child's information, your school or agency may be able to find or develop better programs to assist your child and other students.

CONFIDENTIALITY: Your child's answers will be kept confidential. Only an identification number will appear with your child's answers. Your school or agency will keep all answers in a locked drawer or on a secure computer while in their possession. Answers also will be sent to the Washington State Administrative Office of the Courts (AOC) for processing, analysis, and storage. Answers will be stored on a secure computer protected by the AOC. Your child's identity cannot be determined from any information stored by the AOC unless you give your permission below. If you agree to have your child's identity known to the AOC, it will be only be used to follow your child's progress for research purposes. Your child's information will only be available to a small number of research staff, will not be released for any other purposes, and will not become part of any court record.

PARTICIPATION AND WITHDRAWAL: Your child's participation is voluntary, and he or she does not have to participate. There is no penalty or loss of benefit by not participating, except that your school or agency may not be able to help your child and other students as well. Your child may stop participating at any time.

I agree _____ do not agree _____ to have my child take the survey.

I agree _____ do not agree _____ to have my child's identity released to the AOC for research purposes.

Parent or Guardian's signature: _____ Date: _____

Your child's name: _____

Questions or Concerns? Please contact your child's school or agency.

Washington Assessment of the Risks and Needs of Students

STUDENT CONSENT FORM

PURPOSE OF THIS SURVEY: To understand your experiences in and out of school so better programs can be developed to help you and other students.

WHAT YOU WILL DO: If you decide to participate, you will be asked to complete one survey which will take approximately 15 – 20 minutes. The questions will ask about past and current experiences. Some questions are personal. If you don't want to answer them, just skip those questions or end the survey. Your teacher or counselor may wish to review your answers with you. Your teacher or counselor will use your information to develop programs that may help you.

RISKS: Some of the questions may cause discomfort or embarrassment. If you feel upset after the survey, someone is available to help you. Ask your teacher or counselor.

BENEFITS: There are no direct benefits, but you may find it interesting to complete this survey. Your answers may help your teacher or counselor understand you better and find programs to help you.

CONFIDENTIALITY: Your answers will be kept confidential. Only a unique identification number will appear on any forms with your answers. Only adults who want to help you will see your answers. Your teacher or counselor will keep your answers, and a list linking your name and identification number, in a locked drawer or on a secure computer. Your answers will also be stored on a secure computer protected by the State of Washington. Your name will not be stored with your answers on any computer unless your parent gave permission.

PARTICIPATION AND WITHDRAWAL: Your participation is completely voluntary, and you don't have to participate. There is no penalty or loss of benefit by not participating, except that your teacher or counselor may not be able to help you as well. You may quit at any time.

Student's signature: _____ Date: _____

Questions or Concerns? Please contact someone at your school or agency. Ask your teacher or counselor.

Appendix F: Risk of Re-offending Scoring and Classification Sheet for Truants

Washington Assessment of the Risks and Needs of Students (WARNS):

Risk of Re-offending Scoring and Classification Sheet for Truants

FEMALES:		MALES:	
<i>If the statement is TRUE, circle the number to the right:</i>		<i>If the statement is TRUE, circle the number to the right:</i>	
AGGRESSION-DEFIANCE SCALE = HIGH	1	AGGRESSION-DEFIANCE SCALE = HIGH	1
SUBSTANCE ABUSE SCALE = HIGH	1	SUBSTANCE ABUSE SCALE = HIGH	1
PEER DEVIANCE SCALE = MODERATE OR HIGH	1	PEER DEVIANCE SCALE = HIGH	1
Grades = Mostly Cs/Ds, Ds/Fs, or not enrolled	1	Skipped or cut class (past year) = More than once a week	1
Skipped or cut class (past year) = A few times all year, or more	2	Suspension/expulsions (lifetime) = 3 or more	1
Suspension/expulsions (lifetime) = 3 or more	2	Runaway or kicked out of home = 3 or more	1
Arrested or charged with a crime = 2 or more	1	Arrested or charged with a crime = 2 or more	1
Detention episodes = 1 or more	2	Detention episodes = 2 or more	1
Babysit or provide care = Never	1	<i>(Add all circled items)</i> RISK SCORE: MALES	
<i>(Add all circled items)</i> RISK SCORE: FEMALES			
LOW:	0 – 3	LOW:	0 – 1
MODERATE:	4 - 6	MODERATE:	2 – 4
HIGH:	7 - 12	HIGH:	5 - 8

Appendix G: Range of Corrected Item-Total Correlations, Scale Means, Scale Standard Deviations, and the Percentage of Students within each Needs Category for the WARNS Social and Emotional Needs Scales for the Full High School and Truant Samples

	Aggression-Defiance		Depression-Anxiety		Substance Abuse		Peer Deviance		Family Environment		School Engagement	
	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
High School Sample (n = 615)	<u>(8 items)</u>		<u>(8 items)</u>		<u>(5 items)</u>		<u>(5 items)</u>		<u>(5 items)</u>		<u>(9 items)</u>	
Range of corrected item- total correlations	.43 - .63		.55 - .73		.56 - .66		.60 - .74		.45 - .68		.39 - .68	
Scale mean	3.98		6.42		1.20		4.45		5.80		12.28	
Scale standard deviation	3.92		5.08		2.58		3.64		3.87		5.75	
Needs Classifications	Females		Females		Females		Females		Females		Females	
	74%		51%		79%		58%		56%		71%	
	58%		65%		76%		51%		63%		58%	
	13%		26%		11%		29%		22%		15%	
	21%		18%		12%		33%		19%		18%	
	13%		23%		10%		13%		22%		15%	
	21%		17%		12%		16%		19%		25%	
Truant Sample (n = 939)												
Range of corrected item- total correlations	.48 - .67		.53 - .71		.54 - .63		.60 - .69		.40 - .70		.42 - .65	
Scale mean	4.21		6.37		1.64		4.29		6.18		14.58	
Standard deviation	3.96		5.01		2.41		3.42		3.91		5.66	
Needs Classifications	Females		Females		Females		Females		Females		Females	
	64%		50%		71%		57%		49%		43%	
	64%		66%		75%		58%		58%		44%	
	17%		22%		18%		30%		24%		24%	
	19%		18%		16%		31%		25%		27%	
	19%		29%		11%		13%		27%		32%	
	17%		14%		9%		11%		17%		29%	

Appendix H: Results of Initial Factor Analysis and Internal Reliability Analysis of Initial Pilot Study Conducted in the Fall of 2009 with 669 High School Students

Factor Analysis

Following the high school administration, data were used for item analysis for all the questions on the WARNS. Items with little variation were later reworded or removed from the instrument. Next, a series of exploratory factor analyses (principal components analyses with varimax rotation) were conducted to determine if the items composing each of the original eight Needs Scales were internally consistent. Inspection of the eigenvalues indicated that eight factors had an eigenvalue greater than 1.0 and accounted for 62% of the variance. However, a seven-factor solution best represented the underlying constructs and accounted for nearly the same amount of variance (59%). The seven-factor solution consisted of a combined Aggression-Defiance scale and a combined Depression-Anxiety scale, as well as the Substance Abuse, Peer Deviance, and Family Environment scales. The School Engagement scale separated into two distinct but theoretically related scales, one of which primarily addressed relationships with teachers and adults at school and the other focusing on engagement in the learning process. However, because of the strong theoretical and empirical relationship between the two scales, the decision was made to retain these items as one School Engagement scale.

Thus, the final six Needs Scales, accounting for 57% of the variance, included Aggression-Defiance, Depression-Anxiety, Substance Abuse, Peer Deviance, Family Environment, and School Engagement. The factor analysis was repeated forcing a six-factor solution, and the factor loadings are presented in [Appendix L](#). Nearly all items had factor loadings above .40 on the hypothesized scale, while not loading highly on the other factors. Two items on the Peer Deviance scale also loaded highly on another scale: “My friends got into physical fights” had a loading of .62 on Peer Deviance and .46 on Aggression-Defiance, and “My friends got drunk or high” had a loading of .69 on Peer Deviance and .40 on Substance Abuse.

Internal Reliability

The next step in the process involved an analysis of the internal reliability of the items forming each scale. The reliability of an assessment instrument refers to the consistency of scale items in measuring the underlying construct, and it is a necessary but not sufficient condition for an instrument’s validity. One method of assessing the reliability of scale items is through the inspection of corrected item-total correlations (i.e., the correlation of the item under examination with the total score of all the other items on the scale). The range of these correlations is presented for each scale in [Appendix H](#). Moderate correlations are desirable as a low correlation indicates an item is not consistent with the other scale items, and a very high correlation suggests an item may be sufficient to represent the construct by itself. Across all six scales, corrected item-total correlations were acceptable, ranging from .39 - .74

An alpha coefficient is another common measure of the internal consistency of a scale. Alpha coefficients above .70 are generally considered acceptable, while those above .80 are considered good. The alpha coefficients for the six WARNS scales are presented for the full high school sample, and separately for females, males, Hispanic students, and White students in [Appendix M](#). For the full sample, alphas ranged from .79 on the Family Environment scale to .88 on the Depression-Anxiety scale, with an average value of .84. The only alpha that was just below an acceptable level was the Substance Abuse scale for Hispanics, which had a value of .68.

Factor Analysis

A factor analysis was performed to determine if the six-factor solution underlying the social and emotional needs items found among high school students would be replicated with the truant sample. Principal components analysis with varimax rotation (forcing a six-factor solution) was again performed on the full sample of truant youth. Results indicated that all six factors had eigenvalues greater than 1.0 and explained 56% of variance.

Factor loadings were then inspected to determine if each item loaded most highly with its hypothesized scale, and less so with the other scales. [Appendix N](#) presents the factor loadings for all items on each of the six scales (loadings of .40 or higher are presented in bold). Results were similar to those with the high school sample. The same two items from the Peer Deviance scale also loaded highly on one other scale each. In addition, the item, "I thought about dropping out of school," loaded slightly higher on Aggression-Defiance than School Engagement (.42 and .36, respectively). Finally, the item, "I got into arguments with my parents," loaded about equally on the Family Environment and Aggression-Defiance scales (.44 and .42, respectively). Thus, the factor analyses provided evidence for the validity of the social and emotional Needs Scales.

Internal Reliability

Next, the reliability of the survey items was re-assessed for the truant sample. The range of corrected item-total correlations was .40 - .71, indicating an acceptable level of relationship between each item and its respective scale. In addition, alpha coefficients were also re-examined both in the full truant sample and in gender and racial/ethnic subgroups. For the full sample, alphas ranged from .76 on the Substance Abuse scale to .86 on the Depression-Anxiety scale, with an average of .82. Results were very similar for females and males.

With respect to racial/ethnic groups, alphas were examined for American Indian, Asian/Pacific Islander, Black, Hispanic, and White youth. Across all groups and scales, alphas ranged from acceptable (.75) to very good (.91), with two exceptions. The reliability of the items on the Family Environment scale was .69 for Asian/Pacific Islanders, and the same was true on the Substance Abuse scale for Hispanics (.69). Overall, however, the results indicated that the six social and emotional Needs Scales had acceptable internal reliability across samples, genders, and races/ethnicities.

Predictive Validity

To date, the predictive validity of the WARNS has been examined with respect to delinquency. The goal was to develop the most parsimonious prediction equation that could be easily calculated in the field and could significantly improve prediction over the fact that the youth had been identified as truant.

Prediction equations were developed separately for females and males. The dataset for the truant youth was first separated by gender and then randomly divided into two datasets for both females and males, each containing 50% of the sample. One sample (the “development” sample) was used to create the optimal prediction equation and scoring system which could reliably predict increased risk for subsequent delinquency. The second sample was used as the validation sample because development samples tend to overestimate predictive abilities (or “overfit” the data) and may not generalize to other groups. Delinquency was defined as any court referral for an At-Risk Youth petition or a criminal offense that occurred within either one or two years after the WARNS administration.

Development of the prediction equation began by inspecting score distributions for the six social and emotional Needs Scales and the other multiple-choice items. Next, a series of correlation, chi-square, and regression techniques were used to assess relationships among test items/scales and the outcome variables. The final predictive equation was selected based upon the overall strength of association with the dichotomous outcomes based upon the area under the ROC curve (AUC) as well as the distribution of scores across the sample.

The final prediction equations for females and males were fairly similar. Both equations had seven items and scales in common, though the scoring and weighting of the items and scales differed between the genders. Both equations included the Aggression-Defiance, Substance Abuse, and Peer Deviance scales, and the following four items: number of prior arrests, number of times in detention overnight, frequency of skipping class, and number of lifetime suspensions/expulsions. For females, the equation also included recent grades and the frequency of babysitting or providing care for someone during school hours. For males, the one additional item was the number of times the youth ran away or was kicked out of the home. The lists of items along with their scores and weights for both females and males appear on the scoring sheet found in [Appendix F](#).

For females, risk scores ranged from 0 through 12, and for males the range was 0 through 8. Twenty-nine percent (29%) of the female truants were classified as low risk, 51% medium risk, and 22% high risk. For male truants, 49% were low risk, 38% medium risk, and 14% high risk. For both females and males, a moderate association existed between WARNS risk scores and an ARY petition or criminal offense within either one or two years from the date of administration of the WARNS. For females, the correlation coefficients were .25 and .28 (after one year and two years, respectively) and the AUCs were .67 and .67. As seen in [Exhibit J.1](#), 7% of female truants categorized as low risk had an ARY petition or criminal offense after one year, and 11% after two years. The percentages were much higher among moderate (18%, 23%) and high risk (36, 46%) female truants.

For males the correlation coefficients between WARNS risk scores and an ARY petition or criminal offense after one year and two years were .28 and .30, and the AUCs were .64 and .64. Twenty-two percent (22%) of low-risk male truants had an ARY petition or criminal offense after

one year, and 29% after two years. For moderate risk males ([Exhibit J.2](#)), the re-offense rates were 35% and 43%. And for male truants classified as high risk according to the WARNS risk equation, 60% had an ARY or criminal offense after one year and nearly three-quarters (74%) had a re-offense after two years.

Exhibit J.1. Percentage of Females with Different Risk Scores on the WARNS

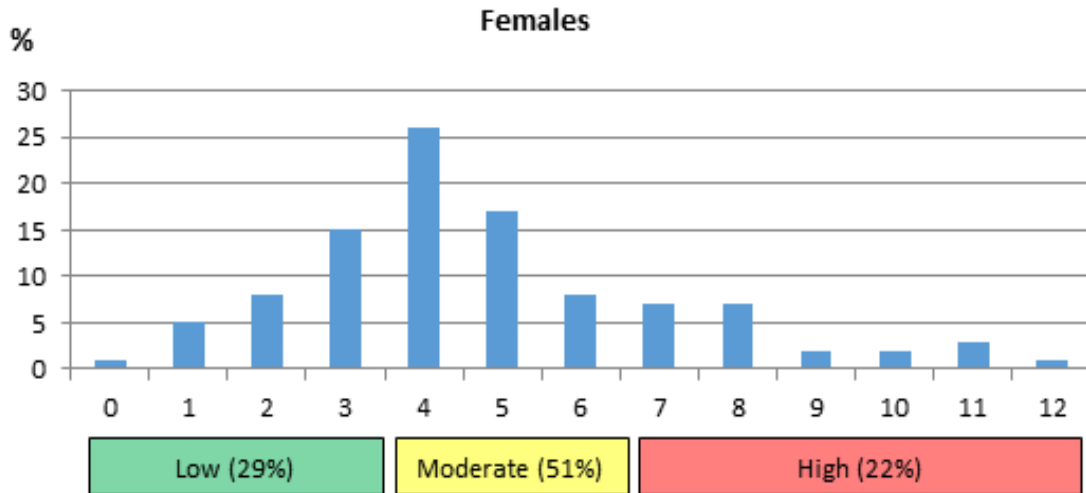
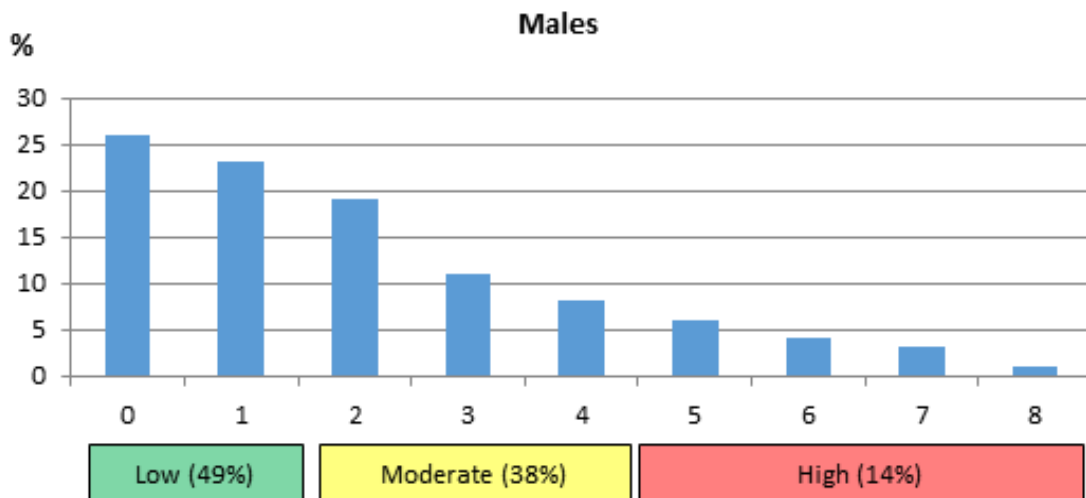


Exhibit J.2. Percentage of Males with Different Risk Scores on the WARNS



Appendix K: Inter-Rater Reliability (Correlations) of the WARNS Youth Report and Parent Report (n = 312 pairs)

	<u>Parent Report</u>						
	Aggression-Defiance	Depression-Anxiety	Substance Abuse	Peer Deviance	Family Environment	School Engagement	
<u>Youth Report</u>							
Aggression-Defiance	.56	.32	.35	.45	.32	.31	
Depression-Anxiety	.21	.52	.24	.16	.26	.25	
Substance Abuse	.29	.28	.57	.36	.24	.20	
Peer Deviance	.42	.20	.45	.59	.20	.25	
Family Environment	.29	.26	.16	.16	.56	.36	
School Engagement	.26	.25	.15	.27	.32	.61	

<u>Item:</u>	<u>Percent agreement:</u>	<u>Kappa coefficient:</u>
Living with mom only	81%	.60
Currently homeless	99%	.66
Siblings dropped out of school	86%	.71
Chronic health problems	89%	.68
History of a disability or disorder	86%	.69

Appendix L: Results of the Principal Components Analysis of the WARNS Social and Emotional Needs Items with a High School Sample

WARNS Social & Emotional Needs Items	Aggress. - Defiance	Depress. - Anxiety	Subst. Abuse	Peer Deviance	Family Environ.	School Engage.
45. Damaged or stole something on purpose	.62	.05	.35	.10	.10	.13
36. Picked on or bullied other kids	.61	.01	.21	.14	.11	.09
41. Got so angry hit or broke something	.59	.30	-.04	.19	.10	.11
43. Lied, hustled, conned to get what I wanted	.57	.11	.31	.09	.11	.04
24. Threatened to hurt someone	.54	.16	.21	.30	.14	.11
2. Got into physical fights	.50	.03	.18	.22	-.03	.12
7. Lost my temper and hit or yelled at someone	.48	.18	.07	.27	.19	.10
27. Lied, disobeyed, or talked back to adults	.46	.28	.15	.32	.27	.12
14. Sad, down, or unhappy.	.04	.78	.05	.07	.18	.13
31. Tense, irritated, or worried	.01	.78	.09	.12	.08	.03
25. Trouble sleeping or eating	.07	.74	.09	.18	.09	.04
16. Hard to concentrate	.12	.70	.11	.16	.10	.08
37. Sick, had trouble breathing, or felt shaky	.10	.70	.08	.11	.08	.02
9. Nothing could cheer me up	.13	.69	.05	.03	.17	.19
29. Hopeless about the future	.28	.64	.07	.00	.15	.05
39. Didn't care about anything or anyone	.38	.52	.09	.02	.18	.15
38. Missed school to use drugs/alcohol	.31	.07	.78	.00	.01	.04
22. Drank two or more alcoholic drinks in a day	.12	.13	.75	.31	.07	.15
15. Sick, passed out, or couldn't remember things	.23	.17	.73	.24	.03	.11
34. Used cocaine, meth, heroin, or pills	.30	.12	.66	.06	-.04	.08
19. My friends could have been arrested	.15	.15	.29	.75	.12	.18
3. My friends got into trouble at school	.35	.17	.05	.71	.04	.12
11. My friends got drunk or high	.05	.12	.40	.69	.07	.21
35. My friends skipped or cut class	.28	.13	.09	.68	.08	.12
47. My friends got into physical fights	.46	.13	-.04	.62	.01	.05
3. Felt close to my parents*	.06	.23	.15	.03	.77	.20
28. I could talk to my parents if I had a problem*	.10	.21	-.05	.09	.73	.33
5. Parents would help with homework if I asked*	.15	.18	-.01	.05	.59	.31
6. Parents' home a good place to do homework*	.27	.19	.02	.00	.55	.23
21. Got into arguments with my parents	.19	.33	-.04	.33	.54	-.10
44. My classes were interesting*	.12	.09	.05	.08	.03	.76
17. Learned things in class that will be important*	.02	.03	.09	.04	.08	.76
42. My teachers cared about me**	.02	.06	.13	.10	.19	.75
8. Felt supported/respected by adults at school*	.08	.10	.16	.16	.18	.70
1. Liked going to school*	.15	.13	.08	.07	-.01	.66
13. I could talk to an adult at school about problem*	-.02	.05	.05	.03	.25	.62
23. Studied for my quizzes and tests*	.24	.03	-.06	.10	.11	.56
32. Got my homework completed and turned in*	.36	.12	.02	.07	.12	.48
26. I thought about dropping out of school	.54	.30	.36	.04	.09	.24

Appendix M: Internal Consistency (alphas) of the WARNS Social and Emotional Needs Scales

			Aggression- Defiance (8 items)	Depression- Anxiety (8 items)	Substance Abuse (5 items)	Peer Deviance (5 items)	Family Environment (5 items)	School Engagement (9 items)
High School Sample								
	Sample Size:							
Full Sample	615		.82	.88	.82	.85	.79	.85
Females	308		.81	.89	.74	.87	.82	.83
Males	307		.84	.87	.86	.84	.77	.86
Hispanic	110		.84	.82	.68	.86	.82	.83
White	433		.80	.90	.80	.85	.80	.86
(insufficient sample size for other races)								
Truant Sample								
Full Sample	939		.84	.86	.76	.83	.80	.84
Females	423		.84	.87	.76	.84	.82	.84
Males	516		.85	.85	.76	.82	.78	.84
Am Indian/AK Native	55		.84	.85	.76	.79	.78	.86
Asian/Pacific Islander	36		.91	.87	.87	.88	.69	.80
Black	64		.84	.90	.86	.81	.80	.86
Hispanic	295		.81	.86	.69	.82	.81	.83
White	466		.85	.88	.75	.85	.80	.85

Appendix N: Results of the Principal Components Analysis of the WARNS Social and Emotional Needs Items with a Truant Sample

WARNS Social & Emotional Needs Items	Aggress. - Defiance	Depress. - Anxiety	Subst. Abuse	Peer Deviance	Family Environ.	School Engage.
7. Lost my temper and hit or yelled at someone	.67	.28	.06	.06	.12	.06
41. Got so angry hit or broke something	.65	.33	.14	.19	.06	.10
36. Picked on or bullied other kids	.63	-.05	.10	.11	.01	.07
24. Threatened to hurt someone	.61	.17	.23	.14	.01	.14
27. Lied, disobeyed, or talked back to adults	.59	.19	.22	.12	.23	.20
43. Lied, hustled, conned to get what I wanted	.55	.13	.38	.11	.06	.11
45. Damaged or stole something on purpose	.53	.08	.37	.16	.04	.13
2. Got into physical fights	.52	.01	.10	.32	.02	.08
14. Sad, down, or unhappy.	.10	.78	.04	.05	.11	.02
31. Tense, irritated, or worried	.13	.77	.09	.04	.08	.12
25. Trouble sleeping or eating	.06	.75	.13	.12	.15	.02
16. Hard to concentrate	.13	.73	-.01	.13	.06	.01
29. Hopeless about the future	.05	.68	.17	.02	.06	.18
37. Sick, had trouble breathing, or felt shaky	.12	.66	.10	.00	.02	.02
9. Nothing could cheer me up	.07	.65	.05	.09	.15	.07
39. Didn't care about anything or anyone	.33	.50	.20	.08	.11	.21
38. Missed school to use drugs/alcohol	.17	.05	.70	.07	-.03	.05
34. Used cocaine, meth, heroin, or pills	.09	.14	.69	.03	-.01	.05
22. Drank two or more alcoholic drinks in a day	.23	.08	.69	.22	.07	.03
15. Sick, passed out, or couldn't remember things	.14	.16	.67	.03	.04	.06
4. Smoked or used marijuana (pot, weed)	.27	.09	.66	.25	.14	.06
3. My friends got into trouble at school	.24	.08	.06	.76	.05	.16
35. My friends skipped or cut class.	.18	.15	.19	.72	.02	.13
47. My friends got into physical fights	.46	.10	.14	.62	-.01	.09
19. My friends could have been arrested	.25	.17	.37	.60	.10	.10
11. My friends got drunk or high	.14	.10	.54	.54	.12	.05
28. I could talk to my parents if I had a problem*	.12	.12	.03	.05	.78	.26
3. Felt close to my parents*	.15	.14	.03	.01	.77	.18
5. Parents would help with homework if I asked*	.00	.14	.06	.01	.71	.22
6. Parents' home a good place to do homework*	.03	.13	.04	.06	.68	.22
21. Got into arguments with my parents	.42	.28	.11	.11	.44	.01
44. My classes were interesting*	.10	.03	.00	.06	.08	.75
8. Felt supported and respected by adults at school*	.00	.10	.02	.15	.14	.70
42. My teachers cared about me*	-.10	.09	.05	.19	.18	.69
17. Learned things in class that will be important*	.02	.05	.12	-.03	.21	.64
1. Liked going to school*	.22	.06	.06	-.04	.04	.64
23. Studied for my quizzes and tests*	.21	-.05	.09	.03	.13	.63
13. I could talk to an adult at school if had problem*	-.06	.10	-.02	.19	.24	.62
32. Got my homework completed and turned in*	.26	.09	.00	.01	.00	.61
26. I thought about dropping out of school	.42	.24	.28	.06	.03	.36