

PRIDE TECHNICAL REPORT

THE PRIDE QUESTIONNAIRE FOR GRADES 6 – 12

Validity and Reliability Study

By

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THE PRIDE QUESTIONNAIRE FOR GRADES 6-12

The need for a low cost means for schools and communities to obtain quality information about the prevalence and patterns of drug and alcohol use among adolescents prompted the development of the PRIDE Questionnaire for Grades 6-12. In 1980 field-testing on the PRIDE Questionnaire began. Field-testing and revisions continued until 1982 when the Questionnaire and associated survey procedures were introduced to PRIDE customers. Since 1982, more than seven million students have responded to the PRIDE Questionnaire in communities throughout the United States and in eight foreign countries. The need for quality data on drug and alcohol use is at least as great today as it was in the 1980's.

The PRIDE Questionnaire for Grades 6-12 (hence forth called the "PRIDE Questionnaire" or "Questionnaire") has been modified over the years to reflect research in this field and the changing informational needs of parents, school officials and other concerned community leaders. Changes in the Questionnaire also reflect the national concerns with drug and alcohol use among school-age students, such as nationally reported "risk factors." In addition to modifications in the Questionnaire form, survey procedures and reporting results have been refined over the years to not only improve the quality of data collected, but to make it more usable to PRIDE clients. Survey procedures include directions for pre-survey preparation, administering the Questionnaires, collecting Questionnaires, and returning the Questionnaires to PRIDE for processing. Reports sent to clients present survey findings in easily understood charts, graphs and "bulleted" statements as well as comprehensive percentage tables.

Craig and Emshoff (1987) authored a PRIDE Technical Report, *The PRIDE Questionnaire for Grades 6-12 A Developmental Study*. Craig and Emshoff used widely accepted procedures for determining reliability and validity to analyze the data collected by the Questionnaire. Dr. Harry Bowman, Office of Educational Research, Memphis State University, reviewed the report. A copy of Craig and Emshoff's report can be found in the Appendix. Adams (1994) *produced PRIDE*

TECHNICAL REPORT, The Pride Questionnaire for Grades 6-12, 2nd Developmental Study.

Adams' report can be found in the Appendix. The current report builds on and supports the work by Craig and Emshoff (1987) And Adams (1994).

The Questionnaire used for the 1998-99 school years was used for this study. The format has remained almost unchanged since the Questionnaire was introduced almost 20 years ago. The Questionnaire is presented in ten sections; each containing items pertaining to various topics from personal and family demographics to drug use items. This report will address the validity and reliability of the items within each of the sections.

Validity

A common method used to establish validity is to compare findings between like studies that use different instruments to measure the same constructs. Craig and Emshoff (1987) and Adams (1994) used data from NIDA sponsored surveys conducted by the Institute for Social Research located at the University of Michigan (Johnson et al., 1986, Johnson et al., 1987) to compare with data obtained from the PRIDE Questionnaire. These comparisons are also made for this report. Drug categories are not directly comparable between PRIDE and NIDA surveys and some that are compared (such as alcohol) must be modified to make them more comparable. The NIDA studies utilize rather complex random sampling techniques to obtain national estimates while PRIDE utilizes a client database correcting for over sampling of some states. Even though survey and sampling procedures used to obtain prevalence of use information differ for PRIDE surveys and for the NIDA surveys, similar findings between the studies support the validity of the PRIDE and NIDA measurement processes.

The national summary findings of PRIDE and the NIDA studies conducted by the Institute for Social Research are compared for the 1998-99 and 1999-00 school years. Craig and Emshoff (1987) were only able to compare 12th grade findings since the NIDA surveys did not include data for 8th and 10th grade students at that time. Table 1 contains contrasts for 8th, 10th and 12th grade

students for cigarette (30 day), alcohol, marijuana, and hallucinogens use. Other drug categories are not comparable due to the differences in survey instrumentation. Annual and 30-day uses are compared for the two years 1998-99 and findings are discussed by category.

Table 1
PRIDE National Summary and NIDA Monitoring the Future
Comparisons for 1998-99 and 1999-00 School Years

		Annual Use							
		Cigarettes		Alcohol		Marijuana		Hallucinogens	
		1998	1999	1998	1999	1998	1999	1998	1999
8th Grade									
	PRIDE	35.3	29.4	52.3	50.6	17.0	14.8	4.1	3.2
	NIDA	---	---	43.7	43.5	16.9	16.5	3.4	2.9
10th Grade									
	PRIDE	45.5	43.0	67.2	67.0	32.1	30.8	8.2	7.1
	NIDA	---	---	62.7	63.7	31.1	32.1	6.9	6.9
12th Grade									
	PRIDE	51.4	49.7	74.5	74.4	37.8	38.0	12.0	10.9
	NIDA	---	---	74.3	73.8	37.5	37.8	9.0	9.4
		30-Day Use							
		Cigarettes		Alcohol		Marijuana		Hallucinogens	
		1998	1999	1998	1999	1998	1999	1998	1999
8th Grade									
	PRIDE	19.2	14.4	20.4	18.2	10.3	8.6	2.3	1.9
	NIDA	19.1	17.5	23.0	24.0	9.7	9.7	1.4	1.3
10th Grade									
	PRIDE	29.6	27.1	35.4	35.2	20.0	18.9	4.1	3.3
	NIDA	27.6	25.7	38.8	40.0	18.7	19.4	3.2	2.9
12th Grade									
	PRIDE	37.5	36.3	45.3	45.2	23.1	23.4	5.2	4.4
	NIDA	35.1	34.6	52.0	51.0	22.8	23.1	3.8	3.5

Cigarettes

The NIDA findings do not include annual cigarette use. As with earlier studies, the estimate of 30-day use of cigarettes was slightly more conservative by NIDA than PRIDE. Both NIDA and PRIDE indicate a significant decrease in cigarette smoking for all groups between 1998 and 1999.

Alcohol

Alcohol use estimates by 8th grade, 10th grade and 12th grade students were similar for the PRIDE and NIDA surveys. The PRIDE estimates generally more conservative than NIDA estimates for 30-day use while the opposite is true for annual use. For example, annual use of alcohol

estimates at the 12th grade level differed by only .2 percent for 1998-99 and .6 percent for 1999-00. These differences are quite small given the percentage of use reported, i.e., both NIDA and PRIDE estimated that about 74 percent of the 12th grade students used alcohol both years. Also, although not statistically significant, a pattern of slight decreases in alcohol use from 1998-99 to 1999-00 was nearly the same for both data sets across the various age groups, supporting the consistency of findings between the two studies.

Marijuana

The estimates of use of marijuana by PRIDE and NIDA studies were extremely close for 1998-99 and 1999-00. PRIDE and NIDA estimates of annual use and 30 day use of marijuana differed by two percent or less across all age groups and for both years. Unlike the earlier studies both PRIDE and NIDA found little change in the use of marijuana across all grade levels from 1998-99 to 1999-00. The questions that obtained the prevalence of marijuana use were more similar for NIDA and PRIDE than for other items. This could explain these very similar findings.

Hallucinogens

The PRIDE and NIDA findings were very similar with regard to annual and 30 day use of hallucinogens. NIDA estimates were slightly more conservative than PRIDE estimates across all grade levels. However, the pattern of hallucinogen use was again very similar. Unlike earlier studies the PRIDE and NIDA findings did not produce a statistically significant increase in hallucinogen use between the two years. As a matter of fact, there was a general decrease in hallucinogen use from the 1998-99 to the 1999-00 years. This decrease is more pronounced for 30 day than annual use.

Summary

The contrast of PRIDE and NIDA survey findings produced a striking similarity between both estimates and patterns of drug use. Similar patterns of use were observed in the comparison of 1998-99 and 1999-00 data. PRIDE and NIDA found statistically significant decreases in cigarette smoking. Both found a slight but not statistically significant decrease in alcohol use. Only the 12th

grade showed an increase in marijuana use. Decreases were also found in hallucinogen use. Although the sampling methods for data collection and instruments were different, there was a remarkable similarity between findings of the PRIDE national summary data and the NIDA studies. This similarity of findings supports the validity of the PRIDE Questionnaire and associated survey procedures.

Reliability

As in the previous developmental studies, reliability of the PRIDE Questionnaire and associated survey procedures has been examined utilizing a test-retest procedure.

Data Collection Procedure

In the fall of 1998, a sample of 631 students from Bowling Green, Kentucky, Nashville, Tennessee, and Newaygo, Michigan was selected to participate in this developmental study. They were administered the PRIDE Questionnaire utilizing PRIDE's standardized instruction procedures two different times approximately one week apart. Student responses for the two administrations were paired anonymously using the techniques described in Craig and Eminoff's report (See the Appendix).

The sample consisted of 48.2 percent males and 51.8 percent females. White students made up 84.6 percent of the sample, black students made up 5.7 of a percent, and students of other ethnic origin represented 9.7 percent. Middle school students (grades 6 through 8) comprised 44 percent of the sample with the remaining 56 percent coming from grades 9 through 12. At least 30 percent of the students had a parent who graduated from college and 50 percent had a parent who attended at least one year of college.

Statistical Methods Employed

Three measures of reliability were computed from the test- retest data: 1) correlation of the test results from the first administration to the results of the second administration, 2) the percent of exact agreement to responses from the first administration compared to the second administration,

and 3) the percent of major disagreement from the first administration to the second administration. A correlation coefficient, Pearson's r , was computed for each of the items where appropriate. That is, where the data could be assumed continuous and not categorical. The sub-sample used for correlation analyses consisted of those students who responded to all the continuous items in the Questionnaire.

The percent of exact agreement was computed by determining the percentage of students who responded exactly the same on both administrations of the questionnaire. The maximum was 100 percent. The percent of major disagreement was computed to determine the percentage of students who responded substantially different on the two administrations. This percentage was computed by counting the number of student responses that varied more than one response category on the two administrations. Ideally, the percentage of major disagreement should be zero or near zero.

Results

The results of the test-retest analyses appear in Tables 2 - 10 that follow this discussion. They contain the correlations, percent of exact agreement, and percent of major disagreement for each of the sections with the exception of Section VII. Questions in this section ask "When" do students use drugs and are categorical responses and correlations were not computed for these items.

Section I: Personal And Family Information

Responses to items in this section appeared to be highly consistent. The percent of exact agreement was above 90 percent and the percent of major disagreement less than 3 percent for all of the items. The percent of exact agreement are consistent with findings from the previous developmental studies. Correlations are high (mostly above .9) for those items that could be correlated, further expressing the high reliability among these items. See Table 2 for results.

Section II: Student Information

The items in this section had correlation coefficients ranging from .513 to .867. Items 2, 7 – 10, 12 – 14, and 18 – 21 failed to reach a correlation of .70. However, the percent of exact agreement was above 80% for items 7 – 9, and 19 – 21 indicating a low, but acceptable level of correlation. The Items that had the weakest level of consistency according to the percent of exact agreement and percent of major disagreement were 10 – 14 and 18. These items deal with student/parent and student/teacher relationships and friends' discussion of drugs/alcohol. These items appear to solicit relatively less reliable responses than other items in this section. Since these items deal with talking about alcohol/drugs it is possible that being asked about these issues in the first administration led to a change in these activities between the first and second administration of the survey. A similar problem with consistency was noted in the earlier studies for student/family relationship items (see the Appendix). Table 3 contains the reliability analyses for Section II.

Section III: Do You Feel The Following Drugs Are Harmful To Your Health?

Students' responses to items in this section are not as reliable as items contained in other sections of the Questionnaire. Correlation coefficients were above .618 for cigarettes, alcohol, and marijuana and below .5 for other categories. These results suggest a somewhat lower consistency of response, especially for cocaine, uppers, downers, inhalants, hallucinogens, heroin and steroids. This inconsistency was also reflected in the percent of exact agreement and percent of major disagreement findings. Similar inconsistencies were found in the earlier studies. See Table 4 for these reliability indices. Adams (1994) suggested that the order of the response item set might contribute to the low reliability of these items (See the Appendix). Because of this, the item response set was changed. Never-the-less reliability indices for this section remain relatively low. It is more likely that the low reliability of the items in this section is due to asking students for a qualitative response (e.g., how do you 'feel'...). Other items in the Questionnaire require a quantitative response (e.g., how many times...). Even with the questionable reliability indices in this

and earlier studies, items in this section are considered important enough to be left as part of the data set obtained by the PRIDE Questionnaire. Students' perception of the harmful effects, particularly the percentage that feel drugs are "HARMFUL " or "VERY HARMFUL", is useful information for parents, school, and community leaders concerned with adolescent drug use.

Section IV: Within The Past Year How Often Have You ...

Students responded consistently to items that deal with 'prevalence of coefficients indicate a strong relationship between the first and second administrations of the questionnaire for all items except inhalants. The percent of exact agreement is high among all of the items in this section and is above 94% for the item with low correlation coefficient (inhalants). The percent of major disagreement is relatively low among all items in this section. See Table 5 for these data.

Section V: How Many Of Your Friends...

Perceived friends' use of the various drug and alcohol categories had high correlation coefficients for cigarette, alcohol, and marijuana use (i.e., above 80%). Items relating to other drug use had lower correlation coefficients. However all of the items with correlation coefficients below .8 had agreement percentages above .86 and major disagreement percentages below 2.0. Table 6 presents these statistics.

Section VI: What Effect' Do You Most Often Get When You...

Students were asked to respond to the levels of intoxication that they reached if they used various drugs and alcoholic beverages. While over half of the items in this category had correlation coefficients below .7; all of the items had a high percent of exact agreement between the first and second administration of the Questionnaire. Most of the items had an exact agreement percent above 90% and only one (item 5, 78.2%) had an exact agreement percent below 80%. See Table 7 for analysis results.

Section VIII: While At School Have You...

As may be seen in Table 8, all of the items in this section had an exact agreement of 70 percent or more except number eight, which had an exact agreement of 66.6%. The correlation coefficients for this section are not high. It is interesting that reliability estimates for aggression are much lower than for drug use.

Section IX: When Did You First...

The analysis of student responses to items about their first use of drugs is contained in Table 9. Students responded to these items in a highly consistent manner as indicated by the high percent of exact agreement and relatively low percent of major disagreement indices. Correlation coefficients for items 1 – 7 indicated a strong linear relationship between the first and second administration. While correlation coefficients for items 8 – 14 are lower, the percent exact agreement for first and second administration of all of these items is above 97%. The items in this section require that a student recall information that is several years old.

Section X: How Easy Is It To Get...

Correlation coefficients for items in this section were all above .70 except items 11 (.649). The percent of exact agreement percentages were in the 60's and 70's. The percentage of major disagreement ranged from about 10 to 20 percent. Adams (1994) suggested that the order of responses might account for the low reliability; however, the change in order for the current study did not significantly increase the indices. This Section provides information about the percent of students for which drugs and alcohol are readily available. Such information is critical for assessing prevention programs and should be retained as part of the data set produced by the PRIDE Questionnaire.

Summary

Reliability indices indicated that items in Sections I, II, IV - VI, and VIII - X of the PRIDE Questionnaire produced reasonable and acceptable consistency of response. The indices were particularly supportive for the drug use sections on first use, frequency of use, and intoxicating effects of use. And, these findings were confirmed by earlier developmental studies. The items in section III and VIII dealing with perceived harmfulness of drugs and alcoholic beverages and aggressive behaviors were not as reliable as items in other sections.

Table 2
Reliability Estimates for Section I:
Personal and Family Information

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Ethnic Origin	0.885	97.7	2.3
2. Sex	0.996	99.8	0.0
3. Age	0.962	96.0	0.6
4. Grade	0.982	98.1	0.6
5. Parents' Status	0.939	96.8	2.8
6. Your Job	0.857	93.6	0.3
7. Father's Job	0.892	95.5	0.5
8. Mother's Job	0.925	92.4	0.7
9. Father's Education.	0.928	91.4	2.2
10. Mother's Education.	0.936	91.5	1.6

Table 3
Reliability Estimates for Section II:
Student Information

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Do You Make Good Grades	0.808	77.3	2.2
2. Do You Get Into Trouble At Schools	0.695	72.1	3.4
3. Do You Take Part In School Activities Such As Sports Teams, Band, Clubs, etc.	0.825	62.7	7.8
4. Do You Take Part In Community Activities Such As Scouts, Rec. Teams, Youth Clubs, etc.	0.741	59.2	10.0
5. Do You Attend Church, Synagogue, etc.	0.867	68.7	5.5
6. Do You Drink Alcohol At Home	0.708	81.5	4.5
7. Do You Use Drugs At Home	0.684	90.2	3.3
8. Have You Threatened To Harm A Teacher	0.513	95.7	0.9
9. Have You Threatened To Harm One Or Both Of Your Parents, Guardian, etc.	0.579	91.4	2.2
10. Do Your Parents Talk With You About The Problems Of Alcohol/Drugs	0.689	56.5	10.3
11. I Talk With My Parents About My Problems	0.726	57.8	10.3
12. Do Your Friends Talk With You About The Problems Of Alcohol/Drugs	0.618	56.7	10.7
13. Do Your Parents Set Clear Rules For You	0.652	55.9	10.7
14. Do Your Parents Punish You When You Break The Rules	0.644	56.5	11.4
15. Have You Been In Trouble With The Police	0.792	86.4	2.0
16. Do You Take Part In Gang Activities	0.706	93.4	1.7
17. Have You Thought About Committing Suicide	0.803	83.6	3.6
18. Do You Teachers Talk With You About The Dangers Of Alcohol/Drugs	0.578	46.7	15.7
19. While NOT AT SCHOOL Have You Stolen Something worth \$5.00 or more	0.689	81.6	5.3
20. While NOT AT SCHOOL Have You Carried A Gun For Protection Or As A Weapon	0.735	88.4	4.4
21. Are You In A PRIDE Group: America's PRIDE, Club PRIDE or PRIDE Pals	0.667	96.9	0.8

Table 4
Reliability Estimates for Section III:
Do You Feel The Following Drugs Are Harmful To Your Health

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.647	68.3	4.6
2. Smokeless Tobacco	0.618	66.3	6.1
3. Cigars	0.627	66.6	6.5
4. Beer	0.672	62.4	6.6
5. Wine Coolers	0.683	61.8	7.9
6. Liquor	0.645	62.3	5.5
7. Marijuana	0.727	75.1	5.1
8. Cocaine	0.466	86.1	4.2
9. Uppers	0.461	72.5	6.8
10. Downers	0.375	68.0	9.0
11. Inhalants	0.350	69.8	9.3
12. Hallucinogens	0.387	76.2	7.2
13. Heroin	0.331	84.0	5.7
14. Steroids	0.440	68.3	7.7

Table 5
Reliability Estimates for Section IV:
Within The Past Year How Often Have You

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.940	85.4	5.9
2. Smokeless Tobacco	0.821	94.6	3.0
3. Cigars	0.818	88.2	4.8
4. Beer	0.851	76.9	7.7
5. Wine Coolers	0.814	75.6	8.4
6. Liquor	0.851	79.5	6.6
7. Marijuana	0.840	86.1	6.0
8. Cocaine	0.754	97.5	1.4
9. Uppers	0.769	95.7	2.6
10. Downers	0.710	94.9	2.5
11. Inhalants	0.545	94.6	2.1
12. Hallucinogens	0.809	96.8	1.7
13. Heroin	0.703	98.6	0.7
14. Steroids	0.830	98.5	0.6

Table 6
Reliability Estimates for Section V:
How Many Of Your Friends

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.833	74.5	2.9
2. Smokeless Tobacco	0.787	83.3	2.1
3. Cigars	0.743	77.1	3.9
4. Beer	0.808	74.1	4.5
5. Wine Coolers	0.765	70.7	6.2
6. Liquor	0.807	74.0	5.4
7. Marijuana	0.810	75.4	4.2
8. Cocaine	0.656	90.4	1.9
9. Uppers	0.666	88.4	1.8
10. Downers	0.647	91.0	1.4
11. Inhalants	0.556	86.4	1.7
12. Hallucinogens	0.725	90.7	1.5
13. Heroin	0.533	93.2	1.5
14. Steroids	0.460	90.9	1.8

Table 7
Reliability Estimates for Section VI:
What Effect Do You Most Often Get When You

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.790	88.5	2.2
2. Smokeless Tobacco	0.622	94.8	1.4
3. Cigars	0.728	91.3	2.3
4. Beer	0.802	82.9	5.8
5. Wine Coolers	0.718	78.2	4.4
6. Liquor	0.836	82.1	6.2
7. Marijuana	0.789	87.5	7.7
8. Cocaine	0.563	96.9	2.3
9. Uppers	0.598	94.9	2.5
10. Downers	0.539	95.1	2.6
11. Inhalants	0.363	95.4	2.5
12. Hallucinogens	0.691	95.9	2.9
13. Heroin	0.281	96.9	2.0
14. Steroids	0.203	96.5	1.7

Table 8
Reliability Estimates for Section VIII:
While AT School Have You

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Carried A Gun	0.472	96.0	1.4
2. Carried A Knife, Club Or Other Weapon	0.695	89.0	3.6
3. Threatened A Student With A Gun, Knife Or Club	0.465	94.6	1.7
4. Threatened To Hurt A Student By Hitting, Slapping Or Kicking	0.666	71.8	9.9
5. Hurt A Student By Using A Gun, Knife Or Club	0.529	96.1	1.5
6. Hurt A Student By Hitting, Slapping Or Kicking	0.710	76.6	6.1
7. Been Threatened With A Gun, Knife Or Club By A Student	0.458	88.0	4.1
8. Had A Student Threatened To Hit, Slap Or Kick You	0.624	66.6	10.0
9. Been Afraid A Student May Hurt You	0.635	79.1	4.5
10. Been Hurt By A Student Using A Gun, Knife Or Club	0.775	97.8	0.5
11. Been Hurt By A Student Who Hit, Slapped Or Kicked You	0.650	82.0	4.1

Table 9
Reliability Estimates for Section IX:
When Did You First

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.842	81.7	6.1
2. Smokeless Tobacco	0.847	93.9	2.8
3. Cigars	0.776	86.3	6.1
4. Beer	0.821	78.6	8.2
5. Wine Coolers	0.802	77.2	9.0
6. Liquor	0.842	81.7	7.7
7. Marijuana	0.833	89.1	5.1
8. Cocaine	0.668	99.2	0.6
9. Uppers	0.779	97.7	1.2
10. Downers	0.646	97.3	1.7
11. Inhalants	0.465	97.5	2.1
12. Hallucinogens	0.750	97.8	1.5
13. Heroin	0.350	99.0	0.9
14. Steroids	0.825	99.5	0.4

Table 10
Reliability Estimates for Section X:
How Easy Is IT To Get

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	0.819	73.9	8.9
2. Smokeless Tobacco	0.786	71.8	12.9
3. Cigars	0.827	73.7	10.5
4. Beer	0.787	68.7	11.5
5. Wine Coolers	0.783	66.4	13.0
6. Liquor	0.817	69.4	11.9
7. Marijuana	0.841	74.9	9.8
8. Cocaine	0.731	74.0	10.5
9. Uppers	0.748	74.7	10.8
10. Downers	0.727	73.9	11.9
11. Inhalants	0.649	70.7	18.6
12. Hallucinogens	0.753	76.1	8.4
13. Heroin	0.713	77.3	9.0
14. Steroids	0.707	75.1	11.0

Appendix

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THE PRIDE QUESTIONNAIRE FOR GRADES 6-12
2ND DEVELOPMENTAL STUDY

By

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October, 1994

The PRIDE Questionnaire For Grades 6-12

The PRIDE Questionnaire for Grades 6-12 was first developed in 1980 with field testing and revisions occurring until 1982 when the questionnaire and associated survey procedures were introduced to PRIDE customers. The purpose for PRIDE Questionnaire and associated survey services was to provide schools and communities with a low cost means to obtain quality information about the prevalence and patterns of drug and alcohol use for their adolescents. Since 1982, more than seven million students have responded to the PRIDE Questionnaire in communities throughout the United States and in eight foreign countries. The need for quality data on drug and alcohol use continues to be as great in the 1990's as it was in the 1980's.

The PRIDE Questionnaire for Grades 6-12 (hence forth called the "PRIDE Questionnaire" or just "Questionnaire") has been modified over the years to reflect research in this field and the changing informational needs of parents, school officials and other concerned community leaders. Changes in the Questionnaire has also reflected the national concerns with drug and alcohol use among school-age students, such as nationally reported "risk factors." In addition to modifications in the questionnaire form, survey procedures and reporting results have been refined over the years to not only improve the quality of data collected, but to make it more usable to PRIDE clients. Survey procedures include directions for pre-survey preparation, administering the questionnaires, collecting questionnaires, and returning the questionnaires to PRIDE for processing. Reports sent to clients present survey findings in easily understood charts, graphs and "bullet" statements as well as comprehensive percentage tables.

In 1987 Craig and Emshoff authored a PRIDE Technical Report, The PRIDE questionnaire for Grades 6-12 a Developmental Study. Craig and Emshoff addressed the validity and reliability of data collected by the Questionnaire using procedures and services developed by PRIDE research staff. Their report was also reviewed by Dr. Harry Bowman, Office of Educational Research, Memphis state university. This document will build on the work by Craig and Emshoff.

The Questionnaire used for the 1993-94 school years was used for this developmental study. The format has remained almost unchanged since the Questionnaire was introduced over 12 years ago. The Questionnaire is laid-out in ten sections. Within the sections are items pertaining to various topics from personal and family demographics to drug use items. Most of the new items within the Questionnaire are included in the second section, "Student Information," and were included to reflect the violent or potential violent activities with which many educators are currently concerned. For example, the item, "Have you carried a gun to school?" was included to provide information on the potential use of a deadly weapon while the student is at school. This report will address the reliability of the items within each of the sections.

VALIDITY

Craig and Emshoff discussed the concepts of validity in general and with regard to the PRIDE Questionnaire. Their report is contained in Appendix A. One of the methods to establish validity utilized in the 1987 developmental study was to compare findings between like studies utilizing different instruments to measure the same constructs. Craig and Emshoff utilized data from NIDA sponsored surveys conducted by the Institute for Social Research located at the University of Michigan (Johnson et al., 1987) to compare with data obtained from the PRIDE Questionnaire. An update of these comparisons were made for this report. As was the case in the previous developmental study, survey procedures used to obtain prevalence of use information differed for PRIDE surveys and for the NIDA surveys. All drug categories were not directly comparable and some that were compared (such as alcohol) had to be modified to

make them more comparable. Also, the NIDA studies utilized rather complex random sampling techniques to obtain national estimates where PRIDE utilized a client data base correcting for over sampling of some states. Even with the differences in sampling and survey methodology, similar findings between the studies would support the validity of the PRIDE and NIDA measurement process.

The national summary findings of PRIDE and the NIDA studies conducted by the Institute for Social Research were compared for the 1991-92 and 1992-93 school years. A major difference from the comparisons by Craig and Eroshoff was the addition of 8th and 10th grade findings, previously not available from the NIDA surveys. Table 1 contains contrasts from cigarette use (when available), alcohol, marijuana, and hallucinogens. Other drug categories were not comparable due to the differences in survey instrumentation. Annual use and 30 day use were compared for the two years 1992-93 and findings are discussed by drug category.

Cigarettes

The NIDA findings did not include annual cigarette use. Estimates of 30 day use of cigarettes was generally more conservative by NIDA than PRIDE, particularly at the 8th and 10 grade levels. The estimated 30 day use of cigarettes by 12th grade students was very similar for NIDA and PRIDE, with both finding: statistically significant increase from 1991-92 to 1992-93. NIDA also reported a significant increase in cigarette smoking for 10th grade students. This change was not found in the PRIDE study. The 10th and 12th grade cigarette use estimates for 1992-93 by PRIDE and NIDA were virtually the same.

Alcohol

Alcohol use estimates by 8th grade, 10th grade and 12th grade students were similar, with PRIDE estimates generally more conservative than NIDA estimates. For example, annual use of alcohol estimates at the 8th grade level differed by only 1.9 percent for 1991-92 and at the 12th grade level the difference was only 2.7 percent. These difference's are quite small given the percentage of use reported, i.e., NIDA estimated that 76.0 percent of the 12th grade students used alcohol as compared to the PRIDE estimate of 73.3 for 1992-93. Also, although not statistically significant, a pattern of slight decreases in alcohol use from 1991-92 to 1992-93 was nearly the same for both data sets across the various age groups, supporting the consistency of findings between the two studies.

Marijuana

The estimates of use of marijuana by PRIDE and NIDA studies were extremely close for 1991-92 and 1992-93. PRIDE and NIDA estimates of annual use and 30 day use of marijuana differed by one percent or less across all age groups and for both years with the exception of the 1992-93 10th grade annual use at 1.2 percent. The PRIDE estimates were slightly more conservative than the NIDA estimates. See Figure A for a visual representation of this difference. Even more remarkable, both PRIDE and NIDA found statistically significant increases in marijuana use across all grade levels from 1991-92 to 1992-93. The questions that obtained the prevalence of marijuana use were more similar for NIDA and PRIDE than for other items. This could explain these very similar findings.

Hallucinogens

The PRIDE and NIDA findings were very similar with regard to annual and 30 day use of hallucinogens. For example, in 1992-93 the differences between PRIDE and NIDA estimates of

hallucinogen use was less than 1.1 percent. NIDA estimates slightly more conservative than PRIDE estimates across all grade levels. However, the pattern of hallucinogen use was again very similar. Both the PRIDE and NIDA findings produced a statistically significant increase in hallucinogen use for twelfth grade students. This increase occurred for annual and 30 day use. Use at other grade levels indicated negligible differences in hallucinogen use for both PRIDE and NIDA findings.

Summary

The contrast of PRIDE and NIDA survey findings produce striking similarity between both estimates of drug use patterns of drug use. The PRIDE estimates were slightly higher than NIDA estimates for cigarette and hallucinogen use and estimates were slightly higher than PRIDE estimates for alcohol marijuana use. The comparison of 1991-92 and 1992-93 produce patterns of use that were very similar. PRIDE and NIDA show statistically significant increases in cigarette smoking at 12th grade level, while NIDA also found an increase at the 12th grade. Neither found statistically significant increases alcohol use at any level. Statistically significant increases marijuana use were found at all three grade levels by both PRIDE and NIDA. Statistically significant increases in hallucinogen was found by PRIDE and NIDA for twelfth grade students. Although the sampling, methods for data collection and instruments were different, there was a remarkable similarity between findings the PRIDE national summary data and the NIDA studies. The similarity of findings supports the validity of the PRIDE Questionnaire and associated survey procedures.

TABLE 1
PRIDE NATIONAL SURVEY AND NIDA MONITORING THE FUTURE
COMPARISONS FOR 1991-92 AND 1992-93 SCHOOL YEARS

=====								
Annual Use								
	Cigarettes		Alcohol		Marijuana		Hallucinogens	
	91-92	92-93	91-92	92-93	91-92	92-93	91-92	92-93
8 th Grade								
PRIDE	31.5	32.0	50.7	49.7	7.3	8.8	2.4	2.7
NIDA	-	-	53.7	51.6	7.2	9.2	2.5	2.6
10 th Grade								
PRIDE	37.9	37.9	65.9	64.8	16.2	18.0	5.3	5.3
NIDA	-	-	70.2	69.3	15.2	19.2	4.3	4.7
12 th Grade								
PRIDE	40.0	42.0	74.3	73.3	21.8	25.0	7.1	8.0
NIDA	-	-	76.8	76.0	21.9	26.0	5.9	7.4
<hr/>								
30 Day Use								
	Cigarettes		Alcohol		Marijuana		Hallucinogens	
	91-92	92-93	91-92	92-93	91-92	92-93	91-92	92-93
8 th Grade								
PRIDE	18.2	18.1	22.1	20.3	4.0	5.2	1.4	1.7
NIDA	15.5	16.7	26.1	26.2	3.7	5.1	1.1	1.2
10 th Grade								
PRIDE	25.6	24.8	37.0	35.2	9.2	10.7	2.9	2.8
NIDA	21.5	24.7	42.8	41.5	8.1	10.9	1.8	1.9
12 th Grade								
PRIDE	28.3	29.9	46.1	45.1	11.8	14.6	3.3	3.8
NIDA	27.8	29.9	51.3	51.0	11.9	15.5	2.1	2.7

Note: The bold numbers indicate a significant change in percentages from 1991-92 to 1993-94.

RELIABILITY

As in the previous developmental study, reliability of the PRIDE Questionnaire and associated survey procedures has been examined utilizing a test-retest procedure.

Data Collection Procedure

In the fall of 1993, a sample of 568 students from the Warren County Kentucky School system were selected to participate in this developmental study. They were administered the PRIDE Questionnaire utilizing PRIDE's standardized instruction procedures two different times approximately one week apart. Student responses for the two administrations were paired anonymously using the techniques described in Craig and Emhoff's report (See Appendix A).

The sample consisted of 47.7 percent males and 52.3 percent females. Ninety-four percent of the sample was white, 3.5 percent black, and 2.5 percent of other ethnic origin. Middle school students (grades 6 through 8) comprised 81.2 percent of the sample with the remaining 8.8 percent mostly from grade 11. Over one- third of the sample had fathers and/or mothers who were college graduates.

Statistical Methods Employed

Three measures of reliability were computed from the test- retest data: 1) correlation of the test results from the first administration to the results of the second administration, 2) the percent of exact agreement to responses from the first administration compared to the second administration, and 3) the percent of major disagreement from the first administration to the second administration. A correlation coefficient, Pearson's r , was computed for each of the items where appropriate. That is, where the data could be assumed continuous and not categorical. The sub- sample used for correlational analyses consisted of those students who responded to all the continuous items in the questionnaire. This procedure was utilized for consistency of item comparison, but resulted in a reduction of the sample to almost half the original size.

The percent of exact agreement was computed by determining the percentage of students who responded exactly the same on both administrations of the questionnaire. The maximum was 100 percent. The percent of major disagreement was computed to determine the percentage of students who responded substantially different on the two administrations. This percentage was computed by counting the number of student responses that varied more than one response category on the two administrations. Ideally, the percentage of major disagreement should be zero or near zero.

Results

The results of the test-retest analyses appear in tables that follow this discussion. They contain the correlations, percent of exact agreement, and percent of major disagreement for each of the sections with the exception of Sections VI and VII. Questions in these sections ask "Where" and "When" do students use drugs and are categorical responses and correlations were not computed for these items.

Section I: PERSONAL AND FAMILY INFORMATION

Responses to items in this section appeared to be highly consistent. The percent of exact agreement was mostly above 95 percent and the percent of major disagreement low for most of the items. However, while the percent of exact agreement are consistent with findings from the previous developmental study, the percent of major disagreement was slightly higher than in the 1987 study. Correlations were high for those items that could be correlated, further expressing the high reliability among these items. See Table 2 for analyses results

Section II: STUDENT INFORMATION

Most items in this section had correlation coefficients above .80, indicating acceptable levels of reliability. Items 7 and 11 failed to reach a correlation of .70. However the percent of exact agreement was 73.9% for item 7 indicating a lower, but acceptable level of correlation. The Items that had the weakest level of consistency according to the percent of exact agreement and percent of major disagreement were 3, 4, 10, 11, 12 and 13. Items 3 and 4 ask students about their school and community activities and while exact agreement was relatively low, the correlation was acceptable at above .80. This suggests that while some students responded differently on the second administration, they did not differ greatly from a linear relationship. Items 10, 11, 12, and 13 deal with student/parent relationships and friends discussion of drugs/alcohol. These items appear to solicit relatively less reliable responses than other items in this section. Although not as severe, a similar problem with consistency was noted in the 1987 study for student/family relationship items (see Appendix A). For the most part, the new items related to violence and student delinquent behavior appeared to produce reliable student responses. Table 3 contains the reliability analyses for Section II.

Section III: WHEN DID YOU FIRST...

The analyses of student responses to items about students' first use of drugs is contained in Table 4. Students responded to these items in a highly consistent manner as indicated by the high percent of exact agreement and relatively low percent of major disagreement indices. Correlation coefficients indicated a strong linear relationship between the first and second administration. These findings are consistent with the 1987 developmental study.

Section IV: WITHIN THE PAST YEAR HOW OFTEN HAVE YOU ...

The data analyses in Table 5 suggest that items dealing with prevalence of use are responded to quite consistently by students. Correlation coefficients indicate a strong linear relationship between the first and second administrations of the questionnaire; the percent of exact agreement is high among items; the percent of major disagreement is relatively low among items. A note of explanation may be necessary for item 6, cocaine use, and item 10, hallucinogen use. These items had a correlation coefficient of 1.00, a perfect correlation, yet the percent of exact agreement was 97.8% for item 6 and 97.6% for item 10. As was stated earlier, the sample used for correlation analyses was different than the total sample used in the percent of exact agreement analyses, thus producing this seemingly inconsistent finding.

Section V: WHAT EFFECT DO YOU MOST OFTEN GET WHEN YOU...

Students were asked to respond to the levels of intoxication they reached if they used various drugs and alcoholic beverages. The reliability indices indicated that students responded to these items in a consistent manner. Only one drug category "wine coolers" produced a correlation coefficient below .80, with most correlation coefficients above .85. Percent of exact agreement and percent of major disagreement also indicated highly consistent responses. See Table 6 for analyses results.

Section VIII: HOW MANY OF YOUR FRIENDS ...

Perceived friends' use of the various drug and alcohol categories had acceptable correlation coefficients with all but two, "wine coolers" (.7743) and "inhalants," (.7882) above .80. Exact agreement differed across categories. Friends' use of cigarettes and alcoholic beverages had exact agreement percentages in the mid to upper 70's and major disagreement percentages about 4 percent. Other drug categories were more consistent with exact agreement mostly in the 90's and major disagreement around 2 percent. Table 7 presents these statistics.

Section IX: DO YOU FEEL THE FOLLOWING DRUGS ARE HARMFUL TO YOUR HEALTH?

Students' responses to items in this section were not as reliable as items contained in other sections of the questionnaire. Correlation coefficients were for the most part ranged from .50 to .60 suggesting that these items had somewhat lower consistency of response. This inconsistency was also reflected in the percent of exact agreement and percent of major disagreement findings. Similar inconsistencies were found in the 1987 development study. One explanation for the low reliability indices may be the order of the item response set. The responses are ordered such that "NO" is the first response, "SOMETIMES" the second response, "VERY MUCH" the third, and "DON'T KNOW" the last. The numerical values assigned to these responses are used to compute the reliability indices range from "1" to "4," respectively. Thus, a student responding to "NO" or "Sometimes" on the first administration may respond to "DON'T KNOW" on the second administration, the opposite end of the scale. That is, students may be more prone to answer that drugs are sometimes harmful during one test period and don't know if drugs are harmful on the other since these may be perceived as somewhat similar responses. This would produce responses that are over 1 unit apart resulting in lower than expected correlations, lower percent of agreement percentages, and higher percent of major disagreement percentages. See Table 8 for these reliability indices.

Even with the questionable reliability indices both with this study and the 1987 study, items in this section were considered important enough to be left as part of the data set obtained by the PRIDE Questionnaire. Students' perception of the harmful effects, particularly the percentage that feel drugs are "VERY MUCH" harmful, is useful information for parents, school, and community leaders concerned with adolescent drug use.

Section X: HOW EASY IS IT TO GET

Similar to items in Section IX, questions that dealt with availability of drugs had questionable reliability indices. While correlation coefficients were mostly around .60, the percent of exact agreement percentages were about .70 and the percentage of major disagreement ranged from about 15 to 20 percent. The same explanation for the low reliability indices given in Section IX can be applied to Section X. The order of the responses and associated numerical value assigned for each item in section X are as follows:

CANNOT GET	=	1
FAIRLY DIFFICULT	=	2
FAIRLY EASY	=	3
VERY EASY	=	4
DON'T KNOW	=	5

Students' responses to "CANNOT GET" and "DON'T KNOW" may have produced the inconsistency between the first and second administration of the questionnaire. Since these response categories are on the opposite end of the scale, lower than expected correlations would occur, lower than expected percentages of exact agreement would be produced, and higher than expected percentages of major disagreement would be produced. This argument is supported by the high percentages of major disagreement found for all drug categories. However, the students who report that it is "FAIRLY EASY" or "VERY EASY" to get drugs and alcoholic beverages may be relatively consistent between administrations. Since this Section provides information about the percent of students for which drugs and alcohol are readily available, information critical for assessing prevention programs, this Section was retained as part of the data set produced by the PRIDE Questionnaire.

Summary

Reliability indices indicated that items in Sections I through V and Section VIII of the PRIDE Questionnaire produced reasonable and acceptable consistency of response. The indices were particularly supportive for the drug use sections on first use, frequency of use, and intoxicating effects of use. And, these findings were confirmed by the 1987 developmental study by Craig and-Emshoff. The items in section IX and X dealing with perceived harmfulness and availability of drugs and alcoholic beverages were not as reliable as items in other sections. Possible reasons for the low reliability indices was discussed under each Section. Additional analyses of these reliability data are needed to confirm the suppositions discussed and quite conceivably establish a higher level of consistency of response than the present reliability indices for Sections XI and X indicate.

TABLE 2
RELIABILITY ESTIMATES FOR SECTION I:
PERSONAL AND FAMILY INFORMATION

Item	Correlation	%Exact Agreement	%Major Disagreement
1. Ethnic Origin	--	97.6	1.1
2. Sex	--	99.2	0.0
3. Age	.9494	95.5	2.3
4. Grade	.9772	96.9	2.6
5. Parents' Status	--	97.1	2.2
6. Your Job	--	94.8	0.9
7a. Father's Job	--	96.6	1.3
7b. Mother's Job	--	94.3	1.4
8a. Father's Educ.	.9858	95.2	1.8
8b. Mother's Educ.	.9755	93.4	2.0

TABLE 3
RELIABILITY ESTIMATES FOR SECTION II:
STUDENT INFORMATION

Item	Correlation	%Exact Agreement	%Major Disagreement
1. Good Grades	.8380	76.1	2.8
2. Trouble at School	.8188	75.6	5.0
3. School Activities	.8419	63.6	10.5
4. Community Activities	.8118	63.3	11.6
5. Church/Synagogue	.9075	74.2	4.5
6. Take Gun To School	.9459	96.1	1.9
7. Afraid of Student	.6581	73.9	7.2
8. Hurt by Student	.7209	85.1	3.6
9. Threatened a Student	.6834	81.6	5.0
10. Parents Talk to You	.8064	58.0	9.5
11. Friend Talk to You	.6912	59.7	12.4
12. Parents Set Rules	.7049	60.4	12.1
13. Parents Punish You	.7691	61.4	9.0
14. Trouble with Police	.8351	91.3	2.6
15. Gang Activities	.7791	91.0	3.9
16. Thought About Suicide	.8536	87.9	4.2

TABLE 4
RELIABILITY ESTIMATES .FOR SECTION III:
WHEN DID YOU FIRST

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Smoke Cigarettes	.9297	88.7	3.5
2. Drink Beer	.8681	88.6	4.2
3. Drink Wine Coolers	.8485	85.9	7.7
4. Drink Liquor	.8296	88.7	6.4
5. Smoke Marijuana	.9717	95.8	1.7
6. Use Cocaine	.8920	97.6	1.5
7. Use Uppers	.8075	96.2	2.5
8. Use Inhalants	.8882	94.3	2.4
9. Use Hallucinogens	.9381	97.6	1.3

TABLE 5
RELIABILITY ESTIMATES FOR SECTION IV:
WITHIN THE PAST YEAR HOW OFTEN HAVE YOU

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Smoke Cigarettes	.8744	86.5	7.1
2. Drink Beer	.9090	85.0	5.0
3. Drink Wine Coolers	.8671	83.3	5.4
4. Drink Liquor	.8459	86.5	5.6
5. Smoke Marijuana	.9493	93.6	3.3
6. Use Cocaine	1.000	97.8	2.2
7. Use Uppers	.9374	94.9	2.9
8. Use Downers	.9413	96.7	2.9
9. Use Inhalants	.9268	94.0	3.3
10. Use Hallucinogens	1.000	97.6	1.9
11. Use Other Drugs	.9022	95.9	3.4

TABLE 6
RELIABILITY ESTIMATES FOR SECTION V:
WHAT EFFECT DO YOU MOST OFTEN GET WHEN YOU

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Drink Beer	.8823	88.1	2.7
2. Drink Wine Coolers	.7849	86.1	2.9
3. Drink Liquor	.8989	88.8	3.3
4. Smoke Marijuana	.9583	93.7	2.8
5. Use Cocaine	.9816	97.0	1.5
6. Use Uppers	.8036	95.2	2.6
7. Use Downers	.9217	96.4	1.7
8. Use Inhalants	.8661	94.0	2.8
9. Use Hallucinogens	.8597	97.0	1.9
10. Use Other Drugs	.9133	95.1	1.7

TABLE 7
RELIABILITY ESTIMATES FOR SECTION VIII:
HOW MANY OF YOUR FRIENDS

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Smoke Cigarettes	.8151	76.5	2.9
2. Drink Beer	.8221	74.4	4.1
3. Drink Wine Coolers	.7743	74.2	4.6
4. Drink Liquor	.8459	78.7	4.5
5. Smoke Marijuana	.8604	84.7	3.4
6. Use Cocaine	.9268	92.7	2.0
7. Use Uppers	.8687	91.0	2.1
8. Use Downers	.8930	93.1	1.7
9. Use Inhalants	.7882	89.1	2.8
10. Use Hallucinogens	.9228	93.6	1.5
11. Use Other Drugs	.8641	97.3	2.7

TABLE 8
RELIABILITY ESTIMATES FOR SECTION IX:
DO YOU FEEL THE FOLLOWING DRUGS ARE HARMFUL TO YOUR HEALTH?

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Cigarettes	.5280	75.6	8.9
2. Beer	.5512	70.2	10.4
3. Wine Coolers	.6509	68.8	12.4
4. Liquor	.5526	72.9	10.7
5. Marijuana	.5289	76.7	11.8
6. Cocaine	.4915	79.2	11.4
7. Uppers	.5489	74.4	11.2
8. Downers	.4898	73.8	12.0
9. Inhalants	.5232	73.3	11.1
10. Hallucinogens	.3648	75.0	11.6
11 Other Drugs	.9133	95.1	1.7

TABLE 9
RELIABILITY ESTIMATES FOR SECTION X:
HOW EASY IS IT TO GET?

Item	Correlation	% Exact Agreement	% Major Disagreement
1. Beer	.6033	67.8	15.1
2. Wine Coolers	.5826	67.8	15.9
3. Liquor	.5464	67.5	18.0
4. Marijuana	.5753	70.6	19.0
5. Cocaine	.6145	71.3	21.3
6. Uppers	.6170	73.1	19.5
7. Downers	.6353	73.1	19.1
8. Inhalants	.5915	70.5	20.2
9. Hallucinogens	.6354	73.6	19.0
11. Other Drugs	.5679	71.8	19.9

APPENDIX A

TECHNICAL REPORT # 1 The PRIDE Questionnaire for Grades 6-12 Developmental Study

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The PRIDE Questionnaire for Grades 6 -12

The PRIDE Questionnaire for Grades 6 -12 (formerly called the PRIDE Drug Usage Prevalence Questionnaire) was originally designed to assist parent groups, schools, and communities in assessing the nature and extent of adolescent drug use in their local communities. The items on the instrument gather information regarding the family (e.g., number of brothers/sisters), the personal characteristics of the student (e.g., age, grade), and general behaviors or lifestyles of the student (e.g., whether they drive a car, listen to rock music). In addition, information is obtained regarding the drugs used, how often the drugs are used, age of first use, effect of use, when and where drugs and alcohol are used, ease of obtaining drugs, pressure from peers to use, and perceived danger regarding the use of particular drugs on their health. The Questionnaire is printed on a machine-readable form for use with adolescents in grades 6 through 12. The directions for the administration of the Questionnaire are simple and easy to follow, allowing for completion of the form in 15 to 20 minutes by most students in this grade range.

Validity

The validity of an instrument is concerned with what the instrument measures and how well it does so. A valid instrument measures what it purports to measure. As examples, a spelling test should measure spelling skills, and a drug usage prevalence questionnaire should assess prevalence and patterns of drug use. While it is especially difficult to assess the validity of a self-report instrument soliciting information regarding illegal behavior, the validity of the Questionnaire has been examined from the perspective of its content validity and its construct validity.

Content Validity

The content validity of an instrument is based on the systematic examination of the content of the instrument to determine whether the instrument contains a representative sample of the behavior the instrument is designed to assess. In this regard the Questionnaire was originally created (and is periodically updated) by systematically reviewing the available research literature regarding the nature and extent of adolescent drug abuse to insure that major aspects have been (and continue to be) adequately covered by the items of the Questionnaire. Additional judgments of the adequacy of the items as being representative have been (and continue to be) conducted via periodic review of the instrument by groups of prevention practitioners and high school students.

Construct Validity

The construct validity of an instrument refers to the extent to which an instrument measures a theoretical construct such as intelligence or anxiety. And, while construct validity of an Instrument requires the gradual accumulation of information from a variety of sources, correlations between instruments purporting or designed to measure the same things are commonly examined to provide evidence of validity. Thus, two intelligence tests should produce scores that are highly correlated to each other. The extent to which they do not indicates the two tests measure different things. In the classical example of construct validity, two instruments would be given to the same respondents and paired scores would be correlated to determine the degree to which the two instruments were measuring the same construct. Since this

procedure was not feasible in determining construct validity of the PRIDE Questionnaire due to 1) logistical considerations of such procedures, 2) the sensitive nature of the constructs being measured, and 3) the lack of suitable instrumentation of known validity that measure the constructs under consideration, an alternative procedure was implemented to estimate construct validity by using existing data obtained from a national study of high school seniors.

One of the few sources of data available that could be used to assess the construct validity of the PRIDE Questionnaire was the NIDA "high school seniors" studies conducted annually by the Institute for Social Research located at the University of Michigan (e.g., Johnson et al., 1986, Johnson et al., 1987). To assess construct validity, comparisons were made of findings from the 1984-85 and 1985-86 administration of the PRIDE Questionnaire to findings reported in the NIDA studies for equivalent years (1985 and 1986, respectively). Of course, items were not exactly alike on both questionnaires and the methods of obtaining respondents were different. The NIDA studies utilized a rather complex national sampling design to obtain respondents, while the PRIDE Questionnaire annual summaries represent responses from students in those communities that elected to utilize the PRIDE Questionnaire during those particular school years. The NIDA studies were of high school seniors only, thus limiting these comparisons to only this level student. Table 2.1 contains these, summary data.

Both NIDA national data and NIDA data from the Southern region were used as contrasts to the PRIDE Questionnaire summary findings. The PRIDE Questionnaire has been utilized more by communities in the southern region states (as defined by NIDA) than in other regions of the country. For example, about 75% of the students in the 1985-1986 PRIDE sample were from states in the NIDA Southern region. Therefore, the PRIDE Questionnaire summary data should be more similar to NIDA's Southern region than to the NIDA national estimates.

The category of "Alcohol" was treated differently in the NIDA and PRIDE studies. NIDA used alcohol as a generic term where PRIDE broke alcohol down into the categories "Beer/Wine" and "Liquor." (As has been noted earlier, the category "Beer/Wine" has been separated into "Beer" and "Wine coolers" beginning with the 1986-87 version of the PRIDE Questionnaire.) Differences were also noted for the categories of stimulant and depressant drugs. These differences are given in Table 2.1 as they appeared in the reports of the studies.

Comparisons of estimates of alcohol use indicated that the PRIDE questionnaire gave a more conservative estimate than the NIDA estimate, although this discrepancy may be partially accounted for by the different categories of alcohol. For example, if the categories of beer/wine and liquor were combined, a slight increase would be reflected in the PRIDE Questionnaire alcohol use estimate. Thus, the estimates for high school seniors' use of alcohol are reasonably compatible.

PRIDE Questionnaire summary data estimated 1984-85 high school seniors' use of marijuana as 34%, falling between the 1985 NIDA national and Southern region estimates of 40.6% and 31.0%, respectively. A similar pattern was found for the following year. These data appear to be quite compatible since the Southern region estimates of drug use prevalence are the lowest of the four NIDA regions; thus, estimates of marijuana use by the PRIDE Questionnaire annual summary data would be expected to fall between the national and Southern region estimates.

Consistent and similar patterns were found for cocaine. PRIDE estimated cocaine use in 1984-85 and 1985-86 was 10% and 8%, respectively. In both years the estimate fell between NIDA's national and Southern regional estimates.

Use of stimulants (NIDA) or uppers (PRIDE) was similar for 1984-85 with PRIDE data and NIDA Southern region data at levels of 13% and 12.8%, respectively. The PRIDE estimates were slightly lower for 1985-86 than either national or Southern regional estimates. However, the PRIDE estimates of 7% use of downers (depressants) was higher than NIDA's national or Southern region estimates of sedative or tranquilizer use. These differences quite small and may be due to the more specific breakdown of these categories of drugs in the NIDA questionnaire . The data for stimulants and depressants may not be as comparable as other categories of drugs.

Two other categories of drugs, "inhalants" and "hallucinogens," were added to the 1986-87 version of the PRIDE Questionnaire, but the 1987 NIDA estimates are not available at this time for comparison. In addition, questions regarding "friends' use" and "availability" of various drugs will be compared for the 1986-87 data set. Analyses of these categories will be made as data become available.

In summary, information obtained from the PRIDE Questionnaire has been shown to have content and construct validity for use in school and community settings. The data in Table 2.1 that compare PRIDE Questionnaire prevalence of use estimates with findings from the NIDA studies of high school seniors strongly support the contention of construct validity. Comparisons of this type will continue to be made as data become available. These comparisons are anticipated to strengthen the validity of both the NIDA and PRIDE systems for monitoring prevalence of drug use.

Reliability

The reliability of the PRIDE Drug Usage Prevalence Questionnaire has been examined by obtaining test-retest and internal consistency data.

Data Collection Procedures

In the fall of 1986, a group of 304 6th-12th grade students in two different school districts completed the Questionnaire using the standard instructions for responding. Approximately one week later, the same students completed the Questionnaire again. Individuals who were not employees of either school district administered the Questionnaire, assisted by the teachers in whose classrooms the data were being collected.

Each student's Questionnaires were paired anonymously, and the Questionnaire completed during the first administration was separated from the Questionnaire completed during the second. This was accomplished by using the following procedure. First, the students were asked, using the standard administration instructions, to complete the Questionnaire. After the students had completed the Questionnaire, they were instructed to seal their completed Questionnaires in an unmarked envelope with which they were provided. Next, each student placed the unmarked envelope in a larger envelope, sealed the larger envelope, and wrote his/her name on the outside. Approximately one week later, each student completed the Questionnaire a second time. When finished, the large envelope was returned to each student with the student's name on it containing the unmarked envelope with the Questionnaire he/she completed the first time. Next, the students were instructed to open the large envelope, to remove the unmarked envelope, and to discard the large envelope. The students were then asked to place the unmarked envelope and the second Questionnaire (i.e., the one they had just completed) in another large plain envelope and to seal it. Once this step was completed, the envelopes were collected from the students and the questionnaire administrator thanked the

students and teacher for their cooperation and assistance and left the classroom.

Prior to scoring and data processing, the envelopes were opened and each questionnaire was coded with a sequence number (i.e., first or second administration of the Questionnaire) and an arbitrary student identification number. Each questionnaire was scanned to insure that students had completed all items and there were no stray marks. Questionnaires for students who had been present for only one of the administrations of the Questionnaire were discarded.

Statistical Methods Employed

The essence of the test-retest measure of reliability is to assess the degree to which individuals respond to an instrument the same way on two different occasions. That is, if the same individuals respond to the same items in the same way on two different occasions, the instrument is considered to be a stable and accurate measure of the information of interest. Therefore, if an instrument demonstrates test-retest reliability, differences between/among respondents are likely to be real and not a function of other factors (e.g., differential ability to remember the items and how they responded, generally termed error.)

Four measures of the test-retest reliability of the Questionnaire were computed to assess the stability of the students' responses to items on the two administrations of the Questionnaire. The first measure was the Pearson product-moment correlation coefficient (r) which is a statistical measure of the relationship between two variables. In general, the larger the correlation value (whose absolute value ranges from 0.00 to 1.00), the more highly one variable is related to another. The statistic is based on certain assumptions, deviations from which limit its interpretability. (A more complete discussion of correlation may be found in most basic statistics textbooks.)

The second measure of the test-retest reliability of the questionnaire computed was the difference between the average or mean item response value for each item for each administration of the Questionnaire. In theory, if the students are responding similarly on the two administrations of the Questionnaire, the mean difference should be zero or very close to it for each item.

The third measure employed was the percentage of exact agreement on each item of the Questionnaire. This was calculated by determining the number of students who responded to an item in exactly the same manner on both administrations of the Questionnaire. The maximum value possible is 100%.

The last measure computed was the percentage of students who responded with substantially different responses to the same item on both administrations of the Questionnaire. This was termed the percentage of major disagreement and was determined by counting the number of responses per item that varied by more than one response category between the two administrations of the Questionnaire. Ideally, the percentage of major disagreement should be zero, or very close to it.

Results

The results based on the statistics that have been computed for each of the sections of the Questionnaire are presented in the tables that follow. In general, the data indicate the Questionnaire is a stable, reliable instrument. Brief descriptive comments are presented for each table.

Student and parent characteristics sections. The data for the student and parent characteristics sections of the Questionnaire (refer to Table 2) indicate that the students were highly reliable in their completion of these items. This is perhaps best indicated by the percentage of exact agreement between the two administrations of the Questionnaire which was found to range from a low of 92% exact agreement to a high of 100%, with most found to be 95% exact agreement or better-

Student behavior section. The stability of the responses to the items in the student behavior section of the Questionnaire is reflected in the data reported in Table 3. In general, the responses were not as consistent as those observed for the student and parent characteristics section of the Questionnaire! The percentage of exact agreement was found to be lower and the percentage of major disagreement higher. However, the relatively high correlations between the two administrations of the Questionnaire as well as the small mean differences indicate that the stability of response was still high. Some care should be exercised in analyzing these data in conjunction with other data obtained from different portions of the Questionnaire.

Age of first use section. The consistency of responses to the items in the age of first use section of the Questionnaire indicated a high stability of response was exhibited by the students (refer to Table 4). In general, the correlations were high and the mean differences low, indicating high reliability. In addition, the percentage of exact agreement and the percentage of major disagreement for each item indicated the students were stable in making their responses. The wine category was found to be somewhat less reliable than the others. This may have been due to the fact that wine coolers was not an available response category, and there may have been some confusion on the part of the students as to how to indicate age of first use of wine coolers.

Frequency of use section. The frequency of use section of the Questionnaire was found to be highly stable (refer to Table 5). The correlations and mean differences both reflect the fact that the responses to the items contained in this section are reliably stable. And, while a correlation might be somewhat low for a particular item (e.g., Inhalants = .74), the corresponding percentage of exact agreement for that item was quite high (i.e., 98%). This apparent discrepancy is a statistical artifact produced by the low number of students who report using inhalants and the resulting reduction in variance in responses to that item. Thus, for the low frequency of use items, such as inhalants and hallucinogens, the percentage of exact agreement is probably a better indicator of the stability of the students' responses to the item.

Effects of use section. The data pertaining to the stability of the students' responses to effects of the use section of the Questionnaire are summarized in Table 6. These data indicate that the students' responses are reliable. The percentages of exact agreement and the correlations for the items are all high, while the mean differences and percentages of major disagreement are all low. Again, for the low frequency of use substances (e.g., inhalants and hallucinogens), the constrained variance of responses artificially lowers the correlation. In these instances, the percentage of exact agreement is a better indicator of the students' stability of responding.

Where and when section. The percentages of agreement for the sections of the Questionnaire that assess when and where students report drug use occurs (refer to Tables 7 and 8) indicate that the consistency of responding as reflected in the percentages of exact agreement is very high (i.e., 90% exact agreement in almost all instances). This means that, for almost all items in these two sections, 90% or more of the students responded exactly the same way on both administrations of the Questionnaire.

Use by friends section. The reliability of the items in the use by friends section of the Questionnaire was found to be at a lower but still acceptable level than for the preceding sections of the Questionnaire. There are several possibilities as to why this occurred. The students may have been somewhat less sure of their friends' usage patterns which resulted in variation of their responses from one time to the next.

Perceived harmfulness and ease of obtaining sections. The last two sections of the Questionnaire, the perceived harmfulness and the ease of obtaining drugs sections, proved to be the least reliable sections. In both instances, the correlations and the percentages of exact agreement were found to be lower than in other sections. And, while the percentages of exact agreement indicate approximately three of every four students responded exactly the same way to the items of the sections on both administrations of the Questionnaire, the percentages of major disagreement indicate that a fair number of students responded to the items much differently on the two administrations of the Questionnaire. Therefore, care should be taken in the interpretation of data obtained from this portion of the Questionnaire.

Internal Consistency

Another way to assess the reliability of the Questionnaire is to determine the extent to which students respond consistently to items within the Questionnaire that reflect the same behavior. Specifically, students indicating no use of a substance in the frequency section of the Questionnaire should indicate no use in the effects of use section. That is, if a student indicates no use of beer in the frequency of use section of the Questionnaire, then they should indicate no use of beer in the effects of use section. Stated in another way, a student responding with some use in the frequency of use section should not report no use in the effects section or indicate no use in the frequency of use section and report some effects of use in the effects section. The extent to which students do respond in this manner is reported in Table 12. While the percentages of inconsistent responding are fairly large for beer (i.e., 8% and 6%) and wine (i.e., 6% and 6%), the findings indicate that the students were basically internally consistent in their responding to these items.

Table 1. Contrast of 1985-86 high school seniors' prevalence of drug use for NIDA national and southern regional data and PRIDE summary data.

	Nat. NIDA	1984-1985 South NIDA	PRIDE	Nat. NIDA	1985-1986 South NIDA	PRIDE
Alcohol #	85.6	81.2	N/A	84.5	78.4	N/A
Beer/Wine	N/A	N/A	75.0	N/A	N/A	82.0
Liquor	N/A	N/A	64.0	N/A	N/A	68.0
Marijuana	40.6	31.0	34.0	38.8	31.7	32.0
Cocaine	13.1	7.5	10.0	12.7	7.1	8.0
Stimulants	15.8	12.8		13.4	11.5	N/A
Uppers			13.0			
Sedatives	5.8	5.5	N/A	5.2	5.1	N/A
Tranquilizers	6.1	5.9	N/A	5.8	6.3	N/A
Downers	N/A	N/A	7.0	N/A	N/A	6.0

* NIDA Studies: years 1985 and 1986

PRIDE Annual Summaries: School years 1984-85 and 1985-86

NIDA Studies reported total use of alcohol

PRIDE Studies reported use of alcohol by category

! Category adjusted for inappropriate reporting of non-prescription stimulants for NIDA data

Table 2. PRIDE Questionnaire reliability data pertaining to the student and parent characteristics sections of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Ethnic Origin	---	---	100%	0%
Sex	---	---	99%	0%
Age	.96	-.01	96%	0%
Grade	.99	+.00	99%	0%
Parents Live Together	.96	+.01	98%	0%
Father Has Job	.87	+.09	96%	1%
Mother Has Job	.96	+.07	95%	1%
You Have Job	.91	+.00	97%	0%
Father's Ed Level	.96	+.01	92%	1%
Mother's Ed Level	.96	+.01	95%	1%

Table 3. PRIDE Drug Usage Prevalence Questionnaire
reliability data pertaining to the student behavior section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Good Grades	.79	-.11	75%	2%
Get Into Trouble	.70	+.06	76%	3%
Play On Team	.87	+.01	69%	7%
Attend Church Or Synagogue	.87	-.09	78%	4%
Drive A Car	.93	+.07	80%	4%
Ride In Car With Friends	.83	-.04	65%	7%
Date	.91	-.07	74%	4%
Bring friends Home	.75	+.10	61%	6%
Talk To Parents About Problems	.77	-.13	64%	6%
Talk To Friends About Problems	.78	-.15	58%	7%
Watch Rock Videos	.86	-.13	64%	3%
Do You Like The Way You Look	.77	-.02	69%	4%
Are Your Parents Strict With You	.70	-.09	64%	6%
Do You Feel Lonely	.75	-.01	64%	6%

Table 4. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the age of first use section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Cigarettes	.90	-.01	85%	5%
Beer	.88	-.01	82%	6%
Wine*	.87	-.02	80%	8%
Liquor	.92	-.03	87%	4%
Marijuana	.95	-.04	93%	2%
Cocaine	.88	-.01	97%	1%
Uppers	.85	-.01	96%	2%
Downers	.89	+.05	97%	1%
Inhalants	.89	-.01	97%	1%
Hallucinogens	.81	-.03	98%	1%
Other Drugs	.86	-.02	96%	1%

* Did not include wine coolers

Table 5. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the frequency of use section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Cigarettes	.94	+.01	86%	4%
Beer	.94	+.02	81%	4%
Wine*	.87	+.10	80%	6%
Liquor	.87	+.02	77%	6%
Marijuana	.93	+.01	90%	2%
Cocaine	.90	-.01	97%	0%
Uppers	.97	+.02	95%	2%
Downers	.88	+.00	96%	1%
Inhalants	.74	+.03	98%	1%
Hallucinogens	.83	-.01	98%	1%
Other Drugs	.73	-.02	96%	2%

* Did not include wine coolers

Table 6. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the effects of use section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Beer	.90	+.04	83%	2%
Wine*	.84	+.04	86%	3%
Liquor	.91	+.02	86%	3%
Marijuana	.92	-.03	94%	2%
Cocaine	.89	-.01	97%	1%
Uppers	.75	+.00	96%	2%
Downers	.80	-.02	96%	1%
Inhalents	.81	+.00	97%	1%
Hallucinogens	.73	-.02	97%	2%
Other Drugs	.82	-.02	97%	1%

* Did not include wine coolers

Table 7. PRIDE Drug Usage Prevalence Questionnaire percentage of exact agreement reliability data pertaining to the where use section of the instrument

Item	Do Not Use	At Home	At School	In a Car	Friend's Home	Other
Cigarattes	92%	93%	97%	95%	93%	88%
Beer	94%	91%	99%	95%	88%	83%
Wine*	92%	92%	99%	97%	97%	90%
Liquor	92%	94%	99%	96%	90%	90%
Marijuana	93%	98%	99%	97%	96%	94%
Cocaine	94%	99%	99%	99%	99%	99%
Uppers	93%	98%	99%	98%	99%	98%
Downers	94%	99%	99%	100%	99%	99%
Inhalents	93%	98%	99%	100%	99%	100%
Hallucinogens	93%	100%	99%	99%	99%	99%
Other Drugs	93%	100%	99%	99%	99%	99%

* Did not include wine coolers

Table 8. PRIDE.Drug Usage Prevalence Questionnaire percentage of exact agreement reliability data pertaining to the when used section of the instrument

Item	Do Not Use	Before School	During School	After School	Week Nights
Cigarattes	91%	97%	99%	93%	92%
Beer	92%	98%	99%	95%	93%
Wine*	90%	98%	100%	95%	95%
Liquor	93%	98%	99%	97%	94%
Marijuana	93%	98%	99%	99%	97%
Cocaine	93%	100%	100%	100%	100%
Uppers	91%	99%	99%	98%	98%
Downers	92%	99%	99%	98%	99%
Inhalents	91%	99%	99%	99%	99%
Hallucinogens	91%	99%	99%	99%	99%
Other Drugs	91%	99%	99%	99%	99%

* Did not include wine coolers

Table 9. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the use by friends section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% MajorDisagreement
Cigarattes	.77	+.00	72%	4%
Beer	.86	-.01	74%	2%
Wine*	.80	+.04	72%	3%
Liquor	.83	-.02	71%	3%
Marijuana	.87	-.02	83%	1%
Cocaine	.78	+.02	90%	0%
Uppers	.80	+.06	91%	0%
Downers	.79	+.00	92%	0%
Inhalents	.58	-.01	90%	1%
Hallucinogens	.75	+.01	93%	1%
Other Drugs	.64	-.09	89%	2%

* Did not include wine coolers

Table 10. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the perceived harmfulness section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Cigarettes	.49	-.03	77%	6%
Beer	.52	-.05	72%	8%
Wine*	.59	-.07	70%	8%
Liquor	.49	-.03	70%	7%
Marijuana	.41	-.02	82%	7%
Cocaine	.37	-.02	85%	6%
Uppers	.43	-.04	79%	7%
Downers	.43	-.04	80%	6%
Inhalants	.32	-.03	74%	8%
Hallucinogens	.28	-.01	80%	7%

* Did not include wine coolers

Table 11. PRIDE Drug Usage Prevalence Questionnaire reliability data pertaining to the how easy to get section of the instrument.

Item	Correlation	Mean Difference	% Exact Agreement	% Major Disagreement
Beer	.52	+.09	73%	10%
Wine*	.57	+.09	70%	11%
Liquor	.58	+.12	72%	10%
Marijuana	.61	+.03	75%	13%
Cocaine	.62	+.11	76%	14%
Uppers	.63	+.10	76%	14%
Downers	.63	+.12	76%	15%
Inhalants	.60	+.08	73%	20%
Hallucinogens	.63	+.08	77%	14%
Other Drugs	.62	+.05	75%	17%

* Did not include wine coolers

Table 12. Comparison of responses from frequency of use and effects of use sections on the Questionnaire.

Item	Percentage Indicating No use in Frequency Questions and Some Use In Effects Questions	Percentage Indicating Some Use in Frequency Questions and No Use In Effects Questions
Beer	8%	6%
Wine*	6%	6%
Liquor	4%	3%
Marijuana	2%	2%
Cocaine	4%	1%
Uppers	2%	1%
Downers	1%	1%
Inhalants	1%	1%
Hallucinogens	0%	1%
Other Drugs	1%	1%

* Did not include wine coolers

MEMPHIS STATE UNIVERSITY

MEMPHIS, TENNESSEE 38152

February 8, 1988

Dr. Ronald D. Adams
Parents' Resource Institute for Drug Education
College of Education, Room 427
Western Kentucky University
Bowling Green, KY 42101

Dear Dr. Adams,

My appreciation is expressed to you for the invitation to review the work of you and your colleagues in examining the validity and reliability of the PRIDE Drug Usage Prevalence Questionnaire. Based on a review of the draft materials submitted to me, the comments below address the procedures used to determine the validity and reliability of the questionnaire.

The procedures used to ensure content validity of the questionnaire are well supported in the literature on psychometric methodology and the practice of psychometricians. The systematic review of research literature on adolescent drug abuse for development and subsequent revisions of the instrument is an effective strategy for determining relevant content. Periodic review of the instrument by prevention practitioners and high school students to suggest revisions is a useful complement to the literature review. A suggestion would be to prepare in written form a formalized plan for conducting periodic review by prevention practitioners and high school students. Changes made in the instrument from time to time should be described with reference to the sources of the ideas for the changes (i.e., practitioner and/or student review or literature review).

The procedures described and data presented on construct validity do not represent a typical approach to examine construct validity. Furthermore, the comparative data relate to a small segment of the questionnaire. The procedures are useful, nonetheless, for comparison of the questionnaire with the NIDA instrumentation to provide a traditional basis for inferences about the comparability of the two instruments. The sensitivity of the behavior assessed with the questionnaire would likely preclude the collection of data in a manner that would permit correlational analyses of responses to the two instruments. The strategy employed does provide some limited evidence on the validity of the questionnaire based on group data for selected common items. The nature of the data used and the limited number of common items addressed under construct validity might suggest that a term other than construct validity should apply to this aspect of the validity examination.

The reliability of the Questionnaire was assessed in a highly appropriate manner. An ample number of subjects was used to obtain highly stable estimates of reliability. Creative procedures were used to collect data for examination of the Questionnaire's reliability. The multiple measures of reliability, including the classical test-retest reliability coefficients, provide evidence for viewing reliability from several perspectives. The overall plan for assessing the reliability of the questionnaire is appropriate, impressive, and commendable.

The results of assessing the reliability of the questionnaire are presented in an easily interpreted tabular format with relevant narrative discussion. Where warranted, caveats are

given regarding the reliability of responses to particular items or sections of the instrument. Plausible explanations of lower reliability coefficients (e.g., lower variability of responses) for some items are offered. The usefulness of multiple reliability indicators is apparent in reviewing the data.

The generally lower reliability coefficients for the items in the sections on perceived harmfulness and ease of obtaining drugs may reflect problems arising from the numerical code assigned to the "don't know" response option for each scale. Two alternatives are recommended for consideration. First, the "don't know" response option could be deleted to eliminate the difficulty in determining an appropriate placement of the option on the numerical code scale. Second the "don't know" option could be treated as a "no response" and considered as a missing response in the data analysis. Other alternatives might be explored that would reduce or eliminate potential problems when the response is coded with a numerical value at either extreme of the numerical scale.

In summary, the strategies used to examine the validity and reliability of the Questionnaire are technically and psychometrically sound. The evidence presented suggests that the instrument is valid and reliable to assess the nature and extent of adolescent drug use -the stated purpose for its use.

I commend you and your colleagues on the quality of your work as exemplified by the PRIDE Drug Usage Prevalence Questionnaire. Hopefully, my comments and suggestions will be helpful to you in the further pursuit of your endeavors.

Sincerely,

Harry L. Bowman
Professor/Associate Director

Harry L. Bowman

Position: Professor, Foundations of Education (Research Methodology and Statistics), and Associate Director, Bureau of Educational Research and Services, College of Education, Memphis State University, Memphis, Tennessee (employed at Memphis State University since 1970)

Education: B.A. with major in Mathematics (Union University) and Ed.D. with major in Foundations of Education (George Peabody College)

Job Responsibilities: Teacher of graduate courses on research methodology and statistics, service on scores of doctoral committees as research specialist, director of numerous project and program evaluations (including instrument development) for institutions and agencies, director of statewide test validation studies for state education agency, director of two current projects to develop teacher certification tests and to validate teacher certification tests for state education agency, and service as Executive Secretary for Mid-South Educational Research Associations.

Professional Involvement: Refereed presentations at meetings of Psychology in the Department of Defense Symposia, American Educational Research Association, Mid-South Educational Research Association, and other professional associations; service as elected officer (including President) of Mid-South Educational Research Association; service currently on Board and committees of Southern Association of Colleges and Schools and Chair of an accrediting unit of the Association.

WESTERN KENTUCKY UNIVERSITY
Bowling Green, Kentucky 42101

Memorandum

TO: R. Adams
FROM: Robert Panchyshyn
RE: Readability, PRIDE Questionnaire
DATE: February 12, 1988

I have examined the "PRIDE" Drug Usage Prevalence Questionnaire authored by T. Gleaton and R. Adams for the purpose of estimating the readability of this instrument. Two widely-used readability formulas, Fry and Spache, were used to establish estimated reading difficulty.

Based on the Fry readability formula which incorporates sentence, word and syllable count, readability is estimated to be grade level 4, 5. This formula did not take into account strange or unfamiliar words.

Based on the Spache formula, which incorporates sentence length and the number of words classified as unfamiliar, readability is estimated to be grade level 3.

In the sentence samples taken (first 100 words following "Student Character" for the readability estimate, unfamiliar words included the following: grades, sports, teams, synagogue, date, parents, problems, videos, stricts, cigarettes, and beer. These should not present a problem for most upper elementary grade children.

The instrument also contains the following words (each used 7 times in the questionnaire): marijuana, cocaine, uppers, downers, and hallucinogens. These need special attention in some cases for maximum tool effectiveness. However, my opinion that most children in grade 6 and above, generally are familiar with terms and the instrument is acceptable for that intended target population.

RP/bm

Robert Panchyshyn, Ph.D.
Western Kentucky University
Bowling Green, Kentucky

Robert Panchyshyn, Professor of Education, received his Ph.D. degree in reading and curriculum from the University of Iowa. He is presently teaching reading methods courses at Western Kentucky University and is writing a series of student books for Barnell Loft Publishing Company. He is also author of professional journal articles and has given professional presentations in the United States, Canada, and at the World Reading Congress. Dr. Panchyshyn is an active member of the International Reading Association, presently serving as Chairman of the Honor Society of that organization.