DOCUMENT RESUME

ED 379 545 CG 025 941

AUTHOR Ziegenhorn, Leslie; And Others
TITLE Personality Inventory for Youth: Screening for High-Risk Adolescents.
PUB DATE 12 Aug 94
NOTE 9p.; Paper presented at the Annual Meeting of the American Psychological Association (102nd, Los Angeles, CA, August 12-16, 1994).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Adolescents; Behavior Rating Scales; Depression (Psychology); Family Problems; *High Risk Students; High Schools; High School Students; *Personality Measures; Personality Traits; *Prereferral Intervention; Psychological Patterns; Psychopathology; *Self Destructive Behavior; Substance Abuse

ABSTRACT

An alarming number of adolescents regularly engage in activities that place them at risk for adverse mental and physical health consequences. In addition to risk-taking behaviors, adolescent psychopathology raises concern. Research indicates that the majority of adolescents who are severely emotionally disturbed do not receive any kind of mental health care at any point during their high school years. Responding to the need for validation of a new screening instrument designed to detect at-risk adolescents, this study examined the scope and clinical utility of the Classroom Screening scale (CLASS) of the Personality Inventory for Youth (PIY). Adolescents (n=223) attending a metropolitan Detroit high school completed a variety of self-report measures, including the newly-constructed PIY, and participated in a clinical interview. Analyses included correlational data, sensitivity, specificity, predictive values, and receiver operating characteristic (ROC) curves. The data indicate that CLASS is capable of detecting adolescents at risk for a broad range of difficulties, including psychopathology, psychosocial problems, and risk-taking behaviors. Thus, CLASS may be useful as a global screening measure for clinical or research purposes involving comparable populations. (BF)

PERSONALITY INVENTORY FOR YOUTH: SCREENING FOR HIGH-RISK ADOLESCENTS

Leslie Ziegenhorn
Department of Psychology, Wayne State University
Detroit, Michigan 48202 (313) 577-2800

Angela Tzelepis
Department of Internal Medicine
Wayne State University School of Medicine, Detroit, Michigan

David Lachar
Department of Psychiatry & Behavioral Sciences
University of Texas Medical School at Houston

Howard Schubiner
Department of Internal Medicine
Wayne State University School of Medicine, Detroit, Michigan

Presented at 102nd Annual Convention of the American Psychological Association in Los Angeles, August 1994.

Friday, 8/12/94, 9:00 a.m.

Abstract

Responding to the need for validation of a new screening instrument designed to detect at-risk adolescents, this study examined the scope and clinical utility of the Classroom Screening scale (CLASS) of the Personality Inventory for Youth (PIY). Adolescents (n=223) attending a metropolitan Detroit high school completed a variety of self-report measures, including the newly-constructed PIY, and participated in a clinical interview. Analyses included correlational data, sensitivity, specificity, predictive values, and receiver operating characteristic (ROC) curves. The data indicate that CLASS is capable of detecting adolescents at risk for a broad range of difficulties, including psychopathology, psychosocial problems, and risk-taking behaviors. Thus, CLASS may be useful as a global screening measure for clinical or research purposes involving comparable populations.

Introduction

An alarming number of adolescents regularly engage in activities that place them at risk for adverse mental and physical health consequences. Research indicates that about 50% of the nation's approximately 28 million teenagers are at moderate-to-high risk due to a variety of behaviors that can result in irretrievable, lifelong consequences (Dryfoos, 1990; Dougherty, 1993; Institute of Medicine [IOM], 1989). In addition to risk-taking behaviors, adolescent psychopathology raises concern. The majority of adolescents who are severely emotionally disturbed do not receive any kind of mental health care at any point during their high school years (Offer, 1987).

There is clearly a need for a screening measure that is efficient enough to use with large groups of youth and that can reliably detect a broad scope of problems. The Personality Inventory for Youth (PIY: Lachar & Gruber, 1994) may provide such a measure: Specifically, the Classroom Screening scale (CLASS), which is the focus of the study.

The PIY is a recently developed self-report personality inventory reflecting a modified version of the parent-report Personality Inventory for Children (PIC). Normed for students in grades 4 through 12, the 270-item PIY yields four validity measures and nine clinical scales (each divided into two or three subscales). The first 80 items of the PIY comprise the Abbreviated Form. If these preliminary items suggest problems, follow-up assessment, such as administration of the remaining PIY items, is in order. These first 80 items yield validity indicators and a score for CLASS, which is the primary scale of the Abbreviated Form. Designed as a brief classroom survey, CLASS was constructed to detect regular education students who likely demonstrate significant problems in emotional or behavioral adjustment. The PIY items were analyzed to determine which would be most appropriate to comprise CLASS - the 32 items that were selected for CLASS met

specific criteria for inclusion (see Lachar & Gruber, 1994).

Preliminary research on CLASS has focused on its relationship to the clinical scales generated from completion of the full PIY. This study further explores the validity and clinical utility of CLASS by addressing the following questions: Is the CLASS scale of the PIY suitable for detecting nonreferred teenagers at-risk for psychopathology, psychosocial problems, and/or risk-taking behavior? If so, to which areas of risk is CLASS most sensitive? And lastly, which cutoff scores maximize desired test properties?

Method

The 223 subjects were adolescents (mean age 15.8) from a high school in a working class suburb of Detroit. This sample included 45% males and a significant number of minority students (12.7% African American, 5.7% Arabic, 3.5% Asian, 1% Hispanic). For the purposes of this study, the subjects completed the full PIY, Beck Hopelessness Scale (BHS), Reynolds Adolescent Depression Scale (RADS), Conflict Behavior Questionnaire - 20 (CBQ-20), Personal Experience Screening Questionnaire (PESQ), and Young Driver Attitude Scale (YDAS). The BHS and RADS are two commonly used measurements for depressive symptomatology. The CBQ-20 assesses family conflict. The PESQ is a screening tool for substance abuse. The YDAS measures adolescents' driving-related risk taking behaviors and attitudes.

In addition to completing these self-report measures, each subject was interviewed by a psychologist using an expanded version of the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS). After the clinical interview, the psychologists rated the subjects for degree of risk for each of 13 areas. These areas include: depression (DEP), anxiety (ANX), psychosis (PSYCH), conduct disorder (CON), alcohol abuse (ALCH), drug abuse (DRUG), cigarette use (CIG), pregnancy risk (PREG), contraction of sexually transmitted diseases (STD), direct exposure to or involvement in acts of violence (VIO), automobile accidents (AUTO), academic difficulties (ED), and family problems (FAM). The subjects were rated in each of these areas on a scale from 1 to 5, with a score of 1 indicating "no real problem/treatment not indicated" and a score of 5 indicating "extreme problem/treatment absolutely necessary." Interrater reliability was examined: Ranging from .58 to .98, the vast majority of intraclass correlation coefficients were in the high 70's or above.

Pearson correlation coefficients were computed to determine the relationship between CLASS T-scores and the other measures employed in the study. In addition, CLASS's sensitivity, specificity, and predictive values were calculated to assess clinical efficacy at two cutoff scores. Receiver operating characteristic (ROC) curves allowed for an examination of sensitivity and specificity over the full range of cutoff scores. For the sensitivity/specificity analyses, the subjects were dichotomized into low risk groups (ratings of 1, 2, or 3) and high risk groups (ratings of 4 or 5) for each of the risk areas.

Examining sensitivity, specificity, and predictive values are crucial to the analysis and interpretation of tests (Schubiner & Robin, 1990). Sensitivity reflects the probability that the test will identify a problem when the problem truly exists ("true positive"). A test's specificity reflects the likelihood that the test will indicate that there is no problem present in subjects that are truly asymptomatic ("true negative"). Predictive values are derived from a test's sensitivity and specificity. Positive predictive value (PPV) reflects the probability that, given a positive test result, the problem is truly present. Negative predictive value (NPV) indicates the probability that, given a negative test result, there is truly no problem present.

Results

Pearson correlation coefficients between T-scores obtained on CLASS and the other indicators of risk are shown in Table 1. Results indicate moderate correlations (.37 to .47) between CLASS and the BHS, PESQ, and high risk ratings for conduct disorder, cigarette use, violence, academic problems, and family difficulties. Somewhat higher correlations (.54 to .62) were demonstrated between CLASS and the RADS, CBQ-20, and interview ratings of depression. Of the 18 indicators of maladjustment examined in this study, all correlations with CLASS were significant at $p < .01$ except for the psychologists' ratings of risky sexual behavior and risk for automobile accidents.

Table 2 shows the sensitivity, specificity, and the derived predictive values at cutoffs of ≥55 T and ≥60 T. As expected, when the cutoff score is decreased from ≥60 T to ≥55 T, CLASS becomes more sensitive and less specific for all areas of maladjustment. Accordingly, the decrease in cutoff score also yields a decrease in positive predictive values. Negative predictive values generally remain comparable at both cutoff scores.

Discussion

When a test is used for screening purposes, it is usually desirable to maximize sensitivity. CLASS is sensitive to several areas of maladjustment, as reflected in Table 2. Using depression as an example, Table 2 shows a sensitivity index of 86 at a cutoff score of ≥55 T. This indicates that 86% of depressed subjects were detected by CLASS. (The Positive Predictive Value of 33 indicates that of the subjects with elevated CLASS, 33% were depressed. The remaining 67% had elevated scores for reasons other than depression, possibly the other problems assessed.)

In addition to depression, CLASS appears quite sensitive to psychosis, conduct disorder, and academic difficulties. CLASS is moderately sensitive to drug abuse, cigarette smoking, violence, and family conflict. These analyses of sensitivity suggest that CLASS may be limited in detecting problems associated with anxiety, alcohol abuse, risky sexual behavior, and motor vehicle safety.

The results of this work suggest that - because it is important to maximize sensitivity for the purposes of screening - a cutoff of ≥55 T may be optimal when using CLASS as a screening tool for the risk domains examined in this study. However, the optimal cutoff score chosen by a clinician or researcher depends on his or her specific circumstances, objectives, and resources. Consideration of the sensitivity, specificity, and predictive values of CLASS (as shown in Table 2), may assist the user in clarifying the costs and benefits of using a given cutoff score. It should be noted that the data in Table 2 were derived from subjects whose anonymity was assured by the researchers. The manner in which students respond to the PIY may change when completing it for purposes other than research.

As a global screening scale, CLASS is more suitable for detecting some types of problems than others. However, overall, CLASS is capable of detecting a broad scope of difficulties, including both internalizing and externalizing problems in this nonreferred adolescent population. There are few, if any, other global screening instruments that have been empirically validated. Thus, the Abbreviated Form of the PIY, of which CLASS is the primary scale, may serve as a valuable resource for a variety of institutions, clinicians, and researchers devoted to detecting adolescents in need of services. The success of this preliminary investigation provides support for CLASS's efficacy and warrants further research in this area.

References

Dougherty, D. M. (1993). Adolescent health: Reflections on a report to the U.S. Congress. American Psychologist, 48, 193-201.

Dryfoos, J. G. (Ed.). (1990). Adolescents at risk: Prevalence and prevention. New York: Oxford University Press.

Institute of Medicine. (1989). Research on children and adolescents with mental, behavioral, and developmental disorders. Washington, DC: National Academy Press.

Lachar, D., & Gruber, C. P. (1994). A manual for the Personality Inventory or Youth (PIY): A self-report companion to the Personality Inventory for Children (PIC). Los Angeles: Western Psychological Services.

Offer, D. (1987). In defense of adolescents. (1987). Journal of the American Medical Association, 257, 3407-3408.

Schubiner, H. & Robin, A. (1990). Screening adolescents for depression and parent-teenager conflict in an ambulatory medical setting: a preliminary investigation. Pediatrics, 85, 813-818.

TABLE 1. Pearson Correlation Coefficients between the Classroom Screening Scale (CLASS) and Other Measures of Maladjustment or Risk

Self-Report Questionnaire	Correlation Coefficient (r)
Beck Hopelessness Scale (BHS)	.47**
Reynolds Adolescent Depression Scale (RADS)	.62**
Conflict Behavior Questionnaire (CBQ-20)	.59**
Personal Experience Screening Questionnaire (PESQ)	.39**
Young Drivers Attitude Scale (YADS)	.25**

Psychologist Ratings Based On Clinical Interview	Correlation Coefficient (r)
Depression (DEP)	.54**
Anxiety (ANX)	.30**
Psychosis (PSYCH)	.22*
Conduct Disorder or Antisocial Behaviors (CON)	.44**
Alcohol Abuse (ALCH)	.23*
Drug Abuse (DRUG)	.25*
Cigarette Use (CIG)	.43**
Risk for Pregnancy (PREG)	.14
Risk for Sexually Transmitted Disease (STD)	.10
Risk for Exposure to Violence (VIO)	.37**
Risk for Automobile Accidents (AUTO)	.04
Academic Difficulties (ED)	.44**
Family Conflict (FAM)	.43**

*$p < .01$
**$p < .001$

TABLE 2. Sensitivity, Specificity, and Predictive Value of the Classroom Screening Scale (CLASS) at Two Cutoff Scores*

High Risk Determined by Psychologist Ratings	CLASS Cutoff at ≥ 55 T (n = 62)				CLASS Cutoff at ≥ 60 T (n = 39)			
	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value
DEP (n = 22)	86	73	33	97	68	85	42	85
ANX (n = 17)	47	67	14	91	41	80	19	92
PSYCH (n = 3)	100	66	5	100	100	79	8	100
CON (n = 8)	88	68	12	99	75	81	17	98
ALCH (n = 34)	44	67	25	82	38	82	36	84
DRUG (n = 3)	67	66	4	99	+	78	+	98
CIG (n = 26)	65	71	30	91	50	83	36	90
PREG (n = 15)	53	67	14	93	47	80	19	94
STD (n = 8)	50	66	7	96	38	79	8	96
VIO (n = 16)	63	68	18	94	56	82	25	95
AUTO (n = 50)	32	63	28	68	24	79	33	70
ED (n = 20)	70	70	25	94	45	81	25	91
FAM (n = 27)	59	70	28	90	52	84	39	90

*Values are given as percentages. Psychological interview ratings were used as criteria to determine if subjects were at risk.
+No subjects scored ≥ 60
n reflects the number of subjects determined to be at risk for given domain.