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Student Risk Factors Identified by School Counselors and Student Achievement

The increasing emphasis in the United States on high-stakes testing for students and schools generates a great deal of quantitative data, but these data are less frequently linked to other data that are more difficult to obtain such as data on risk factors that may affect how students do on these tests. To make such comparisons, a group of counselors and counselor educators targeted a small urban school district to conduct a quantitative study of the relationship between grades, standard achievement test scores, and risk factors for K-12 students. Students in grades 4, 6, 8, and 9 were randomly selected and data were gathered from school counselors on relevant descriptive information and student risk factors. More than 50% of the students in this sample were affected by at least one risk factor. Students experiencing higher numbers of risk factors tended to have lower achievement test scores and lower grade point averages (GPAs) and were also likely to be male, Hispanic, or Black; to be receiving special education services; to have high rates of absent or tardy days; to have many suspensions or discipline reports; to have single, deceased, or stepparents; and/or to have free or reduced-price lunch status. This article discusses the research process, findings, and implications for educators, particularly in the light of other findings that the effects of some risk factors may be mitigated by the actions of school counselors.

Aux États-Unis, l'importance croissante que l'on accorde aux évaluations à enjeu élevé pour les élèves et les écoles produit beaucoup de données quantitatives. Cependant, ces données ne sont pas souvent mises en rapport avec d'autres données plus difficiles à obtenir telles que celles sur les facteurs de risque pouvant affecter la performance des élèves à ces

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examens. Dans le but effectuer de telles comparaisons, un groupe de conseillers et d'enseignants-conseillers ont entrepris une étude quantitative dans un district scolaire urbain. Ils se sont penchés sur le rapport entre les notes, les résultats aux tests de rendement et les facteurs de risque pour les élèves de la maternelle à la 12^e année. On a sélectionné au hasard des élèves des 4^e, 6^e, 8^e et 9^e années et recueilli, auprès des conseillers, des données descriptives et de l'information sur les facteurs de risque pour les élèves. Plus de 50% des élèves de l'échantillon étaient affectés par au moins un des facteurs de risque. De façon générale, les élèves qui étaient touchés par le plus grand nombre de facteurs de risque avaient des résultats aux tests de rendement et une moyenne pondérée cumulative inférieurs; étaient mâles, hispaniques ou noirs; recevaient des services d'éducation spécialisée; affichaient un taux d'absentéisme ou de retard élevé; avaient souvent été renvoyés temporairement de l'école ou fait l'objet de rapports disciplinaires; provenaient d'une famille monoparentale ou reconstituée; et recevaient le repas du dîner gratuitement ou à un prix réduit. Cet article présente le processus de recherche ainsi que les résultats et leurs conséquences vis-à-vis des enseignants, surtout par rapport à d'autres recherches indiquant que les conseillers scolaires peuvent atténuer les effets de certains facteurs de risque.

Two recent movements in the United States, the Elementary and Secondary Education Act (ESEA), which outlines the No Child Left Behind legislation of 2001, and the Transforming School Counseling (TSC) initiative of 1996 focus on improving academic achievement for all students. Both these initiatives stress the importance of boosting achievement scores for low-income and minority students (Anderson & Hatfield, 2002; Education Trust, 2003). Gysbers (2003) states that school counselors contribute to national and state goals of improving academic achievement by helping students reduce the effect of barriers to learning. These barriers include personal problems, inability to do homework, and lack of skills to succeed in school. School counselors can be particularly attuned to closing the achievement gap for minority students who are most vulnerable to the effects of these barriers (environmental and personal) that affect student performance (Anderson et al., 2001). One way counselors can contribute to closing this gap is by identifying the students who are at-risk in one or more ways and then determining whether a particular student risk factor has an effect on academic achievement. Then attempts can be made to intervene and hopefully mitigate the effects of a particular student risk factor. Below, several studies investigating the effects of risk factors on academic performance are considered.

Hixson and Tinzmann (1990) report that at-risk students are more likely to experience situations that interfere with their ability to focus on academic work. These factors can be seen as barriers to learning when they interfere with students' academic success. The two factors Hixson and Tinzmann found to be most related to academic failure were truancy and dropping out. The direction of the effect is, however, unclear, and it is likely that academic failure and truancy form a mutually reinforcing positive feedback system that eventually results in students dropping out to pursue nonacademic activities in which they experience greater success.

Those students who drop out appear to form a sizable population of school drop-outs in the US. Natriello, McDill, and Pallas (1990) report that over 30% of youth currently registered in school programs will drop out before their graduation date. Natriello et al. further state that 35-40% of the current student population is labeled as *disadvantaged* in at least one of the following categories,

with a greater likelihood of dropping out: minority group, poverty, single-parent families, poorly educated mothers, and/or limited English proficiency.

Druian and Butler (1987) suggest that students who live in high-growth states with unstable school districts have low academic skills and low self-esteem. These conditions are probably related to a student being at risk and that there are strong indicators by grade 3 that a student may be prone to dropping out of school. When students reach high school age, often interventions are too late. Druian and Butler found that the most influential determinants of dropping out were a disciplinary record, narrow outlook, and low grades.

Dimmitt (2003) identified multiple factors contributing to student failure including large class size, school environment, family issues, and cultural factors. Students are apt to be more academically successful when they are in manageable classrooms, feel physically and emotionally safe in school, develop friendships, and experience few family stressors. Family stressors included divorce, poverty and homelessness, illness, abuse, addiction, violence, and death of a family member. The family issues that Dimmit found helpful for students' academic success included parent or guardian involvement with school, expectations of student success, family cohesion and structure, discipline practices, parental education, and parenting skills.

Over the years, although having counseling programs in the schools has been shown to have a positive influence on the academic success of students (Lapan, Gysbers, & Petroski, 2001; Lapan, Gysbers, & Sun, 1997; Nelson & Gardner, 1998), direct evidence for counselors mitigating the effects of student risk factors is less readily available. One older study provides some evidence along these lines. Gerler, Kinney, and Anderson's (1985) educational research indicated six factors that influenced student achievement: behaviors, affective factors, sensory factors, imagery factors, interpersonal factors, and physical factors. In their study, a North Carolina elementary school found that underachieving "students who received counseling improved significantly on the Self-Rating Scale of Classroom Behavior and in their mathematics and language arts grades. Control students did not improve significantly on any of these measures" (p. 160).

Although little published research directly illustrates the relationship between academic achievement and comprehensive school counseling programs, Sink and Stroph (2003) suggest:

school counseling programs [need to] (a) align their student targets with the goals of school reform, (b) use evidence-based best practices, and (c) report outcome-based data as a way of ensuring accountability of their work with students and their caregivers. (p. 350).

Sink and Stroph found that students who were enrolled in a school with a strong comprehensive guidance and counseling program scored better on various academic measures when compared with students in a school without a comprehensive school counseling program.

One hard-to-measure way counselors may affect student risk factors is through their role as a link between school and home as well as with social service agencies. Prout and Prout (1998) state that a student's ability to function academically is related to his or her mental health status and that schools are in an ideal position to help students and parents by locating resources that may be of assistance. Prout and Prout also suggest that direct mental health and consultative services should be increased in the school setting.

In this study, school counselors working in a small urban district were able to identify risk factors that were experienced by the students they served. These risk factors could then be considered in relationship to the measures of student achievement used by this school district. These measures are the same or similar to those used in other school districts and programs nationally and internationally: student grades and tests developed by outside agencies for use in the district's schools. This was considered a first step toward developing more effective counseling intervention programs. It was also hoped that by publicizing the research done here, we might encourage similar research by other educators in similar circumstances.

Method

Hypothesis

The hypothesis of the current study was that a statistically significant correlation would exist between counseling risk factors (for a complete list of risk factors defined for the current study, see Appendix) and assessment measurements (state test scores, GPA, number of failures, and other related student success factors).

Participants

Data were obtained from the district research center where 30 students from every school in the district in grades 4, 6, 8, and 9 were randomly selected by computer. Schools were selected to provide information on potential differences in the district; thus a differential in the number of students selected by levels existed because in this district there were 16 elementary schools, four middle schools, and three high schools (n=430 grade 4 students; n=64 grade 6 students; n=108 grade 8 students; and n=90 grade 9 students).

Demographics of the study included the following breakdown (also see Table 1): 49% female and 51% male; 4% American Indian; 10% Asian or Pacific Islander; 3% Hispanic; 8% Black; 77% Caucasian. The sample is representative of the small urban district of 16,360 students (K-12) consisting of 22% minority and 78% White students.

Measures

A mental health profile (listing counseling issues often presented by students) was developed by all the school counselors in the district to be used to deter-

Demographics							
Sex	Male 51% Female 49%						
Race	American Indian 4% Asian or Pacific Islander 10% Black 8% Caucasian 77% Hispanic 3%						

Table 1 Demographics



Figure 1. Number of counseling risk factors. Percentage of students having zero or more risk factors. More than 50% of the students in the study had one or more risk factors.

mine the needs of students in daily practice. This was based on Roberts' (1993) recommendation that school counselors design their own record-keeping methods to track mental health issues of students. A survey was designed using this mental health profile that offered counselors a consistent mode of collecting data for the current research. Studies have shown that students experiencing two or more life stressors (or counseling risk factors) are more likely to require psychiatric treatment than students dealing with fewer life stressors. The survey used in the current study included counseling risk factors found in the current district (see Appendix), test scores, grades, and related achievement factors.

Additional data included students' math and reading scores on the Iowa Test of Basic Skills (ITBS), the Iowa Test of Educational Development (ITED), and the Minnesota Basic Skills Test (MNBST). The ITBS and ITED are used



Figure 2. Mean number of risk factors by grade level. Mean number of counseling risk factors per student in the sample at each grade level.

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Figure 3. Mean number of risk factors for free (F), reduced (R), or full price (). Mean number of counseling risk factors per student combined for all grade levels given according to whether students receive free lunches (F), reduced-cost lunches (R), or pay full price (). Lunch status itself is determined by income eligibility rules. Note that being eligible for a free or reduced lunch would itself count as a risk factor.

nationally in the US as measures of academic progress, but the MNBST may be less familiar to educators outside the state of Minnesota (Minnesota Department of Children, Families and Learning and NCS Pearson, 2002).

The MNBST is a test mandated by the state legislature on which students in Minnesota are required to obtain a passing score in order to graduate from high school (Minnesota Department of Children, Families and Learning and NCS Pearson, 2002). The test includes both reading and math components taken on



ethnic code

Figure 4. Mean number of risk factors for ethnicity.

Mean number of counseling risk factors per student by ethnicity for all grade levels. The category 00 represents ethnic groups other than those represented by the remaining categories.



Figure 5. Mean number of risk factors for gender. Mean number of counseling risk factors per student for all grade levels broken down by gender.

separate days during a single week. Students take the test for the first time in grade 8 and have 11 opportunities to obtain a passing score between then and the end of their grade 12 year. Only scores for grade 8 students were considered for this study, as that is the only grade in which all enrolled students must take the test. If they pass in grade 8, students do not need to retake the test in later grades. Scores are given as a percentage of questions answered correctly, with 75% correct being required to obtain a passing score, which is also a scale score of 600.

Procedure

Twenty-five counselors volunteered to collect information from student files randomly selected by district research staff. They also used information in their personal files or otherwise known by school staff. The counselors then transferred the data without information that could be used to identify particular students to one graduate assistant who entered it into statistical files.

Results

More than 50% of the current sample had at least one counseling risk factor (among the highest factors reported are: academic, behavior, family, and medical problems, see Figure 1). Students who were likely to have more than one risk factor were also likely to be male, Hispanic, or Black and to have one or more of the following traits: special education status, high rates of absent or tardy days, several suspensions or discipline reports, single, deceased, or stepparent, and/or have free or reduced lunch status (Figure 2).

Several statistically significant intercorrelations arose among measured variables. The more counseling risk factors students had, the lower were their ITBS reading and math scores (r=-.23, -.20); the lower their BST reading and math scores (r=-.43, -.36), as well as the lower their GPA (r=-.60). Also, counseling risk factors were positively correlated with a greater number of suspensions (r=.39), discipline reports (r=.45), number of failures (r=.47), number of

		М	SD	t	p	
Single parent						
ITBS reading	yes	199.19	31.88	-3.59	0	
	no	216.27	39.49			
ITBS math	yes	202.31	36.3	-3.38	0.001	
	no	221.71	45.19			
Family problems						
ITBS reading	yes	198.12	32.61	-4.93	0	
•	no	218.16	39.29			
ITBS math	yes	201	36.02	-4.64	0	
	no	222.55	45.23			
Abuse						
ITBS reading	ves	190.46	32.91	-2.17	0.031	
5	no	231.97	38.7			
ITBS math	ves	195.85	42.2	-1.79	.075 NS	
	no	217.96	44.07			
Social problems						
ITRS reading	Ves	198 47	30.1	-2 15	0.032	
The reading	no	214 19	39.2	2.10	0.002	
ITBS math	ves	199 7	32 19	-2 25	0.025	
	no	219.51	44.86	2.20	0.020	
Anger management						
ITRS reading	Ves	592 5	42 24	-2.08	0 042	
The reading	no	649 64	53.86	2.00	0.042	
ITBS math	ves	475 75	23.4	-1 97	0.05	
	no	634.03	58.64		0.00	
Madiaalwaahlawaa						
ITES rooding	200	204 67	20 16	0.69	0.009	
TI DS Teauling	yes	204.07	32.10	-2.00	0.008	
ITRS math	NOC	210.97	25.54	2.0	0.005	
II DO Mali	no	200.78	47 95	-2.0	0.005	
	110	221.00	47.00			
Conflict problems		500.0	40.04		0.040	
BST reading	yes	592.9	42.24	-2.08	0.042	
DOT "	no	649.64	53.86	4.07	0.05	
BST math	yes	5/5./5	23.4	-1.97	0.05	
	no	634.03	58.63			
Academic problems						
BST reading	yes	614.13	52.12	-4	0	
	no	680.29	35.51			
BST math	yes	599.44	45.8	-4.1	0	

Table 2 Statistically Significant Differences Between Students With and Without Risk Factors Present

days absent (r=.12), and tardy (r=.22). All these correlations were statistically significant at less than the .01 level of significance.

The MANOVA univariate tests showed some statistically significant differences (Table 2). Students with lower scores on the ITBS tended to have the following risk factors present: single parents, family problems, abuse, social problems, anger management problems, and medical problems. The ITBS reading and math scores for students with these problems ranged from 190 to 202, whereas scores ranged from 214 to 222 for those who did not report these problems. Students experiencing conflict and/or having academic problems scored significantly lower on the BST tests. Their BST scale scores ranged from 576 to 614, whereas those who did not report these problems had scores from 634 to 680.

No significant differences were found between socioeconomic status groups on the tests. All these statistically significant differences were at the .01 or less level of significance except for abuse and anger problems, which were at the .05 or less level of significance.

Discussion

This study found that the number of counseling risk factors a student reports is correlated with achievement level. In this case, achievement level is based on grade point average and state test scores. A significant number of students in the current study (more than half) experienced at least one counseling risk factor (or barrier to learning). The more counseling risk factors a student had, the lower the ITBS reading and math scores, the lower the BST reading and math scores, and a lower GPA, than those of students who had fewer counseling risk factors.

Others have found the same phenomena relating student stressors (linked with at-risk status) with achievement (Butler, 1987; Dimmit, 2003; Druian & Butler, 1987; Hixson & Tinzmann, 1990). Gysbers (2003) defines these barriers to learning to include personal problems, inability to do homework, and lack of skills to succeed in school.

Our study suggests that when counselors can link risk factors, or barriers to learning, to academic achievement, they can help students learn how to deal effectively with those risk factors so that these factors have less effect on their grades and test scores. Prout and Prout (1998) found that a student's ability to function academically is related to mental health status. Kaufman, Bradby, and Teitelbaum (2002) report that when students have talked to counselors and staff about academic plans they do better in school; and Lapan et al. (2001) discovered that as guidance programs were more fully implemented in Missouri, grade 7 students earned higher grades, found school more relevant, had more positive relationships with their teachers, were more satisfied with their education, and felt safer in school.

Brown (1999) suggests that school counselors will be expected to play a significant role in the current school reform movements. Counselors often become a student's anchor person who can offer stable contact and confidential, supportive conversations. Among the services that counselors implement, Brown suggests that successful interventions are behavioral contracts, educational and personal goal-setting, study skills groups, achievement motivation groups, and parent consultations.

Implications for Intervention

Whiston and Sexton (1998) suggest that much more data-gathering is required to clarify a possible connection between specific guidance curriculum activities and academic achievement. Research is difficult to carry out for many school counselors who have little time and few of the resources available to scholars in higher education. However, it is vital that school counselors begin to find ways to quantify their role and demonstrate the connection between specific counseling interventions and students' achievement in ways that administrators and community members can appreciate.

Simple methods of frequency counts through the use of mental health profiles and school counselors' activities logs can show the number of counseling risk factors in any given school. More involved analysis is necessary for school counselors to identify the important link between counseling interventions and academic achievement. However, gathering information on students similar to that used in the present study can assist school staff in targeting interventions at students who may need them most. Indeed, this was one of the most direct applications of this kind of student data by school counselors in this district, as they sought to ensure that all students at risk of failure were targeted for one or more interventions, including assessment for special education services, tutoring, and individual or group counseling.

Limitations of the Study

The small urban setting of the current study with a large number of recent immigrants and mixed SES levels limit generalization to larger urban or rural settings. Also, the location of the study in one particular city with a possibly idiosyncratic population may limit generalization to other states and countries.

In addition, the research design here was correlational, so the direction of influence of the various variables under consideration is unclear. Although it was shown that students experiencing one or more risk factors tended to show lower test scores and academic achievement than their peers, it may be that lack of success in school increases the likelihood of some risk factors such as conflict with peers and absenteeism. It is always difficult to make definitive conclusions with this kind of research, but some tentative general conclusions are discussed below in order to provide directions for future research.

Conclusions

Today's society increasingly demands emphasis on academic measurement through legislation such as ESEA and through initiatives like TSC. School counselors can no longer work in their programs simply *knowing* that what they do works. They must become more resourceful in quantifying the effectiveness of their programs on academic achievement and publish their findings.

When school officials and parents look at factors that contribute to academic failure, method of instruction and related factors are the focus of investigation, and often what is going on in a student's personal life is overlooked. A broader and more effective view may take into account the effect of nonacademic life factors that school counselors deal with on an everyday basis and how these factors affect academic success.

Several studies have attempted to measure relationships between academic achievement and specific risk factors such as low IQ, behavior, learning disabilities, mental health (anxiety and depression), self-esteem, and motivation. This study showed a clear relationship between counseling risk factors and student achievement. In particular, student risk factors were shown to have an effect on both students' achievement on their coursework and on both low- and high-stakes tests used to measure students' (and school) progress. Schools, school districts, and states wishing to improve their test scores and graduation rates may find it useful to invest in programs meant to reduce or mitigate student risk factors. Such programs may include school counseling, social work, truancy prevention, and community health staffing in the schools. Although this study cannot by itself show that any of these programs would be effective, it does show that the problems they are meant to address are related to lower levels of student achievement.

As schools across the nation focus increasingly on quantitative measures, especially standardized test scores, school counselors and other educational professionals have a duty to demonstrate the link between the difficulties many students experience in their lives and lower academic achievement. Counselors in particular may be the only people in many schools to be in a position both to remind their communities and school leadership that this link exists and to develop interventions to assist students in overcoming the obstacles they face to succeed in school.

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Appendix

The following list of counseling risk factors was created and used in the current study.

socioeconomic status (defined by free/reduced-lunch status reports)

special education status

number of failures in last semester of school year

grade point average

days absent/tardy

parents' marital status

deceased parents

guardian/foster care

number of siblings

number of moves in last academic year (within district and from outside district)

number of accelerated classes

number of suspensions

medical issues with student

discipline report

family counseling issues

number of counseling issues presented to counselor (academic, behavior, social, family, abuse, chemical, conflict, death, harassment, high-risk student, stress, mental health, career/vocational, pregnancy, sexual, suicidal, anger management, school avoidance, tests for EBD, medical issues, special education status, ESOL)