Risk Factors for Social Success in the Classroom

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Introduction

Ethnic identity refers to a person's understanding of their ethnic group membership and the meaning and value they associate with it. It plays an important role in shaping social, emotional, and academic development throughout childhood and adolescence, contributing significantly to children's self-concept and mental well-being (Roberts et al., 1999). Many models of racial and ethnic identity development depict a nonlinear process throughout childhood, positing that the first stage is a general lack of awareness of the meaning or significance of ethnicity. As children age and become more aware of social categorization, they begin to interpret external opinions of ethnic groups and increasingly reflect on what their own ethnicity means to them. This phase of active identity formation ideally leads to an established positive ethnic identity characterized by understanding of the meaning and significance of group membership, as well as a secure sense of group belonging (Roberts et al., 1999).

Social status and image becomes very important for children in late childhood and adolescence (LaFonta & Cillessen, 2010). Popularity indicates an individual's position in a peer group hierarchy, and signifies how much control and centrality an individual has in social situations (Cillessen & Rose, 2005). Children achieve popularity in different ways; some children become popular through being prosocial, some through being physically or socially aggressive, and some who use both prosociality and aggression (Hawley, 1999). We chose to analyze participants' prosocial, aggressive, and disruptive behavior because they all have the possibility to contribute to an individual's popularity.

We aim to examine the relationship between cumulative risk (CR) factors and perceived popularity. We hypothesize that the perceived popularity of students with high cumulative risk scores will

decrease from Fall to Spring, but will increase for students with low cumulative risk scores.. We used previously collected data for our analysis, collected by Dr. Travis Wilson and colleagues in. This data came from a 1-year longitudinal study. The original study participants were students who lived in Cleveland, Ohio and attended public k-8 schools within the city. Our research aims to study the effect of racial identity and in school behavior on social success in the classroom for Black children and adolescents.

Method

Participants

In the fall semester, there were 310 participants in the study. There were 142 boys, and 168 girls. There were 144 students in 5th grade, and 166 students in 6th grade. These students resided in Cleveland, Ohio and attended public k-8 schools within the city limits. Lastly, all of the students identified as Black. Among the 293 eligible Black students in grades 5 and 6, 240 (81.9%) participated in the survey. The participation rate did not differ significantly by sex, $\chi^2_{(1)} = .01$, $p = .947$, but differed significantly by grade level, $\chi^2_{(1)} = 7.14$, $p < .01$ (88% in Grade 5, 76% in Grade 6). Five students were removed from analysis due to missing data. The final analysis included 235 participants, with 119 children in Grade 5 (61 girls; mean age = 11.2 years, SD = .50) and 116 children in Grade 6 (65 girls; mean age = 12.3 years, SD = .50).

Procedure

The study involved a classroom survey in the fall and spring, in which participants answered questions about themselves and about their classmates. The survey took approximately 30 minutes to complete. The students' participation required parent consent and the child's own assent.

Measures

Ethnic Identity (MEIM). The first variable we analyzed was the Multigroup Ethnic Identity Measurement (MEIM). This measure was described as "a positive sense of affirmation and belonging to one's ethnic group". We standardized students' MEIM scores, and used -1 as the cutoff value for assessing risk. This meant that any standardized MEIM score lower than -1 would be considered a risk factor for the student.

Gender. The second variable we analyzed was Gender, where a 0 indicated the student was male, and a 1 indicated the student was female.

Aggressive. The third variable we analyzed was Aggressive, a teacher reported variable that reported each students' aggressive behavior with peers.

Acceptance. The fourth variable we analyzed was Acceptance, a peer nominated variable that was based on the "likes most" measure.

Cumulative Risk (CR). The cumulative risk variable took the sum of the participants' dichotomized risk variables: MEIM, Gender, TAggressive, and Acceptance.

Popularity. The dependent variable analyzed in our analysis was Perceived Popularity, based on the "these kids are popular" measure.

Results

As discussed earlier, it was expected that the perceived popularity of students with high cumulative risk scores would decrease from Fall to Spring, while increasing for students with low cumulative risk scores. To examine this, we conducted a series of stability analyses, t-tests, correlations, and a repeated measures analysis of variance (ANOVA).

Stability of MEIM. In order to determine the stability of MEIM between fall and spring all participants, we ran a bivariate correlation to evaluate the relationship between fall and spring MEIM. The results indicated that the relationship between fall and spring MEIM scores was significantly positive, $r(240) = .407$, $p < .001$. This indicated instability in MEIM scores for all participants between fall and spring. To determine the stability of MEIM between fall and spring for girls and boys, separately we first split the data file by gender. Then we ran a bivariate correlation to evaluate the relationship between fall and spring MEIM scores for boys and girls. The results indicated that the relationship between fall and spring MEIM score and gender was significantly positive for boys, $r(108) = .455$, $p < .001$, as well as girls, $r(130) = .362$, $p < .001$. This indicated instability in MEIM scores for boys and girls between fall and spring.

Continuity of MEIM. To determine the continuity of MEIM between fall and spring for the sample, we ran a paired samples *t*-test. The results indicated that spring MEIM scores ($M = 3.43$, $SD = .52$) were significantly higher than fall MEIM scores ($M = 3.29$, $SD = .61$), $t(186) = -3.11$, $p = .002$. This indicated a discontinuity for the participants' MEIM scores. To determine the continuity of MEIM scores between fall and spring for girls and boys, we ran two paired samples *t*-test. The results indicated that spring MEIM scores for boys were significantly higher in the spring ($M = 3.40$, $SD = .54$) than in the fall ($M = 3.18$, $SD = .67$), $t(82) = -3.23$, $p = .002$. Next we ran a paired samples t-tests to examine continuity differences between girls. The results indicated that there was no significant difference in girls' spring MEIM scores ($M = 3.44$, $SD = .51$) and fall MEIM scores ($M = 3.37$, $SD = .54$). This indicated discontinuity in fall and spring MEIM scores for boys, continuity in MEIM score for girls. See Fall-to-Spring MEIM stability and continuity in Table 1.

Table 1

Fall-to-spring Stability and Continuity of MEIM.

	Stability			Continuity			
	N	*r*	*p*	*t*	*df*	*p*	Cohen's *d*
MEIM							
Boy	83	.616	< .001	-3.233	82	.002	.639
Girl	104	.531	< .001	-1.234	103	.220	.597
Total Sample	187	.574	< .001	-3.112	186	.002	.619

Note. A Pearson's bivariate correlation was used to determine stability. A paired samples t-test was conducted to determine continuity.

Correlation 1. A bivariate correlation was run to determine the relationship between fall measurements of MEIM and popularity. There was a significantly positive relationship between fall MEIM and popularity scores, $r(240) = .150$, $p = .023$. Another bivariate correlation was run to determine the relationship between spring measurements of MEIM and popularity. The results indicated that the relationship between spring MEIM and popularity scores were not significant, $r(233) = .057$, $p = .338$.

Cumulative Risk. To assess cumulative risk levels, we created the CR variable by adding participants' individual risk scores within the four risk categories. For each of our four variables, we re-coded a risk variable for each factor. For the MEIM, acceptance, and prosocial variable, if a student had a standardized score less than -1, it was re-coded to a 1 in its respective risk variable. If a student had a standardized score greater than -1, it was re-coded to a 0. For the gender variable, if a student had a score of 0, it was re-coded-to a 1. The cumulative risk took the sum of each individual risk variable we re-coded. See Table 2 for thresholds for determining individual risk scores and Figure 1 for cumulative risk group counts.

Our analysis left us with 5 cumulative risk groups (0, 1, 2, 3, 4). There were 84 students in risk group 0, 109 students in risk group 1, 31 students in risk group 2, 16 students in risk group 3, and 1 student in risk group 4. Because only one student was sorted into risk group 4, risk groups 3 and 4 were combined for the purpose of analysis, bringing risk group 3 to a total of 17.

We ran a repeated measures analysis of variance (ANOVA) to assess the changes in perceived popularity from Fall to Spring as a function of CR group membership (0, 1, 2, or 3). The test showed that there was a statistically significant relationship between cumulative risk and popularity from Fall to Spring, $F_{(3, 237)} = [20.998]$, $p < .001$.

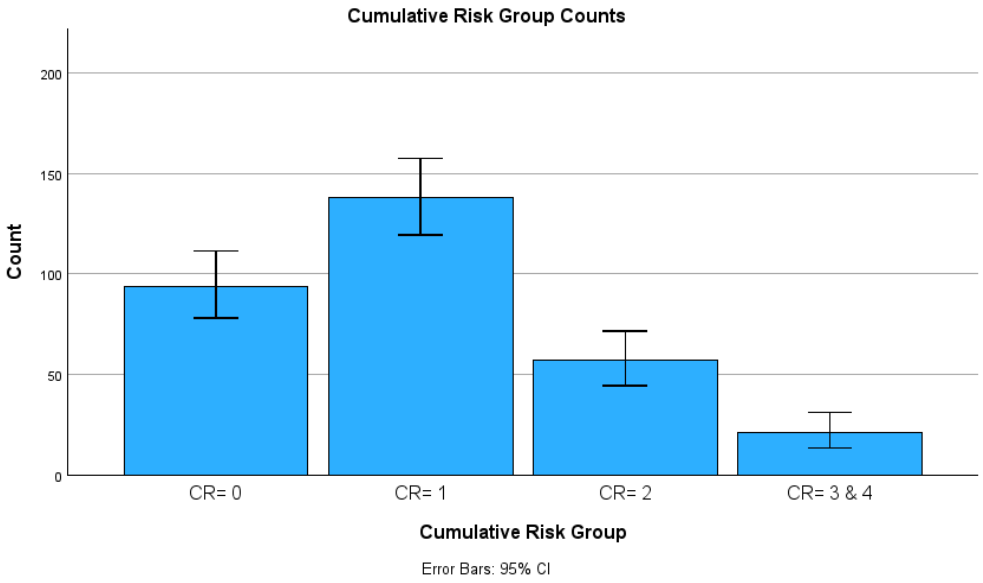
Table 2

Thresholds for determining individual risk scores and distributions of students in each risk variable.

Risk Variable	Cutoff Values				N	
	Risk		No Risk		Risk	No Risk
	Min	Max	Min	Max		
ZW1MEIM	-3.789	-1.002	-0.922	1.228	40	270
ZW1TAggressive	1.182	3.809	-0.693	0.807	45	223
ZW1Acceptance	-1.646	-1.016	-0.973	2.609	47	222
ZGender	-1.086	-1.086	0.918	0.918	142	168

Figure 1

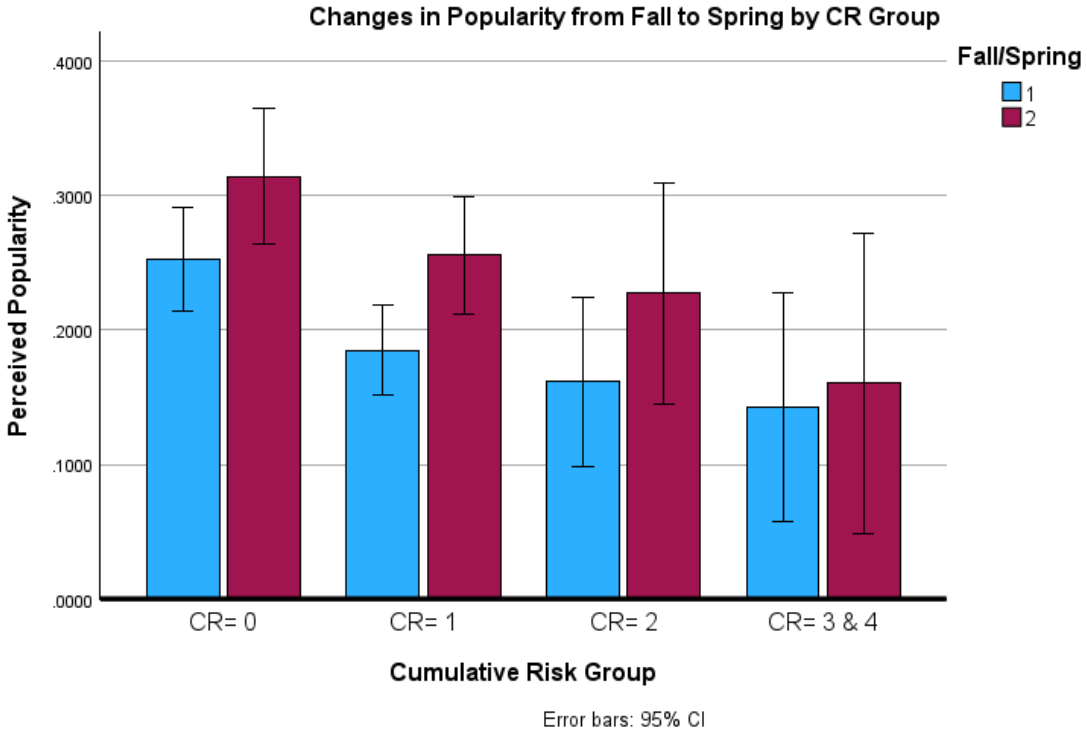
Number of students found in each cumulative risk group.



Post hoc tests with a Bonferroni adjustment revealed that students in risk group 0 ($p < .001$), 1 ($p < .001$), and 2 ($p = .010$) were significantly more likely to receive high popularity nominations from their peers in the Spring semester than in the Fall. Students in risk group 3 did not show significant changes in perceived popularity from Fall to Spring. See Figure 2 for changes in popularity from Fall to Spring by CR group.

Figure 2

Changes in Perceived Popularity ratings from Fall to Spring as a function of Cumulative Risk.



Discussion

Across our multiple analyses, several patterns emerged regarding ethnic identity development, classroom dynamics, and perceived popularity among Black fifth and sixth grade students. Ethnic Identity scores showed moderate stability from Fall to Spring, but continuity analyses showed us that boys experienced significant increases in ethnic identity scores over time, whereas girls' ethnic identity

scores remained relatively stable. Fall ethnic identity scores were positively associated with popularity, though this relationship did not persist into the spring semester. Cumulative risk levels had a strong relationship with perceived popularity, as students in risk groups 0, 1, and 2 showed significant increases in perceived popularity from Fall to Spring, while the perceived popularity of those in risk group 3 showed no significant change over time. These findings suggest that the presence of multiple risk factors does meaningfully shape peer perceptions of popularity throughout the school year.

These results highlight the importance of understanding the ways in which multiple social, physical, and identity-based risk factors can interact to influence students' peer dynamics. With the cumulative risk variable being composed of ethnic identity, aggressive behavior, peer acceptance, and gender, the finding that low risk students gained popularity over time while their high risk counterparts did not suggests that protective factors, such as a secure ethnic identity, prosociality, and strong friendships may help students navigate in-school social landscapes more successfully. Conversely, students facing multiple present risk factors may be more vulnerable to isolation, which can in turn lead to increased risk of further social, academic, or psychological difficulties. In the future, American students, particularly students of color, may benefit from more specific analysis of the effects of ethnic identity on perceived popularity, possibly by utilizing a larger sample with a wider variety of ethnic identities to test for variance between groups. Additionally, future research should explore possible in-school interventions that work to empower ethnic identities and limit identity-based social vulnerabilities. Longitudinal research lasting longer than one academic year could also help clarify how these patterns shift over time and through development.

Multiple limitations in our findings came from using cumulative risk analysis. In cumulative risk analysis, all risk factors are weighted the same, while in real life one risk factor may have a stronger influence than others. For instance, even though gender is a risk factor, prosocial behavior may affect popularity more. Additionally, dichotomizing risk variables does not include information about the

frequency or intensity of a risk factor. It also creates a cut off value that is one standard deviation away from the mean on either side. So even if a child was very aggressive, their aggression would not have been factored in if their standardized aggression score was not more than one standard deviation above the mean. Finally, combining all risk factors into one cumulative risk score does not indicate which risk variables determine the outcome in the dependent variable. It could be that only once variable affected perceived popularity, or maybe one variable had no effect while the others did.

Overall, we found that Black fifth and sixth grade students with fewer risk factors, such as weaker ethnic identity, higher aggression, or low peer acceptance, tended to gain perceived popularity over the school year, highlighting how having a secure ethnic identity and strong friendships shape peer dynamics and social outcomes.

References

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