TEXAS EDUCATION REVIEW

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Articles

TEXAS EDUCATION REVIEW

FALL 2023 EDITORIAL BOARD

Welcome to Volume 12, Issue 1 (Fall 2023) of the Texas Education Review

We are pleased to announce the publication of Volume 12, Issue 1 of the Texas Education Review. In this issue, Palma and colleagues analyzed the extent to which 9th grade students' participation in afterschool activities, as measured by a state-wide survey of 115,731 students, predicted GPA and perceived family and community support. Aziz conducted a case study of international students' experiences overcoming cultural differences in the U.S.

Information for Contributors

The Texas Education Review is an independent, peer reviewed, student-run scholarly publication based at the College of Education at The University of Texas at Austin. The Texas Education Review was founded and is operated by doctoral students at The University of Texas at Austin's College of Education, which consistently ranks as one of the best public university graduate education programs in the United States. The Texas Education Review aims to advance scholarship by publishing an academic journal of the highest quality including works by graduate students, professors, and practitioners, focusing on education policy and related issues. This journal features articles, essays, notes, and reviews relevant to a national and international audience of scholars and practitioners.

The Texas Education Review focuses on analysis of education policy and related issues, with nonexclusive preference given to issues affecting the State of Texas. Each issue shall display unparalleled excellence in content and style. Further, The Texas Education Review fosters the academic and professional development of its members through participation in the editorial process and each member displays the highest standards of integrity and professional excellence in every endeavor. From Sweatt v. Painter and No Child Left Behind, to charter schools, curriculum policy, and textbook adoption, the State of Texas has played and will continue to play a critical role in shaping education policy in the United States. The Texas Education Review is located directly on The University of Texas's campus in the heart of downtown Austin. Its close proximity to the Texas Capitol, Texas Education Agency, and State Board of Education offers unparalleled access to the thought leaders, policy makers, and academics who are driving education policy in Texas.

Measuring Two Constructs of Afterschool Activity Participation: Breadth and Intensity

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Abstract

The benefits of afterschool activity participation for youth development are well-documented. An interesting question dominating this field is whether there is a threshold at which point participating in too many activities (breadth) and spending too much time in those activities (intensity) is negatively associated with desirable outcomes. Using 9th grade student data (N=115,731) from three administrations of a state-wide school survey, we explore whether students' breadth and intensity of afterschool participation is associated with GPA and perceived family and community support. Findings corroborate prior research in demonstrating the association between breadth and intensity. Importantly, we extend the discussion, with three important observations. First, a linear model is insufficient for modeling these complex associations with outcomes. Second, there is a threshold at which too much participation has a negative impact in these outcomes. Third, variations in activities, time windows and indices have small or no influence in the association with outcomes.

Keywords: Positive Youth Development, Afterschool Activity Participation, Breadth, Intensity, Measurement, Developmental Outcomes

Measuring Two Constructs of Afterschool Activity Participation: Breadth and Intensity

Afterschool activities are community- or school-sponsored structured activities outside the regular school curriculum, that encompass a broad range of contexts including sports, fine arts activities, mentoring programs, religious activities, and community clubs (Bohnert et al., 2010). The positive effects of afterschool activity participation on youth development have been widely studied, for instance, in relation to healthy development, well-being, academic resilience, greater civic and occupational success (Darling et al., 2017; Eccles et al., 2003; Fredricks, 2012; Gardner et al., 2008; McCabe et al., 2016; Peck et al., 2008; Vandell et al., 2022; White et al., 2018). Participation in afterschool activities may also lead to the prevention of involvement in risky behaviors, such as internalizing problems, drug and alcohol use, and delinquent behavior (Aumètre & Poulin, 2018; Crean, 2012; Fredricks & Eccles, 2010).

As the study of involvement in afterschool activities continues to advance, new theoretical concepts or constructs have been developed to capture the multifaceted nature of activity participation. Constructs such as breadth (i.e., number of activities) and intensity (i.e., amount of time engaged in an activity) have been created to measure important dimensions of activity participation. *Breadth* of involvement provides a description of a youth's broad range of skills and interests (i.e., the number of activities youth participate in), whereas *intensity* indicates commitment and possibly skills absorption and mastery (i.e., the amount of time youth spend engaging in each activity, Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010a). At the same time, researchers have begun to explore the hypothesis that there may be a threshold or sweet spot where the benefits of participation peak and the possibility that beyond this point, extra participation may have a negative impact on development (Fredricks & Eccles, 2010; Fredricks, 2010; Mahoney & Vest, 2012; Randall & Bohnert, 2012; Rose-Krasnor et al., 2006). In other words, the study of afterschool activity participation has moved beyond the conventional assumption that the association between participation and development is linear to a more complex belief that this relationship is best represented by nonlinear associations.

Despite increased interest in the theoretical and practical implications of the use of breadth and intensity measures, methodological concerns about defining and assessing the two constructs have only been addressed to a minimal extent (Bohnert et al., 2010; Farb & Matjasko, 2012; Rose-Krasnor, 2009). Researchers have identified several issues, including (a) lack of consensus across studies in the number and type of activities used to define breadth and intensity; (b) inconsistencies in time frames (i.e., *on an average week, in the past year*) and time indices (i.e., *how often, how many hours*) to record activity participation; and (c) the limited number of studies that control for shared variance between the two constructs (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010b; Farb & Matjasko, 2012). Addressing measurement issues is crucial for drawing valid inferences about the nature of each construct and the relative importance to developmental outcomes (Busseri & Rose-Krasnor, 2010a; Rose-Krasnor, 2009). In the present study, we use data from 9th-grade students to investigate the association between breadth and intensity with an academic outcome (GPA) and a social outcome (perceptions of family and community support [FCS]). The purpose of this study is to examine how variations in defining and assessing breadth and intensity affect the association with each developmental outcome.

Positive Youth Development

To better understand the association between participation in afterschool activities and development, we explore activity participation within the framework of positive youth development (PYD). The PYD approach, rather than focusing on young people's problems and deficiencies, emphasizes the enhancement of youth's strengths, skills, values, and competencies (Benson et al., 2006). Youth have the inherent capacity for positive development. PYD is supported through youth involvement in multiple meaningful relationships, contexts, and environments (ecologies) that promote healthy well-being and thriving (Benson et al., 2006).

Afterschool activities offer unique structured environments and opportunities for youth to cultivate meaningful relationships with peers and mentors, engage in supervised activities, explore and develop interests, and to, ultimately, establish a greater sense of community and well-being. Importantly, all youth stand to benefit from these opportunities, and, critical to the present study, these afterschool activity contexts offer a crucial avenue for supporting PYD (Benson et al., 2006; Pekel et al., 2018; Scales et al., 2016). For instance, researchers have demonstrated that high-quality relationships in a young person's life, increase their academic motivation and social and emotional skills, and instances of high-risk behaviors decline (Roehlkepartain et al., 2017). Similarly, it has been found that the more time youth spend in supervised and organized activities, the less time they have to spend in unsupervised and unorganized activities, both of which have been associated with less positive developmental outcomes (Bohnert et al., 2010; Eccles et al., 2003). Thus, as youth's participation in afterschool activities increases, the potential for positive developmental outcomes also increases.

Breadth and Intensity

Along with duration (how long), breadth (how many), and intensity (how much) are constructs used to measure different facets of afterschool activity participation (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010a; Farb & Matjasko, 2012). Breadth measures the number of activities youth are involved in and, therefore, describes the opportunities a youth has available to them to establish relationships and learn a broad range of skills. Participation in various activities enables youth to explore different roles, engage in identity formation, be exposed to different kinds of peers and

mentors, and, ultimately, develop a more extensive network of support (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010a).

Intensity of activity participation measures the time youth spend engaged in afterschool activities. Intensity offers an indicator of depth of participation and provides a picture of the youth's commitment to these activities, skill development, and might dictate the developmental affordances provided to that youth by that particular activity (Bohnert et al., 2010; Busseri et al., 2006; Busseri & Rose-Krasnor, 2010a). In the developmental psychology literature, affordances refer to the benefits offered to (or afforded) an individual by their environment (Gibson, 1982). Crucially, because of differences in the developmental significance of breadth and intensity on youth experiences, researchers argue that these two constructs need to be treated as associated but separate constructs (Bohnert et al., 2010; Busseri et al., 2006; Busseri & Rose-Krasnor, 2010a).

Measurement Limitations of Past Research on the Impact of Afterschool Activities on Youth Outcomes

Previous researchers have typically assessed the impact of the constructs of breadth and intensity of afterschool activity participation on developmental outcomes separately (Bohnert et al., 2010). Additionally, the majority of researchers have investigated these associations via linear models. Numerous measurement challenges arise due to a need for more consensus in the research community about what constitutes the breadth and intensity of afterschool activity participation. We propose that a separation in the assessment of breadth and intensity, the supposition of a simple linear association, and the lack of construct clarity present crucial limitations to our understanding of the true impact of afterschool activity participation on youth's developmental outcomes. We discuss these limitations further in the following section and, ultimately, attempt to address them with our current study design.

Developmental Outcomes

Generally, when studied separately, breadth and intensity have been found to be associated with several educational and developmental outcomes. Researchers have reported positive associations with youth's grades (Denault & Poulin, 2009a; Fredricks, 2012; Springer & Diffily, 2012), academic orientation (Denault et al., 2009b), short- and long-term educational goals (Fredricks, 2012; Haghighat & Knifsend, 2019; Sharp et al., 2015), and educational attainment (Gardner et al., 2008; Haghighat & Knifsend, 2019; Mahoney & Vest, 2012). Positive associations have also been found with neighborhood adult support (Crean, 2012), school attachment (Sharp et al., 2015), well-being and social functioning (Rose-Krasnor et al., 2006), civic engagement (Denault & Poulin, 2009a), self-worth (Simpkins et al., 2008), and successful development (Busseri et al., 2006; Agans et al., 2014). Finally, increased breadth of participation in structured and unstructured activities was negatively associated with substance abuse (Sharp et al., 2015).

Only a few researchers have investigated the effects of breadth and intensity simultaneously. When examined together, breadth and intensity had non-significant effects (Denault & Poulin, 2009a), significance was only found for the breadth measure (Rose-Krasnor et al., 2006), or breadth and intensity were both significantly associated with the same outcomes of interest (Haghighat & Knifsend, 2019).

Quadratic Associations

Traditionally, the impact of afterschool activity participation on developmental outcomes has been studied as though a linear trend best represents the association. Researchers have recently begun testing the possibility of nonlinear associations, particularly for quadratic associations (inverted U-shaped curves), to investigate the overscheduling hypothesis. The overscheduling hypothesis proposes that although there are benefits to participation in afterschool activities, there is a point at which too much participation can be detrimental to a youth's positive development. The hypothesis is that when too much time is spent engaging in afterschool activities, less time is available for other activities such as study or leisure. Also, engaging in many activities for a large amount of time requires time management skills to balance multiple activities, and this balancing act may become stressful for youth (Fredricks & Eccles, 2010; Mahoney et al., 2006; Rose-Krasnor et al., 2006). Researchers studying breadth and intensity separately have observed that when a threshold is found, the point of inflection is typically high for developmental and academic indicators (Bohnert et al., 2010; Fredricks & Eccles, 2010; Fredricks, 2012; Knifsend & Graham, 2012; Randall & Bohnert, 2012). To our knowledge, no studies investigate nonlinear associations when modeling breadth and intensity simultaneously.

Measurement Challenges

Researchers have highlighted several methodological challenges in using breadth and intensity measures. There needs to be more consensus across studies in defining and assessing breadth and intensity, which has made it difficult to make comparisons and generalizable inferences about each construct's nature and importance (Rose-Krasnor, 2009). In their review of the literature, Bohnert and colleagues (2010) found that breadth of participation has been defined differently across studies as (a) total number of activities, (b) total number of activity contexts, and (c) activity dispersion–the extent to which activities are clustered within one or multiple domains. They cautioned about using the total number of activities as an indicator of breadth since this definition may not fully capture participation in different types of activities (we will refer to this later as *activity context*). For example, using a simple count of the number of activities makes it impossible to differentiate between a student who participates in four sport activities and a student who engages in a wide variety of activity contexts, such as one sports team, student council, debate, and theatre, because both students would have reported *four activities* on this type of measure of breadth.

Further limitations arise from the inconsistencies across studies in the number and type of activities used to define breadth. Researchers typically use five to ten activity contexts to measure the breadth of participation, and no systematic approach is used to define which activities should be included (Bohnert et al., 2010; Rose-Krasnor, 2009). Another issue comes from using different time frames to report activity involvement (i.e., *during the last 12 months*, *on an average week*), as different time windows may imply different activity contexts (Bohnert et al., 2010). Different time frames may also affect how students perceive and respond to items (Dillman et al., 2009).

Intensity of involvement is defined as the time or frequency of participation in an activity or activity context (Bohnert et al., 2010; Busseri et al., 2010a). Researchers have measured intensity as participation in total number of activities. However, this approach fails to capture the unique effects of time spent on activities, as it is a combined definition of both breadth and intensity (Bohnert et al., 2010; Busseri et al., 2010b). More commonly, researchers have used time and frequency indices (e.g., *how many hours*, *how many times*, *how often*) within specified time frames (e.g., *on an average week*, *in*

the past month, during the school year) to measure intensity (Bohnert et al., 2010). Different time windows may reflect different activity contexts (Bohnert et al., 2010), and variations in time and frequency indices may influence how students interpret and respond to different scales (Dillman et al., 2009). Additionally, some researchers have treated ordinal time scales (e.g., *daily, once a month*) as if they were interval scales and assigned numerical values (Agans et al., 2014; Gardner et al., 2008), which may lead to misleading conclusions. Lastly, the limited number of studies that control for shared variance between breadth and intensity prevents researchers from identifying the relative importance of each construct (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010b; Farb & Matjasko, 2012).

Current Study

In the current study, we address several important methodological gaps when using breadth and intensity as measures for activity participation. Using data from 9th-grade students (*N*=115,731) from three different administrations of the Minnesota Student Survey (MSS), we examine how variations in the components used to construct breadth and intensity measures moderate the association with GPA and FCS. Each MSS administration was conducted using different survey versions. Modifications to the afterschool activity items allowed the investigation of variations in the number and type of activities and changes to time scales (time frames and frequency indices). Additionally, we examined nonlinear associations when breadth and intensity were modeled simultaneously, controlling for the shared variance between the two constructs. As such, our research questions include two distinct purposes: methodological and applied.

Researchers have highlighted the need to address issues due to inconsistencies in defining and assessing breadth and intensity (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010a). The goal of this study is to investigate such concerns empirically. Building on prior research, we also examine nonlinear associations when breadth and intensity are modeled together, thus allowing us to identify the relative importance of each construct. To our knowledge, this is the only research investigating these concerns.

The design of the current study is mainly exploratory, where we attempt to resolve the contradictory findings in the literature presented above. Therefore, although our work is guided by prior research, we have yet to form preliminary hypotheses, apart from Research Question 1b, for which we have two competing hypotheses. Based on research regarding PYD and afterschool activity participation, we hypothesize that there will be a positive association between breadth and intensity of afterschool activity participation and students' GPA and FCS. However, there may be a ceiling to this positive association. The overscheduling hypothesis proposes that too much time can be spent in afterschool activities and that when this threshold is surpassed, additional participation has a negative impact on development. Therefore, an alternative hypothesis is that a sweet spot for activity participation exists.

Research Questions

1. When modeling breadth and intensity together, are quadratic regression parameters necessary to illustrate the association between breadth and intensity with the developmental outcomes of GPA and FCS?

2. Does a sweet spot or optimal balance of the dimensions of breadth and intensity for afterschool activity participation exist?

3. Keeping type of activity contexts (e.g., grouping all fine art activities into one context) and time scales constant, how does variation in the number of activity contexts to construct breadth and intensity influence the association with FCS and GPA? (For more detail, see examples of activity context categories in Appendix B)

4. Keeping the number of activity contexts constant (8), how do variations in the type of activities and time scales to construct breadth and intensity affect the association with GPA and FCS?

Methodology

This study entails a secondary analysis of the MSS database. The survey was designated by an interagency team from the Minnesota Departments of Education, Health and Human Services, Public Safety, and Corrections to monitor important trends and support planning efforts of local public school districts and the four collaborating state agencies. The MSS is administered every three years to students in various school grades, for which data were collected in 2007, 2010, and 2013. All operating public school districts in Minnesota were invited to participate during each administration year.

Participants

All school districts that participated in all three administration years were considered for the study ($n = 244$). In 2007, 2010, and 2013, respectively, 39,987, 38,856, and 36,888 9th-grade students participated (51% female each year). The diversity of the samples is representative of the state's ethnic population (U.S. Census Bureau, 2014) and similar between the three administration periods, with slight increases in the student of color population across the years. In 2013, over 74% of the participants identified as White, over 7% Hispanic, over 7% multiracial, over 5% Asian, over 4% Black, and over 2% were American Indian.

Outcome Variables

FCS and GPA

The FCS measure was constructed using six support items common across the MSS administrations (Appendix A lists items included). This measure was constructed to be consistent with the developmental asset framework of Search Institute (2023), which was developed over 30 years ago (Scales & Leffert, 2004). Confirmatory Factor Analysis (CFA) was conducted using Mplus 6.1 (Muthén & Muthén, 2010) to evaluate the unidimensionality and adequacy of the factor structure. Goodness-of-fit criteria, including comparative fit index (CFI) and root mean square error of approximation (RMSEA), were used to assess the adequacy of the CFA model structure. CFI values closer to 1.0 and RMSEA values closer to 0.0 indicate adequate fit. The CFA results (CFI = .95, RMSEA = .16) suggest an acceptable fit. The FCS measure was then Rasch-scaled (i.e., put into a logit metric) using Winsteps 3.72 (Linacre, 2011). A Rasch score was computed for participants who responded to at least three support items. Statistical properties of Rasch scales make variables stronger in general linear model (GLM) based analyses, moving indices from an ordinal level of measurement to an interval level.

For the second outcome variable (GPA), participants were asked to report the two letter grades that they receive most often; from this, the average between the two grades was taken and put into a 4-point scale. The 2013 administration had slightly different wording and asked participants to report the grade they most often receive for grades, as only one grade was reported; no additional calculations were required to place student responses on the 4-point scale. In this sense, there is one scale for FCS and one scale for GPA, allowing us to make comparisons across administrations.

Predictor Variables

Breadth and Intensity Measures

Based on recommendations by Bohnert and colleagues (2010), we operationally defined breadth as the total number of activity contexts in which a youth participates and intensity as the frequency of participation in an activity or activity context. Breadth was computed by summing all the activity contexts in which a youth reported participating. Intensity was calculated by taking the average of the total frequency of participation for each activity divided by the number of activity contexts in which a youth reported to be involved.

In the MSS 2007 edition, six items were identified as afterschool activity contexts, and eight were identified in the 2010 and 2013 versions. All six items found in MSS 2007 were a subset of those in MSS 2010. There were four common items in MSS 2013 with the other two MSS editions. The four different items in MSS 2013 were either new or modified activity contexts (see Appendix B for items used in each MSS edition). In MSS 2007 and 2010, the time window given for activity participation was one year (i.e., *during the past 12 months*), whereas the time frame for MSS 2013 was one week (i.e., *during a typical week*). In MSS 2007 and 2010, the time frequency index was ordinal with six categories spread over a year (i.e., *every day* to *never*). The time frequency index in MSS 2013 was also ordinal, with five categories distributed over a week (i.e., *5 or more days* to *0 days*). To make comparisons and compute intensity, a week was used as a reference for the time window of participation, and the time frequency indices were put into a continuous interval scale. For instance, a value of 7 was assigned to the scale option *every day,* 3.5 to *3-4 times per week,* and so on (Appendix B contains additional time scale categories and values assigned).

Analysis

The primary analysis of the study was based on the implementation of two-predictor second-order polynomial models. A two-predictor second-order polynomial is a special case of GLM containing linear, quadratic, and interaction effects for two predictors (Kutner et al., 2004). A negative sign for the quadratic predictors specifies a curvilinear effect of an inverted U-shape. A significant interaction term indicates a nonuniform association where the effect of one predictor depends on the level of the other predictor. To prevent multicollinearity issues due to high correlations between linear and quadratic effects from the same predictor, breadth and intensity were centered around their respective mean. The model was specified as:

$$Y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_{11} x_{i1}^2 + \beta_{22} x_{i2}^2 + \beta_{12} x_{i1} x_{i2} + \varepsilon_i$$

where Y_i is the value of the outcome variable for student i; $x_{i1} = X_{i1} - \overline{X}_1$ is the deviation of the intensity variable from its mean; $x_{i2} = X_{i2} - \overline{X}_2$ is the deviation of the breadth variable from its

mean; β_0 is the mean response of Y when $x_1 = x_2 = 0$; β_1 and β_2 are the linear effects and β_{11} and β_{22} are the quadratic effects for intensity and breadth, respectively; β_{12} is the interaction effect; and ε_i is the error term. Six regression models were created, one for each outcome (FCS and GPA) within an administration period (2007, 2010, and 2013), via the *lm* function in R (R Core Team, 2023). To examine whether the linear effects were sufficient to represent the association between breadth and intensity, the test hypothesis was for each outcome was:

$$H_0: \beta_{11} = \beta_{22} = \beta_{12} = 0$$
$$H_a: \text{Not all } \beta\text{s in } H_0 \text{ equal zero.}$$

The null hypothesis (H_0) indicates that the quadratic and interaction effects are equal to zero and the alternative hypothesis (H_a) states otherwise. Failing to reject H_0 indicates that a linear model was sufficient to model the association. A partial *F*-statistic was used for hypothesis testing. Kutner and colleagues (2004) specified the partial *F*-statistic with Type I sum of squares as:

$$F = \frac{\text{MSR}(x_1^2, x_2^2, x_1 x_2 \mid x_1 x_2)}{\text{MSE}}$$

where the partial *F*-statistic represents the ratio between the regression mean square (MSR; or the extra sum of squares $[\text{SSR}(x_1^2, x_2^2, x_1 x_2 \mid x_1 x_2)/\,p - q]$ where $p - q$ is the number of regression parameters to be tested) and the error mean square (MSE). MSE has n - p degrees of freedom (when n is the number of subjects and p is the total number of regression parameters). The partial *F*-statistic was compared to a 99% significance level with a critical value $F(.99; 3, n\text{-}p) = 3.78$. A partial *F*-statistic larger than the critical value leads to rejecting the null hypothesis (H_0) that a linear model is sufficient to represent the association between the outcome and predictors.

Results

In this section, we first present descriptive statistics and correlations between our constructs of interest and youth developmental outcomes. Next, we present the results of analyses associated with each of our four research questions outlined above. Generally, this will allow us to (1) assess whether the quadratic regression parameters are necessary to best illustrate the association between the dimensions of breadth and intensity for developmental outcomes, (2) determine if there is an optimal balance or a sweet spot between these two activity participation dimensions that may offer insight into how to support positive youth outcomes best, (3 and 4) investigate how the effects of variations, in terms of type and number of activities, in the constructs of breadth and intensity may affect the association between activity participation and two key outcomes (one academic and one social) for youth.

Descriptive Analysis and Correlations

Table 1 contains descriptive statistics for the study variables. GPA was approximately 3.0 for all three MSS administrations: in 2007 ($M = 2.91$, $SD = 0.86$), in 2010 ($M = 2.95$, $SD = 0.83$), and 2013 ($M = 3.11$, $SD = 0.97$). The average FCS score in 2007 was 1.44 ($SD = 1.51$) logits; in 2010 was 1.59 ($SD = 1.59$) logits; and in 2013 was 1.11 ($SD = 1.48$) logits. Most youth participated in at least one

activity (90% in 2007, 90% in 2010, and 81% in 2013). On average, youth were involved in about three activity contexts in 2007 ($M = 2.71$, $SD = 1.55$) and in 2010 ($M = 3.01$, $SD = 1.87$) and two activities in 2013 ($M = 2.06$, $SD = 1.61$). Overall, youth reported being involved in activities on average 2 to 3 times per week. Correlations between breadth and intensity (MSS 2007, $r = .23$, $p < .001$; MSS 2010, $r = .17$, $p < .001$; MSS 2013, $r = .34$, $p < .001$) suggested breadth and intensity can be treated as associated but separate constructs.

Table 1
Descriptive Statistics for Study Variables

	2007		2010		2013	
	M	*SD*	*M*	*SD*	*M*	*SD*
Family & Community Support (FCS)	1.44	1.51	1.59	1.59	1.11	1.48
GPA	2.91	0.86	2.95	0.83	3.11	0.97
Breadth	2.71	1.55	3.01	1.87	2.06	1.61
Intensity	2.82	2.09	2.70	2.00	2.45	1.84

Academic Outcome: GPA

RQ1: Linear versus Quadratic

A linear model is sufficient to model this association when the partial *F*-statistic is insignificant. In contrast, a significant partial *F*-statistic suggests curvature and interaction effects are needed to accurately represent the association. In all three models, the partial *F*-statistic was significant: MSS 2007, $F(3,39981) = 398.3$, $p < .001$; MSS 2010, $F(3,38850) = 591.6$, $p < .001$; and MSS 2013, $F(3,36882) = 396.5$, $p < .001$. Therefore, returning to our first research question, the partial *F* tests lead to the rejection of H_0 and suggest that the curvature and the interaction effects are needed to accurately represent the association. Table 2 contains the regression results for the GPA outcome. All three models' quadratic effects were negative and significant at the $p < .001$ level.

Table 2

*GPA Regression Model Results by Year*

	2007		2010		2013	
	β	*SE*	β	*SE*	β	*SE*
Intercept (β_0)	3.082	0.006	3.129	0.006	3.290	0.008
Intensity linear effect (β_1)	0.072	0.002	0.065	0.003	0.067	0.005
Breadth linear effect (β_2)	0.125	0.003	0.094	0.003	0.144	0.006
Intensity quadratic effect (β_{11})	-0.026	0.001	-0.025	0.001	-0.025	0.002
Breadth quadratic effect (β_{22})	-0.024	0.002	-0.022	0.001	-0.033	0.002
Interaction effect (β_{12})	0.002*	0.001	-0.004**	0.001	-0.004*	0.002
R^2	.14		.12		.11	
Inflection point [x_{i1}, x_{i2}]	[1.49, 2.67]		[1.48, 2.27]		[1.52, 2.27]	

Note. All regression coefficients are significant at $p < .001$, except * non-significant and **$p = .001$ and presented in terms of centered predictors. The inflection point is located at coordinates [x_{i1}, x_{i2}] for the centered intensity and breadth variables, respectively.

RQ2: Participation Sweet Spot

After finding evidence for a model with quadratic effects, a natural follow-up question is whether there is a "sweet spot" for breadth and intensity of afterschool activity participation. To explore this question, we investigated whether there appears to be an optimal balance of breadth and intensity of afterschool activity participation. From Research Question 1, we found that the curvature and the interaction effects are necessary to represent the association. The intensity quadratic effect was statistically significant and similar in sign and magnitude for the three models, MSS 2007 ($\beta_{11} = -0.026$, $p < .001$), MSS 2010 ($\beta_{11} = -0.025$, $p < .001$), and MSS 2013 ($\beta_{11} = -0.025$, $p < .001$). Similarly, the breadth quadratic effect was statistically significant and similar in sign and magnitude across the three models, MSS 2007 ($\beta_{22} = -0.024$, $p < .001$), MSS 2010 ($\beta_{22} = -0.022$, $p < .001$), and MSS 2013 ($\beta_{22} = -0.033$, $p < .001$). The point of inflection or sweet spot, using centered values for intensity and breadth respectively, is located at the following coordinate axes for each of the models: MSS 2007 (1.49, 2.67), MSS 2010 (1.48, 2.27), and MSS 2013 (1.52, 2.27).

Figure 1 contains two 3-dimensional (3-D) representations, response surface and contour curves, illustrating the association between breadth and intensity. The response surface provides an overall visualization of the complex association of the two predictor variables, breadth and intensity, as a function of GPA. The contour curves graph represents the 3-D surface by plotting constant *z*-slices (contours) in a 2-dimensional format. In other words, given a value of GPA, lines are drawn to connect the coordinates of intensity and breadth where that value of GPA is found. The circle or dot represents the peak of the surface or sweet spot. Transforming the centered values to their original format by adding them to their respective means, we find that the point at which activity participation begins to impact GPA negatively is (4.33, 3.97) or around four activity contexts four times per week in 2013.

Figure 1
GPA Response Surface and Contour Curves for MSS 2013 Using Centered Predictors
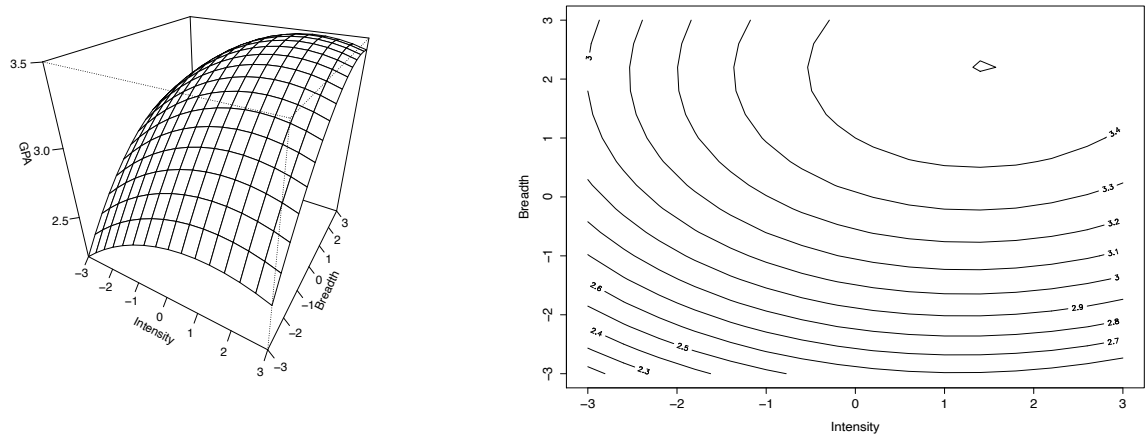
RQ3: Variation in Number of Activity Contexts

In our second research question, we asked whether when keeping type of activity contexts and time scales constant, the effects in the 6-activity model (i.e., MSS 2007) are similar to those from the 8-activity model (i.e., MSS 2010). Similar parameter values across models suggest that breadth and intensity yield similar estimated effects when constructed using 6- or 8-activity contexts. When keeping type of activity and time scales constant, the MSS 2007 quadratic effect for intensity was (β_{11} = -0.026, p < .001) and for breadth (β_{22} = -0.024, p < .001). Similarly, the MSS 2010 quadratic effect for intensity was (β_{11} = -0.025, p < .001) and for breadth (β_{22} = -0.022, p < .001). The interaction term was only statistically significant for the MSS 2010 model (β_{12} = 0.004, p = .001). The two models account for a similar amount of variance explained, MSS 2007 (R^2 = .14) and MSS 2010 (R^2 = .12). Results suggest that the effects of breadth and intensity are relatively similar when using 6- or 8-activity contexts.

RQ4: Variation in Type of Activities and Time Scales

For our third research question, we investigated whether, when keeping the number of activity contexts constant (8), if variations in type of activities or time scales used to construct the breadth and intensity measures of activity participation affected the association with GPA. We found that the MSS 2013 quadratic effect for intensity was (β_{11} = -0.025, p < .001) and for breadth was (β_{22} = -0.033, p < .001), but the interaction effect was not statistically significant. The variance explained by the MSS 2013 model was R^2 = .11. Results from this model are similar in magnitude and sign to the results from the MSS 2010 model, suggesting that the effects of breadth and intensity are relatively similar when keeping the number of activity contexts constant but varying the type of activities and the time scales of the items for the construction of the breadth and intensity measures (see Table 2).

Social Outcome: FCS

RQ1: Linear versus Quadratic

In all three models, the partial F-statistic was significant: in MSS 2007, $F(3,39981) = 99.9$, $p < .001$; in MSS 2010, $F(3,38850) = 126.1$, $p < .001$; and in MSS 2013, $F(3,36882) = 77.6$, $p < .001$. Therefore, returning to our first research question, partial F test results suggest that the curvature and interaction effects are statistically necessary to represent the association. Regression estimates are provided in Table 3. All regression coefficients were significant at the at $p < .001$ level.

Table 3
FCS Regression Model Results by Year

	2007		2010		2013	
	β	*SE*	β	*SE*	β	*SE*
Intercept (β_0)	1.558	0.012	1.734	0.011	1.207	0.012
Intensity linear effect (β_1)	0.099	0.005	0.106	0.005	0.088	0.008
Breadth linear effect (β_2)	0.194	0.006	0.166	0.006	0.184	0.010
Intensity quadratic effect (β_{11})	-0.021	0.002	-0.023	0.002	-0.011	0.003
Breadth quadratic effect (β_{22})	-0.017	0.003	-0.019	0.002	-0.030	0.003
Interaction effect (β_{12})	0.026	0.003	0.017	0.002	0.012	0.004
R^2	.07		.07		.06	
Inflection point $[x_{i1}, x_{i2}]$	[11.18, 14.26]		[4.70, 6.47]		[6.37, 4.34]	

Note. All regression coefficients are significant at $p < .001$ and presented as centered predictors. The inflection point is located at coordinates $[x_{i1}, x_{i2}]$ for the centered intensity and breadth variables, respectively.

RQ2: Participation Sweet Spot

As an extension of Research Question 1, we investigated whether there appears to be an optimal balance of breadth and intensity of afterschool activity participation when considering a measure of a social outcome (FCS). From Research Question 1, we learned that a linear model is insufficient to represent the association of breadth and intensity with FCS and that the quadratic effects are statistically significant in the three models. The estimated point of inflection or sweet spot, using centered values for intensity and breadth respectively, was located at the following coordinates for MSS 2007 (11.18, 14.26), MSS 2010 (4.70, 6.47), and MSS 2013 (6.37, 4.34).

The point of inflection was high and often found outside the response plane. Figure 2 contains two 3-D visual illustrations for the MSS 2013 model, and here, we can see that the peak or sweet spot falls outside the response surface. For instance, by transforming the centered values to their original form, we find that the point at which activity participation begins to have a negative impact on FCS is (8.82, 5.40) or approximately five activity contexts nine times per week in 2013.

Figure 2
FCS Response Surface and Contour Curves for MSS 2013 Using Centered Predictors

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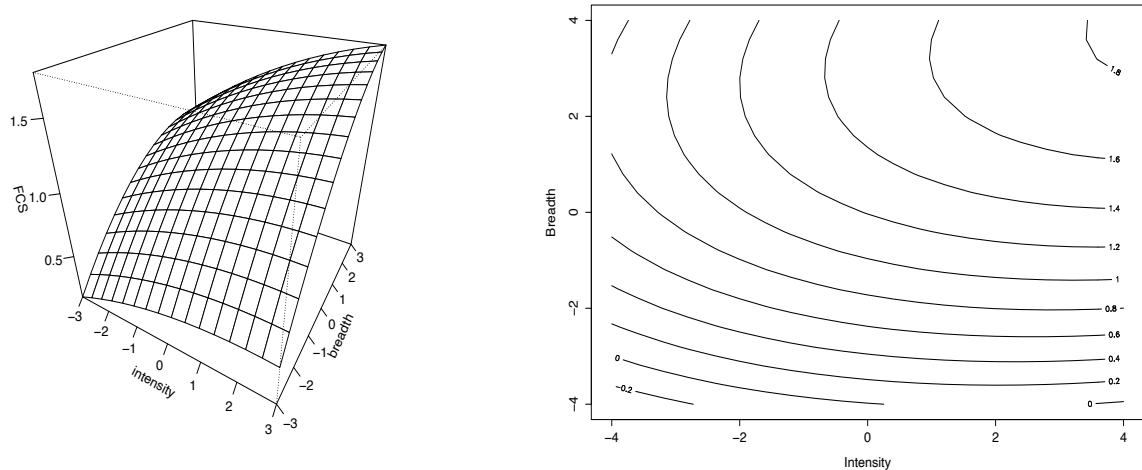
RQ3: Variation in Number of Activity Contexts

For our second research question, we asked whether when keeping type of activity contexts and time scales constant, the nonlinear effects in the 6-activity model (i.e., MSS 2007) were similar to those from the 8-activity model (i.e., MSS 2010). In MSS 2007, the curvilinear effect for intensity was ($\beta_{11} = -0.021$, $p < .001$), for breadth ($\beta_{22} = -0.017$, $p < .001$) and the interaction ($\beta_{12} = 0.026$, $p < .001$). For MSS 2010, the curvilinear effect for intensity was ($\beta_{11} = -0.023$, $p < .001$), for breadth ($\beta_{22} = -0.019$, $p < .001$), and for the interaction ($\beta_{12} = 0.017$, $p < .001$). Both models account for a small and similar amount of variance explained, MSS 2007 ($R^2 = .07$) and MSS 2010 ($R^2 = .07$). Similar values across model parameters indicate that using 6- or 8-activity contexts for the construct of breadth and intensity measures would yield relatively similar model estimates when keeping type of activity contexts and time scales constant.

RQ4: Variation in Types of Activities and Time Scales

When keeping the number of activity contexts constant and varying the types of activities and time scales, the MSS 2010 nonlinear regression effect for intensity was ($\beta_{11} = -0.023$, $p < .001$), for breadth ($\beta_{22} = -0.019$, $p < .001$) and for the interaction ($\beta_{12} = 0.017$, $p < .001$). In contrast, for MSS 2013, the nonlinear regression effect for intensity was ($\beta_{11} = -0.011$, $p < .001$), for breadth ($\beta_{22} = -0.030$, $p < .001$), and for the interaction term ($\beta_{12} = 0.012$, $p < .001$). The variance accounted for by MSS 2013 is ($R^2 = .06$), which is small and relatively similar to the MSS 2010 model (see Table 3). Model parameters from models MSS 2010 and MSS 2013 for the FCS construct are slightly different, suggesting that the effects of breath and intensity are slightly different when varying the number of activities and time scales but keeping the number of activity contexts constant.

Discussion

Researchers have long demonstrated that youth involvement in activities outside the classroom is associated with academic and social benefits such as higher academic engagement and performance

and better perceptions of family and community support (Baker, 2008; Broh, 2002; Eccles et al., 2003). In many ways, through the current study, we support these past findings demonstrating that students who engage in afterschool activities tend to have higher GPAs and better perceptions of family and community support. However, we also offer a more nuanced understanding of the complex nature of optimal activity participation by investigating the constructs of breath and intensity of activity participation together. Only recently have investigations of potential detriments and threshold effects of over-involvement begun to be explored (Matjasko et al., 2019). Therefore, this study is one of the first of its kind, and we offer numerous methodological contributions and implications for applying these findings.

Linear and Quadratic Modeling

The main goal of the study was to empirically address several methodological gaps in the assessment of activity participation when using the constructs of breadth and intensity. First, most previous researchers have investigated the effects of breadth and intensity in isolation (Bohnert et al., 2010; Farb & Matjasko, 2012), and few researchers have reported conflicting results (Denault & Poulin, 2009a; Rose-Krasnor et al., 2006). We analyzed the constructs of breadth and intensity together, and we found both constructs to have significant effects in the presence of one another on two distinct developmental outcomes (GPA and FCS). Secondly, results from partial F tests indicate that the association between breadth and intensity with GPA and FCS is of a complex nature and that a linear trend can be insufficient to represent the association. To our knowledge, no other researchers have examined nonlinear associations simultaneously as a function of breadth and intensity. Quadratic effects indicate a curvilinear association, supporting the overscheduling hypothesis.

Overscheduling Hypothesis

Similar to findings in previous studies (Bohnert et al., 2010; Fredricks & Eccles, 2010; Fredricks, 2012; Knifsend & Graham, 2012; Randall & Bohnert, 2012), the inflection point is high. For instance, the point at which activity participation begins to have a negative impact on GPA is ($X_1 = 4.33$ (breadth), $X_2 = 3.97$ (intensity); in other words, this inflection point indicates that youth may no longer reap additional benefits from activity participation after approximately 4 activity contexts, 4 times per week. This may indicate overscheduling or over-involvement and may begin to have a detrimental effect on youth outcomes (Fredricks & Eccles, 2010; Mahoney et al., 2006; Rose-Krasnor et al., 2006).

For FCS, the inflection point occurs much higher and outside the predicted response surface (see Figure 2). If the point of inflection falls outside the response surface, this implies that the peak is beyond the number of activity contexts or frequency of participation used to construct the breadth and intensity measures. For instance, the point at which activity participation starts to have a negative impact on FCS is ($X_1 = 8.82$, $X_2 = 5.40$) or about five activity contexts nine times per week in 2013. This suggests that a student would need to be involved in around 47 activities (8.82 x 5.40) in a single week for activity participation to have a detrimental effect on FCS. Although the quadratic effects are statistically significant, a linear model could be sufficient to illustrate the association of breadth and intensity with the FCS measure. This is because the point of inflection occurs at a point where it is no longer practically significant, and also making the curvature of the model relatively flat within the response surface.

Conceptualization Breadth and Intensity

Lastly, inconsistencies across studies in defining and assessing breadth and intensity have prevented researchers from comparing studies and further understanding the nature and relative importance of each construct (Bohnert et al., 2010; Busseri & Rose-Krasnor, 2010a). When keeping type of activities and time scales unchanged, descriptive statistics and regression results indicate similar associations to each outcome variable (GPA and FCS) when using either 6-activity contexts or 8-activity contexts for the construction of breadth and intensity measures (see 2007 and 2010 results in Tables 1-3). Therefore, from a measurement perspective, items that measure broader categories of activity context may be as informative as items that provide a more fine-grained view of participation patterns when examining the impact of breadth and intensity. A more fine-grained view of participation patterns may be beneficial for different research questions, for example, exploring the impact of participating in team-based afterschool activities for individual activities.

When introducing changes to type of activities and using different time windows and indices, the overall nonlinear associations of breadth and intensity with each outcome remain consistent (see MSS 2013 results in Tables 2-3). However, compared to MSS 2007 and 2010, the intensity quadratic effect becomes larger relative to the breadth quadratic effect in MSS 2013 for both the GPA and FCS models. A potential reason for the change could be that intensity of participation (how much) is linked to the dimension of duration (how long), and duration might moderate the effects of intensity (Bohnert et al., 2010). For instance, in MSS 2007 and 2010, youth were asked to report activity participation *during the last 12 months*. In contrast, in MSS 2013, youth were asked to report activity participation *during a typical week*, so it may be the case that youth were more likely to report participation in an activity at some point in the previous 12 months because such participation may have been less likely to occur within the typical week framework.

Furthermore, the longer time scales may demand increased cognitive effort for accurate responses, particularly with a wide time window and unevenly spaced categories, as respondents have to remember which activities and how much they participated in them (Dillman et al., 2009). We also found that in 2013, youth reported participating in fewer activities (two) on average than in 2007 and 2010 (three activities). Similarly, youth were likelier to indicate no participation in any activity contexts (19%) in 2013 compared to 10% in 2007 and 2010 MSS administrations. We return to how these findings offer practical insight for informing afterschool programming in more detail subsequently.

Limitations

Despite methodological strengths, our study has limitations. First, we assumed that the FCS and GPA constructs are constant at the population level during the time period for the three MSS administrations. This assumption was made given the short period (6 years) for a construct shift (Babcock & Albano, 2011). However, there is evidence of measurement invariance across years for a measure of FCS during the 2013 to 2019 window (Rodriguez, 2021). The second challenge we faced was in constructing the breadth and intensity measures, as these are post hoc based on secondary data. Changes to the survey (e.g., variations in number and type of activity contexts, and time scales) were based on modifications done to the survey for each administration year. Third, it was difficult to separate the effects of type of activities, time windows, and time scales, as all three changes were included in the same survey (MSS 2013).

The fourth challenge of the study was that we based our analysis on a mostly homogeneous sample of 9th-grade students, and other important youth characteristics need to be considered, such as other grade levels, gender, race, ethnicity, and socioeconomic status. Fifth, it was difficult to distinguish the directionality of the effects of breadth and intensity on FCS and vice versa due to the nature of the cross-sectional design of the present study. Sixth, we took a variable-centered approach rather than a person-centered approach. In other words, we defined breadth and intensity in terms of all available activity contexts. All activities are different in terms of level of competition, availability, opportunities for social interaction, curriculum, and frequency of meetings. Students tend to cluster participation within similar types of activities (Bohnert et al., 2010). Although it would be beneficial for researchers to pursue a person-centered approach to study breadth and intensity to determine practical recommendations on a more individualized basis, we offer a solid foundation for the argument that there may be a sweet spot or optimal balance between breadth and intensity of activity participation relative to a positive association with academic performance (Bohnert et al., 2010; Farb & Matjasko, 2012).

Future Directions

With these considerations in mind, through these findings, we offer crucial insight into clarifying how breadth and intensity of activity participation may work to produce youth outcomes. Substantive researchers demonstrate that high-quality relationships formed within afterschool activity contexts offer crucial pathways to positive youth development by boosting students' academic motivation and promoting the development and practice of social and emotional skills (Roehlkepartain et al., 2017).

Future research should aim to disentangle whether the positive association with academic and social development stems from the act of participating in afterschool activities or from the relationships formed during participation. Examining this distinction will contribute to better understanding of the factors influencing developmental outcomes in youth engaged in afterschool activity programs. It is possible that as the number of activities that a young person participates in increases (breadth), the potential for developing relationships would also increase. Furthermore, as young people spend more time engaging in an activity (intensity), their chances of building meaningful relationships with their peers and facilitators would grow.

We support this hypothesis *to a point*. Youth who participate in 4 or more activity contexts four times per week no longer reap additional benefits to GPA; sometimes, this over-involvement may lead to unintended negative academic consequences. We speculate that students who are participating in too many activities or too many activity contexts (breadth) may not have adequate time to give to each of them (intensity) and, thus, may only be developing surface-level relationships. A more thorough exploration would also include important moderating variables such as socioeconomic status, as youth from lower socioeconomic backgrounds might face challenges in accessing a diverse range of activities due to financial constraints and limited opportunities. Connecting the overscheduling hypothesis to relational quality is only speculative and an avenue for future research, as we did not explicitly measure relationships within the context of afterschool activity participation.

We also observed that it is not as simple as identifying a sweet spot because the value of this participation sweet spot may not always be meaningful from a practical standpoint. Further, this sweet spot may vary by outcome. As reported above, the sweet spot for GPA is meaningful; anything more than 4 activities 4 times per week is associated with adverse academic outcomes.

However, when examining the sweet spot for family and community support, the sweet spot is relatively high. For instance, youth who participate in roughly 5 or more activity contexts, 9 or more times per week, would likely report lower levels of perceived family and community support. Although this is a statistically significant finding, it may not be practically significant because it suggests that youth would need to participate in over 45 different activities/sessions in a single week (5 activities times 9 times per week) before seeing judgments of family and community supports beginning to decline. This value is beyond a reasonable estimation of a young person's ability to participate in afterschool activities, so it holds no practical significance. Therefore, we argue that the benefits of afterschool activity participation (for 9th graders) can be seen at different levels of participation, and the classification of overscheduled happens at different levels of participation for FCS and GPA.

Awareness of how breadth and intensity of activity participation function together and the apparent presence of a threshold effect of activity participation offers practical suggestions that can help guide the efforts of key stakeholders interested in creating more effective youth development programming. Parents, practitioners, and youth development programs should emphasize moderation (in number of activities/contexts engaged in) and depth of activity participation-directing youth to pick a select number of meaningful activities in which they can devote sufficient time and purposefully build deep relationships with their peers, mentors, and facilitators within those activity contexts. In other words, more (in a strictly linear sense) activities are not always better for a young person's development. Additionally, afterschool program developers and leaders may want to prioritize and focus on this relationship-building component to promote better long-term outcomes for youth. However, future research is needed to address the potential of this strategy, as the best methods and practices for accomplishing the goal of developing deep relationships with peers and adults in different contexts is outside the scope of this paper.

Conclusion

Ultimately, the results from this study help us to answer the question, "What is the optimal balance of breadth and intensity of activity participation for youth to reap the benefits of being well-rounded and cultivating supportive relationships in their home and community without overscheduling to the point of no further advantage (*or worse, detriment*)?" In this study, we provide numerous methodological contributions by addressing past disagreements about measuring the breadth and intensity of activity participation and demonstrating that a linear model is insufficient for accurately modeling these complex associations with important youth outcomes. The findings provided by this novel analytical strategy have direct links to practical implications. The results regarding the optimal breadth and intensity of activity participation are useful for students, parents, and practitioners alike as they help support and clarify how these two constructs may function in tandem to produce developmental outcomes. From this, we see that academic and social success may not be as simple as engaging in multiple activities all the time, but that there may be a sweet spot, or optimal balance of breadth and intensity of activity participation, after which too much participation (on average, greater than four activities/contexts, four times per week) may yield negative consequences. Therefore, greater awareness of the multi-faceted nature of activity participation and this threshold effect offers the potential to help strengthen PYD approaches and improve outcomes for a greater number of youths.

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Appendix A

Items from the Minnesota Student Survey (MSS) Were Used to Create the Family and Community Support (FCS) Scale

Items
1. Can you talk to your mother about problems you're having?
2. How much do you feel your parents care about you?
3. How much do you feel other adult relatives care about you?
4. How much do you feel friends care about you?
5. How much do you feel teacher or other adults at school care about you?
6. How much do you feel adults in your community care about you?

Appendix B

Activity Items and Time Scales Used in the Minnesota Student Survey Versions of 2007 and 2010

Item stem	Activity contexts
In general, during the last 12 months, how often have you participated in the following activities?	a. Fine arts activities (lessons, band, choir, dance, drama, etc.) b. Club or community sport teams. c. School sport teams d. Community clubs and programs (4-H, Park and Rec, Community Ed, etc.) e. Mentoring programs (as a mentor or being mentored) f. Religious activities (religious services, education, youth group, etc.) g. Service learning programs* h. Tutoring, Homework Help or other academic programs*

Category scales	Times per week
Never	0
Less than monthly	0.02
Monthly	0.25
1-2 times per week	1.50
3-4 times per week	3.50
Every day	7.00

Note. * Indicates activity is not present in 2007 MSS version.

Activity Items and Time Scales Used in the Minnesota Student Survey Versions of 2013

Item stem	Activity contexts
During a typical week, how often do you participate in each of the following activities outside the regular school day?	a. Club or community sports teams, such as park and rec teams, in-house teams or traveling teams b. School sport teams c. School sponsored activities or clubs that are not sports, such as drama, music, chess or science club d. Tutoring, Homework Help or other academic programs e. Leadership activities such as student government, youth councils or committees f. Lessons such as music, dance, tennis or karate lessons g. Other community clubs and programs such as 4-H scouts, Y-clubs or Community Ed h. Religious activities such as religious services, education or youth group

Category scale	Times per week
0 days	0
1 day	1.0
2 days	2.0
3 to 4 days	3.5
5 or more days	6.0

Navigating a Third Space to Support International Students in the U.S.

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Abstract

The present article explores the experiences of two international graduate students who studied in the United States and how they dealt with the challenges of living in a new country. The researcher was inspired by Bhabha's (1994) third space theory and aimed to investigate how these students tried to create a space for themselves in the classroom to overcome cultural differences. The data has been collected through in-depth interviews and analyzed using Gee's (2011) discourse analysis method. The study concluded that providing international students with a designated space in the classroom to address their cultural challenges could greatly benefit them, and teachers can actively facilitate this space.

Keywords: Bhabha's third space, international graduate students, cultural differences, teacher instruction

Navigating a Third Space to Support International Students in the U.S.

This paper presents the experiences of two international graduate students who were interviewed in-depth to explore how having a "third space" can help learners cope with the challenges they face in a new country, especially the United States. The study is based on Bhabha's (1994) theory of third space, which suggests that learners can create their role in a new learning environment by using a third space. The paper also draws on Bakhtin's (1981) "voicing" theory to propose solutions to the challenges faced by international students. One of Gee's (2011) discourse analysis tools was used to analyze the data. The paper suggests that international students need a third space to help them use their life experiences, which can assist them in overcoming cultural struggles in a new environment.

My Positionality and Purpose of the Paper

The purpose of the present case study was to shed light on the experiences of international graduate students in a classroom setting, specifically how they navigate between two different cultures and find their place within them. As an international student, I often face the challenge of adapting to a new cultural context where I am unable to use my native language. English is our second language. I use it both at work and in class. Although I am comfortable using English, I often feel excluded and marginalized because I cannot use my language. When I talk to other international students, I find that we share a common struggle of adjusting to life in a new country for many reasons. These reasons include language barriers, feeling lonely in a new environment, missing our home country, missing the food of our native country, economic struggles, and managing money, among others.

When I decided to write this paper, I used my own experiences as an international student and tried to connect those with other international students. To highlight more on this, I always felt a lack of belongingness here. I found myself alone sometimes. It also seemed to me that none can understand my emptiness due to a big cultural transition while living in a new country. Therefore, I intentionally chose two of my graduate peers who are also from international backgrounds. One of them was from Bangladesh and one was from China. They are pursuing their PhD at a Midwest university and they participated in my research work willingly when they heard my intention to write about our struggles in academia.

Relevant Literature and Rationale of the Study

Binaries in Third Space Theory

A third space theory is a postcolonial sociolinguistic theory of identity where a learner collides with two cultures (Bhabha, 1994) and then reaches a third space where he/she negotiates meaning at recognizable spaces and therefore creates his own space to overcome those cultural struggles. The Third Space is a place where people can transform themselves without being restricted to any particular set of dominant values and traditions. It is a productive space where individuals or groups are free to create their own identities by drawing on elements of different discourses. These elements can be appropriated, translated, historicized, and reinterpreted in a new way. The Third Space recognizes how people resist dominant ideologies' hegemonic narratives by negotiating and transforming them. The study was significant to me to explore how third space theory might work for international students and how this concept could be used to give our students voices in an educational context.

To discuss the existing literature, I would like to draw attention to the existing concept of third space as defined by Soja (1998). Soja's third space theory was based on binary concepts in which the individual's discourse is seen as a discursive practice of this theory and which demanded a change to use another term to understand an individual's fund of knowledge. On the other hand, Bhabha's (1994) third space theory gave a new dimension to understanding each individual in a space where they can be perceived from an 'in-between' perspective (Moje et al., 2004). Gutierrez et al.'s (1999) proposed the same kind of perspective on the third space theory where they emphasized exploring students' discourses as resources in the educational contexts.

In my paper, I aim to examine the impact of our instructors' instructions, specifically their particular discourses, on marginalized learners. I will explore how these instructional approaches can create a third space in a graduate classroom. I will consider classroom teachers as agents in a new cultural setting. Additionally, I aim to voice the experiences of marginalized learners in a U.S. educational context to examine the existing school practices more broadly.

Learners' Experience and Third Space

Moll (1990) argues that classrooms are transformed into more advanced contexts for teaching and learning if we create a social network that connects them to outside resources and mobilizes learners' funds of knowledge. I am particularly interested in exploring how we can utilize the social and historical experiences of our international learners, inherited from their own cultures, as funds of knowledge to identify their strengths. This paper could be significant for future research in understanding how to leverage the struggles of minoritized learners in the classroom counting them as assets. Humanizing pedagogy (Freire, 2000) has inspired me to recognize and utilize our learners' cultural resources to help them navigate their third space and overcome the limitations imposed on minority students due to racial discrimination.

International Students' Struggle and U.S. Academia

The Third Space Theory by Bhabha has gained importance in multicultural educational settings in recent years. This theory seeks to understand the complexities that arise from cultural diversity, where learners from different backgrounds must establish their identities in a given situation (Sjödin,

2022; Tatham-Fashanu, 2021). The researchers conducted studies to demonstrate the positive impact of the third space concept on children aged 4-12 in educational settings. However, there has been limited research on how this theory can help identify the struggles of graduate students.

According to Campbell (2015), there were 819,644 international students enrolled in U.S. higher education in 2013, a 40% increase within a decade. Studies showed that international students make considerable sacrifices in leaving their homes, families, and sources of social and financial support in their home countries while staying in the U.S. and undergoing language and cultural adjustments, and visa concerns. Also, they often must struggle to supplement their income while in the U.S.; and they must work to integrate with their American counterparts socially and academically (Bowman, 2012). In another study, research found that international students face several challenges when coming to the U.S. for their post-secondary education e.g. challenges of acculturation, low English language competency, difficulties with social and academic integration, and even problems with discrimination (Jung & Hecht, 2008). In a recent study on third space, Benzie (2015) demonstrated how using the concept of third space theory can assist postgraduate students in pathway programs in creating their own identities.

I found limited or no research on how classroom instructions, such as a teacher's speech, can create a "third space" to aid international students in coping with their difficulties while studying in the United States. Therefore, my study aims to investigate how navigating a third space can offer support to international students at a Midwest university.

Theoretical Framework

My study is informed by two main theories: Voicing (Bakhtin, 1981) and third space theory (Bhabha, 1994).

Voicing (Bakthin, 1981)

I have been exploring how the knowledge gained from the life experiences of marginalized students can help in creating a better learning environment. To do this, I am using Bakhtin's (1981) concept of voicing, which means narrators represent their positions and those of others by analyzing their discourses in dialogues. Bakhtin believes that meaning is created through dialogues. My objective is to analyze how an individual student shares their voice in dialogues, inspired by Bakhtin's work on voicing, and to assess the learner's self-assessed positionality in a culturally shifted classroom.

To elaborate on Bakhtin's concept of voicing, he refers to the term heteroglossia as an internal stratification of language. This means that speaking in certain voices indicates the person's social positioning. I will use this idea to explore how two graduate students feel about their positionality in a new cultural context. Bakhtin also believes that when narrators put words in voices through a character's mouth, it signals an index or cue associated with certain voices, thereby initiating a social positioning. In this way, social positions are represented through voicing in a given context. Though I am not analyzing the positions in detail I am intrigued to see how to help these students who struggle with positionality by reaching a third space or if it is even possible to.

To sum up, I tried to understand how struggling learners can develop their position and use their life experiences as resources in an educational context where they face tensions created by their marginalized ethnic or linguistic background or opposite cultural conflicts. It was my purpose to

know about these students' perceptions about how they would feel if they were given a space in the classroom with the help of the instructors. In that case, my paper is a trial to understand if the third space theory can be used as a concept of collaboration between two different cultures to reduce existing cultural gaps. According to this theory, marginalized individuals create their own liberated space in the third space. This theory might help in understanding the cultural struggles students face while living in a new country. To dig deeper, my paper will examine the existing classroom practices that learners use to navigate in the third space and grow their literacy skills.

Research Questions

My research is guided by the following questions:

1. In what ways do international graduate students connect their own life experiences with new cultural resources at a third space?

2. What types of classroom instruction helps them to negotiate between two cultures in a third space?

Methodology

Data Collection

As part of the research, I conducted two semi-structured interviews with two international graduate students in a natural setting. The participants were selected based on their international student background. One of the participants is a Bangladeshi graduate student pursuing a PhD and the other is a Chinese student pursuing an M.A. Both participants were my peers. I obtained their consent before they participated in the study. At first, I discussed my research intentions with them. Later, I sent them messages through emails. They agreed to my proposal of participation in this study. I have used pseudonyms to protect their anonymity. The interviews were conducted on Zoom and recorded for transcription purposes. The Zoom meetings lasted between 15 and 25 minutes and were conducted in English. Excerpts from the transcription are included in this study.

Participant Consent

The participants were informed about the research design and its purpose. They gave word of mouth as evidence of an agreement to participate in the study. I also sent an email to each of them where they were notified about the consent and aims of the study.

Results

From the interview data, it was found that international graduate students usually are struggling in the U.S. for several reasons. The first struggle they encounter is cultural differences. Data showed that they are very interested in getting a space in the new classroom or they want to use that classroom space to connect with a new culture. I assumed this space could be used as a third space to help these learners. To analyze the interview data I used interview responses and responses to questionnaires. Interview transcription revealed the following findings.

Students Confront with Cultural Struggles and Suggested for a Space

It was found from both interview transcripts that graduate students who are from international backgrounds usually face struggles in a new environment. When asked about what are the main struggles they encounter one of them stated that their main struggle is not language but a new culture. As Shuva (Pseudonym) reported:

Table 1
Interview Transcript for Shuva (Graduate Student in the Department of Curriculum & Instruction)

1   "I cannot imagine! that I am here ALONE,
2   it is not LANGUAGE,
3   you know,
4   it is something horrible about a new CULTURE!
5   I am studying here alone
6   and I am scared
7   at first to think how can I survive here
8   in a completely new culture."

Xin (Pseudonym), a Chinese international student, also mentioned that she is always in a panic state to adjust to a new environment. She believed that she is marginalized not for language but for many other reasons like having a non-immigrant status, having low income and mostly having no friends from her own culture in the classroom. In an informal interview she reported:

> *"I sometimes feel the need for a space where I can connect with someone from a different culture while using my own culture. I am not sure if this is what is referred to as a "third space", but I strongly feel the need for it. I desire to feel free in this space. Some faculties have been working hard to provide such a space, and I appreciate their efforts. However, I hope that every faculty can offer this kind of support to international students like me."*

Instructors Play Important Roles in Negotiating with New Cultures

During my conversation with a participant, I inquired about her experience using classroom spaces to engage with two different cultures. She emphasized the importance of international students feeling respected in a graduate class. The following excerpt highlights her thoughts on the negotiation between two cultures and how a classroom can serve as a "third space" where two cultures can interact.

Table 2
Interview Transcript Shuva (Graduate Student in the Department of Curriculum & Instruction)

1   …Oh…you cannot imagine… how HAPPY I was
2   coz he was such a great MENTOR
3   he always RESPECTS me…I mean.. Umm… Us…
4   respect is must, you know/
5   I was able to understand lesson when feel that
6   that means he respects me in class…
7   I mean MOTIVATION matters.. Coz you know we are STRUGGLING..mean

8   totally new environment
9   and he give you a space
10   I need it…um..I really need it

Interviewer: Could you please explain how to use this space thing?

11   Yes, of course…
12   I feel freedom
13   I think everyone should be sould be you know…
14   Like him
15   His instructions are something like
16   Giving you a space for you
17   I feel very confident there…
18   I need this space for myself
19   You know

The above excerpt explores how an international student feels about the instructor's language choice, attitude towards her, and a deep sense of belongingness to reduce the gaps between two different cultures.

Another participant, Xin, mentioned during the interview:

> *"I was in a class where the professor was talking about Chinese culture. There were several Chinese students in the class, including me, and the teacher invited us on stage for a short speech. Because many people don't know Chinese culture and have never known it. So this class also provides us with an opportunity to publicize our own culture and make us feel warm."*

Both students emphasized the importance of the instructor's classroom techniques in helping them overcome cultural conflicts in the third space. Students' learning improved when instructors allowed them to use their own space, enabling two cultures to coexist without conflict, and creating a sense of freedom.

Teacher's Strategies to Incorporate Shared Thoughts Navigating a Third Space

It has been observed that when a course instructor encourages students to share their thoughts, relate their prior experiences to others, and help them identify gaps in existing practices, the students are better able to adapt to new cultures in a third space. Students reported feeling a sense of belonging to the same cultural group when the teacher addressed issues in this way. This is a significant factor in promoting cultural responsiveness in a diverse context.

Developing Cross Cultural Understanding Through Culturally Responsive Pedagogy

The following study delves into how an instructor promotes cross-cultural understanding of Culturally Responsive Pedagogy (CRP) among graduate students by maintaining a consistent discourse throughout the class. CRP is a student-centric approach to teaching that acknowledges the significance of cultural references and recognizes the importance of a student's cultural background and experiences in all aspects of learning (Ladson-Billings, 1995). The participants in the study reported that they expect other courses to promote this kind of understanding. Additionally, the

students suggested that CRP is essential to bridge the cultural gap and develop content knowledge, particularly for those students who found it challenging to adapt to a new culture.

The study suggests that by implementing CRP, educators can address the gaps that exist in educational settings where international students may struggle to adapt to new cultural practices (Aziz, 2024). Previous studies indicate that effective teaching practices can promote CRP for diverse learners (Ladson-Billings, 1995). To achieve this, teachers must demonstrate an ethic of caring toward their students' needs, motivations, and perspectives, regardless of their cultural background.

Conclusion

Although previous research has explored the use of third space in educational contexts, no studies have investigated how this concept can help us understand the cultural challenges faced by international graduate students. This knowledge gap motivated me to conduct further research on this subject.

International graduate students face many learning complexities and cultural conflicts. They need to feel like they belong in their classroom to learn more effectively. To overcome their struggles, they want to rely on their course instructors as they see the classroom as a space where they can negotiate their conflicts. By adopting the third space, international students can liberate themselves from their imposed cultural identity. The classroom could have been used to help students connect with new cultures while preserving their existing cultural experiences. To achieve this, educational institutes in the U.S. should incorporate the essence of the third space perspective to create more spaces for international students. It is crucial to implement carefully chosen instructional approaches to facilitate support for learners who are struggling with cultural issues. The ultimate goal of using the third space theory is to liberate learners and help them overcome cultural and educational struggles.

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Appendix A

Lead Interview Questions

1. Do you consider yourself as marginalized? Why?
2. How do you feel about the cultural shift in a new place? Explain your experiences.
3. Who helps you most in the classroom? Your peers / teachers to overcome the struggles (if you ever feel any for language or other reasons)?
4. What are your expected instructional structures to liberate yourself in the classroom?
5. Have you noticed any specific classroom interaction in your class that helps you to think that you belong to the same class/culturally relevant? What are those?
6. Any recommendations?

Appendix B

Transcription Convention

…	Long pause
..	Short pause
Capital	Emphasized word
!	Raised voice