



# Teacher-student relationships and mental health help seeking behaviors among elementary and secondary students in Ontario Canada

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## ABSTRACT

This study examined associations between teacher-student relationship quality at school and teachers' responsiveness to students' emotional concerns in a classroom and (a) students' intention to seek help at school for mental health concerns and (b) mental health-related service use. Data for analyses came from the School Mental Health Survey, a cross-sectional survey of 31,120 grade 6–12 students, in 1968 classrooms, attending 248 schools in Ontario, Canada. Three-level (student, classroom, school) binary logistic regression was used to address the study objectives. Student ratings of the quality of teacher-student relationships and teachers' responsiveness were included as predictors, both at the individual student level and aggregated to represent a contextual level characteristic at the school and classroom level, respectively. At the student level, both teacher-student relationship quality and teacher responsiveness were positively associated with intentions to seek help at school among both elementary and secondary students (ORs ranged from 1.14–1.19 for relationships and 1.06–1.08 for responsiveness). Aggregated to the school level, teacher-student relationship quality was positively associated with mental health service use for secondary students (OR = 1.36, 95% CI [1.10, 1.69]). Positive and responsive teacher-student relationships were associated with help-seeking behaviors among students. Longitudinal studies are warranted to disentangle the temporality of these associations.

## 1. Introduction

Early intervention and treatment for mental health concerns play an important role in reducing the severity and persistence of illness across the life-course (De Girolamo, 2012). In Ontario, Canada, less than one-third of children and adolescents with a mental illness received care from a mental health professional (i.e., psychiatrist, psychologist, social worker) (Georgiades, Duncan, Wang, Comeau, & Boyle, 2019). Similar estimates have been reported in Australia (Johnson et al., 2016) and the United States (Costello, He, Sampson, Kessler, & Merikangas, 2014). Across the many settings in which children and adolescents have mental health related

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service contacts, schools are the most common (Costello et al., 2014; Georgiades et al., 2019; Green et al., 2013; Merikangas et al., 2011; Ryan, Toumbourou, & Jorm, 2014), yet little is known about the interpersonal processes occurring within schools that may facilitate access to care.

The objectives of the present study were to examine associations between the nature of teacher-student relationships at school and in the classroom and student help seeking intentions and behaviors. Help seeking typically refers to the active behavior of seeking out and communicating need for support from other people (Rickwood, Deane, Wilson, & Ciarrochi, 2005). Rickwood, Deane, and Wilson (2007) proposed that the conceptualization of mental health help-seeking behaviors should include multiple “processes”, based on the theory of planned behavior, which include (a) attitudes towards seeking help, which predict (b) intentions to seek help, which in turn predict, (c) actual observable help-seeking behaviors. This study examined intentions, which are not direct measures of help-seeking but may predict later help-seeking behaviors, and actual professional mental health service use.

### 1.1. Conceptual framework

Two complementary conceptual models - Andersen's behavioral model (Andersen, 1995) and McLeroy's ecological model (McLeroy, Bibeau, Steckler, & Glans, 1988) — were used to inform our study objectives and hypotheses. Andersen's model focuses primarily on individual characteristics that serve to facilitate access and use of health services (Andersen, 1995), whereas McLeroy's ecological model integrates broader socio-contextual level factors (McLeroy et al., 1988). Andersen's model classifies the main predictors of health service utilization into (a) predisposing characteristics, which include socio-demographic characteristics; (b) enabling resources, which include the availability of resources, knowledge of resources, and social relationships that facilitate or impede service use; and (c) need, which includes indices of the severity of illness and perceived need for help (Andersen, 1995). Andersen's model acknowledges the importance of the social context, though it mainly focuses on individual characteristics and processes. In contrast, ecological models have been developed to focus more explicitly on the role of socio-contextual factors on health-related outcomes. In the context of schools, socio-contextual factors can be classified according to (a) institutional factors, which refer to schools' physical structure, rules and regulations; (b) community factors, which include school climate and school-level relationships; and (c) public policy factors, which refer to local, provincial, and national laws and policies that govern the availability of mental health resources in schools (McLeroy et al., 1988). The integration of these conceptual frameworks provides a holistic approach to understanding help-seeking behaviors among students by incorporating both individual- and socio-contextual factors that shape these behaviors. On the basis of these frameworks, we hypothesized that social interactions between teachers and students in school would be associated with student mental health help-seeking behaviors, over and above predisposing characteristics and indicators of mental health need.

### 1.2. Existing evidence

Although numerous studies have documented the use of school-based mental health services (Costello et al., 2014; Georgiades et al., 2019; Merikangas et al., 2011; Ryan et al., 2014), few have investigated the extent to which social processes occurring within schools may be associated with help seeking behaviors. Given that teachers may be the first to observe early signs of mental health concerns among students, the quality of their relationships with students and their responsiveness to expressed emotional concerns may represent important social processes that promote student help seeking behaviors. For example, positive teacher-student relationships may facilitate mental health help seeking behaviors among students by fostering trusting relationships that help decrease perceived stigma, fear, embarrassment and shyness some of the most prevalent barriers to youth accessing mental health care (Gulliver, Griffiths, & Christensen, 2010; Yap, Reavley, & Jorm, 2013). Similarly, teachers' ability to identify, respond and engage with students about their emotional concerns, referred to as responsiveness in the present study, may improve communication and facilitate access to mental health supports.

Previous research has demonstrated that a teacher's ability to identify students with mental health concerns is positively associated with utilization of mental health services (Gasquet, Ledoux, Chavance, & Choquet, 1999; Sourander et al., 2001; Wu et al., 1999; Zwaanswijk, van der Ende, Verhaak, Bensing, & Verhulst, 2005). However, to our knowledge, there are only two studies that examined the role of teacher-student relationship quality in help-seeking behaviors: one focused on mental health and the other on bullying behaviors. Mariu, Merry, Robinson, and Watson (2012) found that secondary students were more likely to access mental health services from general practitioners when they felt teachers attempted to “get to know them,” or when they had a non-family adult (such as a teacher) with whom they could talk. These associations persisted over and above socio-demographic characteristics and mental health symptomatology, including depressive and anxiety symptoms, suicidal thoughts, and hallucinations. Eliot, Cornell, Gregory, and Fan (2010) found that Grade 9 students attending schools with more supportive school climates, assessed using student self-reports aggregated to the school level, were more likely to endorse intentions to seek help from teachers for bullying, over and above individual and school demographic characteristics. Supportive school climate was operationalized as having teachers who “care about students, respect them, and want them to do well” (p. 539).

### 1.3. Rationale for examining individual and contextual level indicators of relationships in schools

Teacher-student relationship quality can be conceptualized as both a student level characteristic, hereby referred to as individual level, and a classroom- or school level characteristic, hereby referred to as contextual level. Typically, in school-based research, student reported scores are aggregated to the school level to create variables that represent a collective shared experience of the

school context. Contextual variables are distinct from individual variables because they capture processes that are hypothesized to exert an influence on all individuals in that particular context (Blakely & Woodward, 2000). Of note, individual perceptions of experiences in a school are, in part, driven by being in a particular school context. The reverse is also true – aggregate measurements of schools are also driven by individual perceptions. Therefore, when effects at the individual and contextual levels are examined independent of one another (i.e., in separate models or not included at all), the estimates may be biased and misleading as they combine effects at both individual and contextual levels (Enders & Tofighi, 2007).

Two studies provide support for examining teacher-student relationship quality at the individual- (Mariu et al., 2012) and contextual levels (Eliot et al., 2010) in relation to help-seeking behaviors. However, to our knowledge, few if any studies have examined both individual and contextual level social processes simultaneously in the context of mental health help-seeking behaviors. Other multi-level, school-based studies have simultaneously examined associations between individual and contextual level indicators of school climate and bullying behaviors and victimization (Konishi, Miyazaki, Hymel, & Waterhouse, 2017) and adolescent depressive symptoms (Briere, Pascal, Dupere, & Janosz, 2013). Modeling individual and contextual level variables simultaneously provides the opportunity to quantify overall effects of school- and classroom level teacher-student relationships, beyond the students' own perceptions of those relationships (Enders & Tofighi, 2007).

#### 1.4. Present study

The objectives of this study were to examine the associations between teacher-student relationship quality at school and teachers' responsiveness to students' emotional concerns in the classroom and (a) students' intentions to seek help at school for mental health concerns, and (b) students' mental health-related service use. This study simultaneously modeled individual and contextual level measures of teacher-student relationship quality at school and teachers' responsiveness to students' emotional concerns in the classroom on student help seeking behaviors. Findings have the potential to inform educators and mental health service providers about interpersonal processes occurring within schools and classrooms that are associated with student help seeking behaviors, which in turn, can inform whether targets for interventions to promote help seeking behaviors should be at the individual, classroom, and/or school levels.

## 2. Method

### 2.1. Sampling design and data collection

Data for analyses came from the School Mental Health Surveys (SMHS), a cross-sectional survey of 248 Ontario, Canada schools (180 elementary and 68 secondary) designed to examine associations between (a) school and classroom contexts, and (b) student mental health and psychosocial outcomes. All study procedures, including consent and confidentiality requirements, were approved by the Hamilton Integrated Research Ethics Board at McMaster University and the Research Ethics Committees of the participating School Boards. The selection of schools was based on the sampling design of the 2014 Ontario Child Health Study, a companion investigation of the epidemiology of child and adolescent mental disorders across the province of Ontario (Boyle, Georgiades, Duncan, Comeau, & Wang, 2019; Statistics Canada, 2017). In total, 359 schools were selected to participate and 248 agreed (69% response rate). A series of comparisons ( $\chi^2$  and  $t$ -tests) were conducted between participating and non-participating schools across a number of data sources and variables, including publicly available education and standardized achievement data at the school level (i.e., school type, level, language, region, enrollment, Special Education, English Language Learners, immigrants, standardized achievement levels for elementary and secondary students) and Census derived profiles for socio-economic and demographic characteristics linked at the school level. Statistically significant differences between participating and non-participating schools were few in number. Compared to elementary, secondary schools were less likely to participate (26% of elementary vs 40% of secondary schools did not participate,  $\chi^2_{(1)} = 6.53, p = .01$ ) and compared to Catholic schools, public schools were less likely to participate (23% of Catholic vs 34% of public schools did not participate,  $\chi^2_{(1)} = 4.67, p = .03$ ). Participating schools had, on average, slightly lower school enrollment compared to non-participating schools (654 vs 768 students, respectively;  $t_{(357)} = 2.94, p = .01$ ). Schools did not differ on any of the Census derived variables, nor on any of the achievement-related indicators.

Following school selection, anonymous surveys were administered to all students enrolled in Grade 6–8 classrooms in participating elementary schools, and a random sample of three classrooms per grade in secondary school. In total, survey data were collected from 31,124 students (response rate = 63.1%). Response rates varied as a function of school-board requirements for obtaining consent to participate in research. Among the 248 participating schools, 94 (38%) schools permitted passive consent, while 154 (62%) schools required active consent. The student level response rate in schools that permitted passive consent was 79%, compared to 53% in schools that required active consent. The majority of students in Grades 6–8 in this study attended elementary schools spanning kindergarten to Grade 8 (96%). Therefore, in this paper, schools with Grade 6–8 students were referred to as 'elementary' schools, whereas schools with grade 9–12 students were referred to as 'secondary' schools.

### 2.2. Measures<sup>1</sup>

#### 2.2.1. Dependent variables

2.2.1.1. *Intention to seek help at school.* Students were asked: "If you felt that you needed help for concerns regarding your mental health, would you see or speak to a school social worker, child and youth worker/counsellor, psychologist, nurse, teacher or other staff person at the

school about these concerns?" Responses were coded as 0, for no, and 1, for yes. This question was adapted to focus on the school setting and derived from the most common measures of intentions to seek help among adolescents, including the General Health-Seeking Questionnaire (Divin, Harper, Curran, Corry, & Leavey, 2018; Wilson, Deane, Ciarrochi, & Rickwood, 2005). This measure of intention focuses on conscious planning (i.e., volitional, future-oriented, anticipated behavior; White, Clough, & Casey, 2018) for help at school with mental health concerns.

**2.2.1.2. Mental health-related service use.** For mental health service use in school, students were asked: "During the past six months, did you receive any individual or group counselling or any other help at school for concerns regarding your mental health?" For mental health service use outside of school, students were asked if they saw or spoke to a doctor, counsellor, or other professional for concerns regarding their mental health in the past six months, including at a doctor's office, counsellor's office (e.g., psychiatrist, psychologist, social worker, or other), walk-in clinic, urgent care clinic or emergency room, hospital, or an agency that provides mental health or addiction services for youth. Responses were collapsed into a single variable: 0, no service use and 1, service use at school and/or the community in the past 6 months. These sources of formal support represent the most common settings and professionals in which mental health-related service contacts occur (Georgiades et al., 2019). All students were asked about mental health service use, irrespective of their response to the question regarding intentions to seek help at school.

## 2.2.2. School and classroom variables

**2.2.2.1. Teachers' responsiveness to student emotional concerns.** Teachers' responsiveness was measured using a summative scale based on three student self-report questions: "During the past three months, how often has this teacher (class you are in right now): (1) noticed you were upset and asked you about what was going on? (2) talked with you about how to deal with stressful experiences? and (3) gave you the opportunity to discuss something that was bothering you?" Items were scored on a 5-point Likert scale ranging from 1 (never), to 5 (always). Scores were summed with a minimum score of 3 and a maximum score of 15, where higher scores reflect higher levels of teacher responsiveness. These three items came from the Yale Centre for Emotional Intelligence Research Emotion-Focused Interactions scale (Cipriano, Barnes, Kolev, Rivers, & Brackett, 2019; Rivers, Brackett, Reyes, Elbertson, & Salovey, 2013). The original scale was used to evaluate a classroom social and emotional learning program reported by teachers (Cipriano et al., 2019; Rivers et al., 2013). An exploratory factor analysis with principal axis factoring and direct oblimin rotation was conducted and a single factor emerged explaining 69.7% and 77.2% of the variance in the 3-item scale in elementary and secondary students, respectively. Internal consistency in elementary (Cronbach  $\alpha = 0.87$ ) and secondary students ( $\alpha = 0.85$ ) met commonly accepted psychometric criteria of  $\alpha \geq 0.70$  (Bland & Altman, 1997; DeVellis, 2016). Student responses were included at the individual level and aggregated to the classroom contextual level, since the focus of measurement was on the classroom teacher, and a mean score was estimated across all students in a classroom.

**2.2.2.2. Quality of teacher-student relationships.** Quality of student-teacher relationships was measured using the following student self-report items adapted from the Delaware School Climate Survey (DSCS) (Bear et al., 2014): (1) "teachers treat students with respect," (2) "teachers care about their students," and (3) "teachers listen to students when they have problems." Items were scored on a 4-point Likert scale from 1, disagree a lot to 4, agree a lot. Exploratory factor analysis with principal axis factoring and direct oblimin rotation was conducted and a single factor emerged explaining 69.8% and 68.2% of the variance in the 3-item scale in elementary and secondary students respectively. The scales demonstrated acceptable internal consistency in elementary ( $\alpha = 0.78$ ) and secondary students ( $\alpha = 0.78$ ). Scores were summed with the minimum score of 3 and a maximum score of 12, where higher scores reflect more positive teacher-student relationship quality. Student responses were included at the individual level and aggregated to the contextual school level by taking the mean score for all students in a given school. Aggregate scores have demonstrated moderate correlations with academic achievement and suspensions and expulsions in the expected direction (Bear et al., 2014).

## 2.2.3. Individual student level covariates

**2.2.3.1. Mental health need.** Mental health need was measured in two ways, including (a) using a series of questions assessing student perceptions of whether they have mental health concerns and need professional help; and (b) independently through dimensional ratings of internalizing and externalizing symptoms from the 2014 Ontario Child Health Study Emotional Behavioural Scales (OCHS-EBS; Duncan et al., 2018).

**2.2.3.1.1. Perceptions of a mental health problem and need for professional help.** Students were asked (a) "During the past six months, do you think that you have had any emotional or behavioural problems?" and, if yes, (b) "Do you think that you need or needed any professional help (e.g., from a doctor, counsellor, or other mental health worker) with these problems?" A 3-category variable was created including: 0, no emotional-behavioral problems and no need for professional help; 1, yes to emotional-behavioral problems but no need for professional help; and 2, yes to emotional-behavioral problems and yes to need for professional help. Of note, only 48% of elementary students and 38% of secondary students reporting a need for help also indicated intentions to seek help at school.<sup>2</sup> Similarly, of students reporting a need for help, 55% and 56% of elementary and secondary students, respectively, reported service use at school and/or in the community. This provides support that perceptions of need are related, but distinct from actual help-

<sup>1</sup> Please see the Supplementary Material for (a) figures illustrating where study variables fit into McLeroy et al.'s (1988) and Andersen's (1995) theoretical frameworks, and (b) correlations between key variables at the student level.

<sup>2</sup> These percentages are based on imputed data.

seeking behaviors.

**2.2.3.1.2. Internalizing and externalizing symptoms.** A subset of the OCHS-EBS were included to measure the frequency of internalizing and externalizing symptoms in the past 6 months. The OCHS-EBS has undergone psychometric evaluation using a general population sample of youth ages 4 to 17 years ( $n = 10,495$ ; Duncan et al., 2018). Evidence for reliability and validity has been demonstrated in the following ways: (a) internal validity as per confirmatory factor analysis with factor loadings  $> 0.60$  and measurement invariance for gender and age; (b) acceptable internal consistency (average  $\alpha = 0.82$ ) and test-retest reliability (average kappa = 0.74); (c) internal convergent and discriminant validity, whereby subscale scores were correlated across informants (i.e., youth and caregiver); and (d) external convergent and discriminant validity comparing dimensional scores to the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) disorder classifications (Duncan et al., 2018). Nine student self-report items were included to assess internalizing symptoms, scored on a 3-point Likert scale from 1, never or not true to 3, often or very true, with a minimum possible score of 9 and maximum score of 27, where higher scores indicate more internalizing symptoms. This scale yielded acceptable internal consistency among elementary ( $\alpha = 0.89$ ) and secondary students ( $\alpha = 0.91$ ). Thirteen student self-report items were included to assess externalizing symptoms, scored on a 3-point Likert scale from 1, never or not true to 3, often or very true, and summed to yield a minimum possible score of 13 and maximum score of 39, where higher scores reflect more externalizing symptomology. This scale yielded acceptable internal consistency in elementary ( $\alpha = 0.87$ ) and secondary students ( $\alpha = 0.88$ ).

**2.2.3.2. Family assets.** Items were adapted from the Health Behaviour in School Aged Children Survey (Ottova-Jordan et al., 2015). Students self-reported their family's assets, including how many vehicles, computers, cellphones, or electronic tablets their family owns. A standardized factor score (Z-score) was derived using principal component analysis of the 4 items where higher scores indicate greater assets (Batista-Foguet, Fortiana, Currie, & Villalbi, 2004). A single component emerged and accounted for 45.3% of the variance in elementary students and 46.3% in secondary students.

**2.2.3.3. Gender.** Students were asked to identify as 1, male or 0, female.

**2.2.3.4. Age.** Students were asked to indicate their age based on response options ranging from 9 to 22 years of age.

**2.2.3.5. Race/ethnicity.** Students were asked to select the category that best described their race or ethnicity. Racial and ethnic groups were collapsed based on descriptive statistics, whereby a category was required to have at least 200 "cases" for both *intention to seek help* and *service use* to ensure appropriate power for estimation (i.e., using 10 cases: 1 variable as a guide; Moons et al., 2014). Race/ethnicity was coded as: White (reference); East Asian, Southeast Asian, or South Asian (ESA); Black African, Black Caribbean, or Black Canadian or American (Black); or Other/Multiracial (including options: West Asian or Arab, Latin American, Central American, South American, Aboriginal/Native, Other, or Multiracial).

**2.2.3.6. Immigrant background.** Students were asked to indicate if they were born in Canada and whether one or both of their parents were born in Canada. Students were coded as either 1, immigrant, if they identified as being foreign born or living with at least one foreign born parent, or 0, non-immigrant.

## 2.2.4. School level covariates

**2.2.4.1. School socioeconomic status (SES).** School SES was determined through a combination of student postal codes and median family income in the neighbourhoods of attending students using the National Household Survey 2011 data (Statistics Canada, 2011). Median family income was converted into increments of \$1000.

**2.2.4.2. School size.** School size was based on 2014–15 school enrolment data from the Ontario Ministry of Education. Enrollment was analyzed in increments of 10 students.

## 2.3. Data analysis

About 24.6% of elementary (14,415/19,130) and 17.1% of secondary students (9967/11,994) had missing data on at least one study variable. Among elementary students with missing information, the majority (95%) were missing two or fewer items. The percentage of missing data ranged from 0.4% for age to 9.6% for mental health service use. Among secondary students with missing information, 97% were missing two or fewer items. Missing responses ranged from 0.4% for age to 6.9% for mental health service use. A series of univariable logistic regression models were examined, whereby the dependent variable classified students with complete (coded as '0') versus incomplete data (coded as '1') and study variables were entered as predictors to evaluate the extent to which there were systematic patterns of missing data. Measures of teachers' responsiveness to student emotional concerns, the quality of teacher-student relationships and mental health help seeking behaviors were not significantly associated with missing data. Systematic differences between students with complete versus missing data were significant, however, on study covariates. Students with missing data, compared to those with complete data, were significantly more likely to identify as male, to be younger, to come from lower SES households and to report lower levels of internalizing symptoms and higher levels of externalizing symptoms.

To address the study objectives, a series of 3-level logistic regression models were estimated using generalized linear regression models with a logit link and a binary distribution while accounting for random intercepts at the classroom and school levels. All

models were run using SAS® Enterprise Guide 7.1. All independent variables and covariates were estimated as fixed effects. All models were adjusted for age, gender, race/ethnicity, immigrant status, student mental health need, socio-economic characteristics, and school size. Both individual and contextual level measures of teacher-student relationships (student and school levels) and teachers' responsiveness to students' emotional concerns (student and classroom levels) were included. All teacher-student relationship and responsiveness variables were grand mean centred.

Missing data was accounted for through multilevel multiple imputation using Fully Conditional Specification (FCS) in BLMP 2.0 (Enders, Keller, & Levy, 2018; Keller & Enders, 2018). Imputations were run separately for elementary and secondary samples using all variables present in the analytical models, including both dependent variables. Twenty imputations (> 98% efficiency across all variables) were generated with a burn-in phase of 2000 and thinning of 500 using the Gibbs sampler algorithm (Enders et al., 2018; Keller & Enders, 2018). Imputed data was then imported to SAS Enterprise 7.1 where imputed values were readjusted to retain a viable minimum and maximum estimate for continuous variables. Regressions were then estimated by imputation, pooling estimates and standard errors for final results utilizing Rubin's rules<sup>3</sup> (SAS Institute Inc., 2011).

### 3. Results

Table 1 presents sample characteristics for elementary and secondary students. Males and females were nearly evenly distributed in elementary and secondary schools (~48%). About 8.0% of elementary students and 15.7% of secondary students reported having an emotional or behavioral problem and needing professional help. The percentage of students endorsing intentions to seek help at school was similar across elementary (45.4%) and secondary levels (41.9%) and the percentage of students receiving mental health services at school or in the community was similar (24.6% for elementary and 24.0% for secondary).

Table 2 presents adjusted odds ratios (aOR) and 95% confidence intervals (95% CI) for intentions to seek help at school and mental health service use separately for elementary and secondary school students. It is important to note that all reported estimates control for levels of student mental health need and socio-economic and demographic characteristics at both the student and school levels. Variables measuring teacher-student relationship quality and teacher responsiveness to students' emotional concerns were included at both individual and contextual levels.

#### 3.1. Intentions to seek help at school

Individual perceptions of teacher-student relationship quality were significantly associated with an increased odds of intentions to seek help at school for both elementary (aOR = 1.14, 95% CI = [1.11, 1.17]) and secondary students (aOR = 1.19, 95% CI = [1.16, 1.22]). Similarly, associations between individual perceptions of teachers' responsiveness and intentions to seek help at school were statistically significant for both elementary and secondary students (aORs = 1.06 for elementary and 1.08 for secondary; see Table 2). In contrast, teacher-student relationship quality, assessed at the school level, and teachers' responsiveness to emotional concerns assessed at the classroom level, were not statistically significantly associated with intentions to seek help.

#### 3.2. Mental health service use

At the individual student level, perceptions of teachers' responsiveness was significantly associated with an increased odds of mental health service use for both elementary (aOR = 1.05, 95% CI = [1.04, 1.06]) and secondary students (aOR = 1.06, 95% CI = [1.04, 1.08]), whereas perceptions of the quality of teacher-student relationships at school was not significantly associated. At the school, contextual level, teacher-student relationship quality was significantly associated with an increased odds of mental health service use only among secondary students (aOR = 1.36, 95% CI = [1.10, 1.69]). Teachers' responsiveness, measured at the classroom level, was not significantly associated with mental health service use for both elementary and secondary school students.

### 4. Discussion

Findings from the present study demonstrate that after adjusting for student mental health need and both socio-economic and demographic characteristics, (a) teacher-student relationship quality in a school and teachers' responsiveness to students' emotional concerns in a classroom were each independently associated with increased odds of student intentions to seek help at school for mental health concerns, and (b) teachers' responsiveness to students' emotional concerns in a classroom was also independently associated with an increased likelihood of mental health-related service use. These associations were found at the individual student level, whereas perceptions of teacher-student relationship quality at the school-contextual level also contributed independently to the prediction of mental health-related service use among secondary students.

Associations between teacher-student relationship quality and teachers' responsiveness in a classroom were generally consistent between elementary and secondary school students, with one exception. Teacher-student relationship quality measured at the contextual level was positively associated with mental health-related service use among secondary students, over and above individual perceptions, but not among elementary students. These differences may be a reflection of organizational differences across

<sup>3</sup> Of note, interpretations of the significance and importance of teacher-student relationship and responsiveness variables were similar for both imputed samples and complete cases.

**Table 1**  
Sample characteristics by elementary and secondary school level.

Variable	Elementary (% or mean (SD) <i>n</i> = 19,130)	Secondary (% or mean (SD) <i>n</i> = 11,994)
<b>School level</b>		
Teacher-student relationships	9.5 (0.4)	8.7 (0.38)
School SES <sup>a</sup>	87.2 (22.3)	89.3 (25.1)
School size <sup>b</sup>	54.3 (19.0)	108.1 (41.7)
<b>Classroom level</b>		
Teacher responsiveness	7.4 (1.5)	5.6 (1.6)
<b>Individual Student level</b>		
Male gender	47.8%	48.7%
Age	12.2 (1.1)	15.6 (1.9)
White	52.8%	59.7%
East, Southeast, South Asian	20.4%	16.5%
Black	6.0%	6.3%
Other/multiracial	20.8%	17.5%
Immigrant (ref non-immigrant)	48.4%	45.4%
Family assets	−0.05 (1.06)	0.07 (1.30)
Perceived problem but no need	17.4%	19.1%
Perceived problem and need	8.0%	15.7%
Internalizing symptoms	13.3 (4.3)	14.8 (6.2)
Externalizing symptoms	15.8 (3.8)	16.1 (5.2)
Teacher-student relationships	9.52 (1.76)	8.72 (2.11)
Teacher responsiveness	7.36 (3.74)	5.58 (4.0)
Intention to seek help at school	45.4%	41.9%
Any service use	24.6%	24.0%

Note 1. BLIMP multilevel multiple imputation applied.

Note 2. Descriptives for available cases and associated missing is reported in supplementary materials.

<sup>a</sup> Increments of \$1000.

<sup>b</sup> Increments of 10 students.

school levels, whereby secondary school students learn from multiple teachers throughout the day, as opposed to elementary school where the students have one primary teacher for the duration of the year (Council of Ministers of Education, 2017). In other words, contextual effects within elementary schools may be highly influenced by experiences with one primary teacher, as opposed to all teachers within the school. As a result, school contexts may play a more prominent role in contributing to mental health help seeking behaviors in secondary, compared to elementary schools. School-wide interventions that target the quality of teacher-student relationships have demonstrated overall improvements in school climate at the school level (Aldridge & McChesney, 2018; Bear et al., 2014; Thapa et al., 2013).

Findings from the present study are consistent with a previous study on bullying (Eliot et al., 2010) and primary care service use (Mariu et al., 2012) which found positive teacher-student relationships were associated with a higher likelihood of student help seeking behaviors. The current study adds novel insights to the existing literature by (1) simultaneously examining the contributions of contextual (school and classroom levels) and individual level perceptions of student-teacher relationships on mental health help seeking behaviors; (2) including assessments of different settings and sectors in which students can access mental health services; (3) providing adjusted estimates of associations, after accounting for a number of indicators of student mental health need, including students' perception of 'need' for professional help for mental health concerns - an important and strong correlate of service use; and (4) including both elementary and secondary school students and settings.

In both elementary and secondary schools, individual student perceptions of teacher responsiveness to their emotional concerns were associated with increased odds of mental health-related service use. This is consistent with the hypothesis that as students report open communication with teachers about their emotional needs within their classroom, they are more likely to obtain professional help. Within the context of Andersen's behavioral model (Andersen, 1995), teachers' responsiveness speaks to enabling social relationships at the individual student level and the potential for mitigating commonly reported barriers to engaging in care, such as mistrust, stigma, fear, embarrassment, and shyness. This effect was not significant at the contextual classroom level, indicating the responsiveness of teachers operates at an individual student level. This finding suggests that the ability of the teacher to respond to individual students who need help, not all students within a classroom, predicts help-seeking. This highlights the potential role of teachers and other school staff who interact with students on a daily basis in identifying, supporting, and responding to their mental health concerns (see Kern, George, & Weist, 2016; Reinke, Stormont, Herman, Puri, & Goel, 2011). An alternative interpretation of our findings, given the cross-sectional nature of our study, is that teachers may be more responsive to students who are accessing services. Clarification of this effect and consideration of alternative interpretations can only be examined through future longitudinal studies.

Notably, 25.4% of elementary students and 34.8% of secondary students reported they felt they had a mental health problem, with or without a need for professional help. These estimates are consistent with recent findings reporting that 22% of Ontario youth aged 12 to 17 years meet criteria for a *DSM-IV-TR* mental disorder (Georgiades et al., 2019). Importantly, perceived need for

**Table 2**

Adjusted odds ratios of students' intentions to seek help at school and past 6-month mental health service utilization by assessments of teacher-student relationships among elementary ( $n = 19,130$ ) and secondary students ( $n = 11,994$ ).

	Elementary		Secondary	
	Intention	Service use	Intention	Service use
	OR [95% CI]	OR [95% CI]	OR [95% CI]	OR [95% CI]
<b>School level</b>				
Teacher-student relationships	1.02 [0.93, 1.13]	0.95 [0.85, 1.05]	1.15 [0.98, 1.36]	1.36 [1.10, 1.69]***
School SES	1.00 [1.00, 1.00]	0.99 [0.99, 0.99]*	1.00 [1.00, 1.00]	1.00 [1.00, 1.00]
School size	1.00 [1.00, 1.00]	1.00 [1.00, 1.00]	1.00 [1.00, 1.00]	1.00 [1.00, 1.00]
<b>Classroom level</b>				
Teacher responsiveness	0.98 [0.95, 1.00]	1.00 [0.97, 1.03]	0.97 [0.94, 1.01]	1.02 [0.98, 1.06]
<b>Individual Student level</b>				
Male gender	0.86 [0.80, 0.92]*	1.32 [1.20, 1.44]***	0.88 [0.80, 0.95]**	0.82 [0.74, 0.92]***
Age	1.01 [0.98, 1.04]	0.89 [0.86, 0.93]***	1.02 [0.99, 1.05]	0.97 [0.94, 1.00]
East, Southeast, South Asian [ref white]	0.92 [0.82, 1.03]	1.00 [0.87, 1.13]	0.95 [0.82, 1.09]	0.85 [0.70, 1.02]
Black [ref white]	0.75 [0.64, 0.88]***	1.11 [0.89, 1.38]	0.81 [0.67, 0.98]*	1.18 [0.95, 1.47]
Other/multiracial [ref white]	0.90 [0.82, 0.98]*	1.05 [0.94, 1.17]	0.93 [0.83, 1.04]	1.01 [0.88, 1.16]
Immigrant [ref non-immigrant]	0.95 [0.86, 1.04]	0.92 [0.83, 1.02]	0.92 [0.83, 1.02]	0.86 [0.76, 0.98]*
Family assets	1.03 [1.00, 1.07]*	0.93 [0.90, 0.97]***	1.05 [1.00, 1.09]*	0.94 [0.89, 0.98]**
Perceived problem but no need	0.63 [0.57, 0.69]***	1.17 [1.06, 1.31]***	0.59 [0.52, 0.66]***	1.29 [1.13, 1.46]***
Perceived problem and need	1.70 [1.48, 1.96]***	3.33 [2.89, 3.84]***	1.21 [1.06, 1.39]**	4.00 [3.47, 4.62]***
Internalizing symptoms	0.95 [0.94, 0.96]***	1.06 [1.04, 1.07]*	0.94 [0.93, 0.95]***	1.04 [1.03, 1.06]***
Externalizing symptoms	0.98 [0.97, 0.99]***	1.04 [1.02, 1.05]*	0.99 [0.98, 1.01]	1.04 [1.03, 1.06]***
Teacher-student relationships	1.14 [1.11, 1.17]***	1.02 [1.00, 1.04]	1.19 [1.16, 1.22]***	0.98 [0.95, 1.01]
Teacher responsiveness	1.06 [1.05, 1.07]***	1.05 [1.04, 1.06]***	1.08 [1.06, 1.09]***	1.06 [1.04, 1.08]***
Adjusted school ICC (%)	0.80 (0.69 to 0.97)	0.32 (0.06 to 0.48)	0.24 (0.15 to 0.34)	0.68 (0.59 to 0.80)
Adjusted classroom ICC (%)	2.07 (1.72 to 2.45)	2.23 (1.70 to 2.96)	0.88 (0.71 to 1.09)	1.79 (1.34 to 2.36)

Note 1. Random intercept models.

Note 2. BLIMP multilevel multiple imputation applied.

Note 3. ICCs presented as average percentages followed by the minimum and maximum percentage across imputations from fully adjusted models.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

professional help (8.0% elementary; 15.7% secondary) was the strongest predictor of both intentions to seek help and actual service use across both elementary (aOR 1.70 intention; 3.33 service use) and secondary students (aOR 1.21 intention, 4.00 service use). Being able to identify a problem and acknowledge a need for help is a key component of mental health literacy (Kutcher, Bagnell, & Wei, 2015) for both students (self-identifying problems) and teachers (identifying problems among students; Kutcher et al., 2015). Teacher-responsiveness in this study required a teacher noticing a student was struggling and engaging the student in a conversation about how they were feeling. These interactions are consistent with mental health literacy strategies and skills and were related to increases in service utilization among students.

Reported effect sizes in the present study were small in magnitude. Typically, ORs of 1.68, based on a Cohen's  $d$  of  $\sim 0.2$  (Chen, Cohen, & Chen, 2010; Cohen, 1988), are regarded as small but meaningful effects. The odds ratios in this study ranged from 1.05–1.08 for teacher responsiveness and 1.14–1.36 for teacher-student relationships. However, these estimates adjust for a large number of socio-economic and mental health related covariates at both the student and socio-contextual levels and are estimates for only a 1-point increase in responsiveness and relationship scores (with student level standard deviations between 1.8 and 4.0 points). Therefore, these effects merit replication in additional studies and with other samples to determine the value of investing scarce resources in strengthening teacher responsiveness compared to other interventions to promote access to care.

There are several limitations to this study. First, as noted above, the cross-sectional nature of the study design precludes any conclusions linked to temporality. Second, items within our study were often adapted from previously validated scales but less is known about the psychometric properties of these adapted scales, with the exception of our documentation of internal consistency and factor structure. Similarly, our measure of intentions to seek help was focused exclusively in school and did not include help in the community rendering our results only applicable to in-school help seeking intentions. Intentions to seek help are commonly measured with single items in large epidemiological studies, but it is important to note the constraints of our single item and awareness that multi-item and multi-faceted measures (Divin et al., 2018) and frameworks exist (White et al., 2018). Stigma may actually be greater for help-seeking in schools where concerns about confidentiality may be more pronounced (Polaha, Williams, Heflinger, & Studts, 2015). Third, gender in this study was only captured in a binary manner. Future studies should seek to analyze gender differences for other gender identities. Lastly, school and classroom contextual measures were derived from aggregates of individual self-reported perceptions of teacher-student relationship quality and teacher responsiveness, introducing the potential for same source 'bias' (Duncan & Raudenbush, 1999). However, using aggregate responses is common practice (Blakely & Woodward,



2000) and including both individual and contextual effects in the same model enables the disaggregation of contextual from individual effects (Enders & Tofighi, 2007).

There also are multiple strengths of the study. The inclusion of a number of socio-economic and mental health related covariates in the analyses, inclusion of socio-contextual variables at two levels (classroom, and school), and reporting fully adjusted odds ratios attempted to mitigate the potential for source bias (Schwartz, 1994) and isolate relationship-specific effects. The large sample size and extensive level of clustering of students in classrooms and students in schools contributed to reliable individual and contextual level estimates. By simultaneously including individual and contextual variables, this study is able to disaggregate response variance across individual, classroom, and school levels. This highlights the potential impact on student outcomes that might be achieved by intervening at different levels and provides insights into potential targets for intervention efforts.

## 5. Conclusion

The quality of teacher-student relationships, both inside and outside the classroom, may play a role in whether students seek out and receive mental health treatment. The reported associations between teachers' responsiveness to students' emotional concerns in a classroom and intentions to seek help and service use suggest there may be benefits associated with providing guidance to teachers on how to identify and respond appropriately to students exhibiting mental health concerns in their classrooms. This is consistent with the emerging emphasis on the need to enhance mental health literacy among educators, administrators and other school professionals (Kutcher, Wei, & Coniglio, 2016; Kutcher, Wei, McLuckie, & Bullock, 2013). School psychologists, social workers, and other mental health providers could play an important role in consulting with teachers to improve mental health literacy regarding identifying and responding to students in need. Additionally, whole school climate interventions that promote positive teacher-student relationships may be important to consider in secondary schools to increase student mental health help seeking behaviors. Taken together, our findings underscore the important role that teachers could potentially play in facilitating student access to mental health care and suggest important avenues for future research.

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## Declaration of competing interest

None.

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