The class divide in urban Indian youths' lives; their time-use and adaptive functioning

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CHAPTER 5

SOCIO-ECONOMIC STATUS AND LINGUISTIC AND MENTAL HEALTH OUTCOMES AMONG YOUTH IN INDIA: CHILD LABOUR, SLEEP AND ACADEMIC ACTIVITIES AS MEDIATORS

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Abstract

In India, poor children face dire living conditions and experience physical and mental problems as a result. In this article, child labour, academic work and sleep are studied as mediators between Socio-Economic Status (SES) and linguistic and mental health outcomes among school children in India. Participants were 268 school children aged 10-15 from Pune, India. To ensure representation of both affluent and poor children, the sample was derived from affluent private schools and impoverished public schools. We found that the lowest SES youth engaged in more labour and sleep but spent less time on academic activities than their high SES counterparts. Child labour was a significant mediator for both linguistic and mental health outcomes, so that more time spent on child labour predicted more mental health problems and lower scores on the linguistics test. Analyses of moderated mediation suggested that the relation between linguistic outcomes and academic time-use was stronger for impoverished children than for affluent children. Taken together, these results suggest that poorer scores of low SES children on linguistic and mental health assessments may be in part explained by the time these children spend on labour related tasks. Furthermore, these poor children would especially benefit from more time on academic tasks, but their academic activities seem in part displaced by the time they spend on child labour.

5.1 Introduction

Socio-Economic status (SES), here defined as family wealth and material resources (Boyce, Torsheim, Currie, & Zambon, 2006) dominates the life chances and developmental trajectories of children (Bradley & Corwyn, 2002; Kalil, Duncan, & Ziol-Guest, 2016; McPherson et al., 2014) by impacting cognitive (Hanson et al., 2013; Holz et al., 2015), linguistic (Raviv, Kessenich, & Morrison, 2004), behavioral (Kim, Mazza, Zwanziger & Henry, 2014), emotional (Van der Gucht, Takano, Van Broeck & Raes, 2015), and physical development (Evans, 2006). Psychologists have repeatedly highlighted categories of youth time-use as influencing life courses by affording differential opportunities for engagement and absorption of experiences (Lareau, 2001; Larson & Verma, 1999). This article is about time-use as a mediator between SES, English language proficiency and behavioural problems among youth in India. In addition, the article will consider the role of SES as a moderator of the relationship between time-use and children's English language proficiency and behavioural problems.

India is the country with the largest number of children living in extreme poverty in the world (UNFPA, 2015) and yet most studies on SES, linguistic and mental health outcomes have been performed in western societies (Bornstein et al., 2012; Boyden, Dercon, & Singh, 2014). Western studies may teach us little about the correlates of low SES and child development in India. Lower SES Indian youth are exposed to heightened chances of chronic diseases (Aikins & Agyemang, 2015), hunger (Nigam, 2015), lack of safe drinking water and unsanitary living environments (Rah et al., 2015). Such dire living circumstances likely explain stark differences between low and high SES Indian youth in terms of physical and mental health (Saraswathi & Dutta, 1988). It is important to know what proximal processes explain the covariation between these circumstances and youth's mental health (Currie et al., 2012). Time-use patterns have been argued to affect developmental trajectories and subsequent life chances (Ben-Arieh & Ofir, 2002; Brooker & Hyman, 2010; Hunt, McKay, Fitzgerald, & Perry, 2014; Larson & Verma, 1999). Though several studies have already addressed time-use of children and adolescents in India (Makel, Wai, Putallaz, & Malone, 2015; Rustagi, 2009; Saraswathi & Sridharan, 1991; Saraswathi & Dutta, 1988; Verma, Sharma & Larson, 2002), none included participants from the whole SES range; lower, middle and upper class. Furthermore, previous time-use studies have often focussed on the role of a single process at a time (Hunt et al., 2014; Wilcock, 2002). Following the recommendation to simultaneously focus on multiple processes (Ferrar, Chang, Li, & Olds, 2013), the current paper focuses on three time-use categories that may mediate the relations between SES and youth developmental outcomes: labour, academic time and sleep.

Labour

Though in India the law prohibits children from engaging in physically hazardous occupations (Child Labour Act, 1986), over four million young people in the Indian sub-continent engage in economic and noneconomic work (Census, 2011; Fors, 2012; Kambhampati & Rajan, 2005; Khan & Lyon, 2015; Rammohan, 2014). Child labour has been found to negatively affect linguistic (Woldehanna & Gebremedhin, 2015) and mental health outcomes in children (Oncu, Kurt, Esenay, & Ozer, 2013; Putnick & Bornstein, 2016; Weston, 2005). Child labour should not only be thought of as paid labour but also unpaid labour and domestic work. Lower SES Indian youth assist with babysitting, household chores, apprenticing or other activities that allow their parents to do paid labour and reduce the families' economic burden (Larson & Verma, 1999; Levison, Moe, & Knaul, 2001; Loomba, 2016; Rustagi, 2009). In contrast, higher SES Indian youth have access to staff and automated machines and are economically and financially secure (Dickey, 2000), protecting them from all types of labour.

The earlier mentioned domestic chores are mundane and they may displace time for academic activities and sleep (Larson & Verma, 1999). Furthermore, they pose serious physical risks such as accidents, health-related risks such as exposure to smoke from hearths, or low body weight because of a misbalance between food intake and energy expenditure (Amin, Quayes, & Rives, 2006; Brewis & Lee, 2010). In addition, while substituting for parents who work as domestic help, children run risks of economic exploitation and molestation or rape (Pankhurst, Crivello, & Tiumelissan, 2015). This necessitates inclusion of domestic work along-with the more conventionally studied forms of child labour i.e. paid, unpaid, market and family enterprise work, known to be detrimental to child health (Khan & Lyon, 2015). The current study is an attempt to highlight the higher incidence of child labour amongst poorer youth while also putting in the spotlight the resulting negative linguistic and mental health problems (Dayıoğlu & Assaad, 2003), hitherto ignored in previous Indian literature.

Academic Activities

India suffers from educational inequalities with low-income youth enduring the greatest disadvantage (French & Kingdon, 2010; Nambissan, 1996; UNDP, 2015). Educational coursework in class, homework, self-study and out-of-school tuitions are considered academic time. Time spent on academic activities during school hours depends on the type of the school, with less resourced government schools suffering frequent teacher absences, low teacher training and low teacher inputs (De, Khera,

Samson, & Kumar, 2011). Lower SES youth attend such schools and can spend a great deal of school hours, for instance, idle or napping. Such is not the case for higher SES students who are often pressurized by parents and the school to excel academically. Such students spend a large amount of time studying. Some researchers advocate spending more time on educational activities for better cognitive skill development (Fiorini & Keane, 2014), but also to promote executive functioning abilities such as attention, concentration, self-regulation, cognitive flexibility and working memory (Duckworth & Carlson, 2013). Consistent study habits can involve making hard choices including sacrificing time spent in more pleasurable activities for dull or boring academic work, but doing so, it is suggested, improves school performance and this promotes higher self-esteem and positive mental health outcomes (Baker-Henningham, 2014; Fiorini & Keane, 2014; Nielsen et al., 2015). Past Indian studies argue that parents from middle and higher SES backgrounds push for rigorous study routines, so that children do well in exams and avoid failure at all costs (Hirway, 1999; Verma et al., 2002; Verma & Sharma, 2003). In India this attitude seems even stronger than in the Western context (Llyod, Grant, & Ritchie, 2008). Though too much pressure could be detrimental to well-being, overall academic work has been found conducive to better academic performance and thereby promotes positive development (Duckworth & Seligman, 2005).

Sleep

Western studies have reported shorter sleep durations as predominant in lower SES on account of pre-sleep worries or poor sleep environments (Bagley, Kelly, Buckhalt, & El-Sheikh, 2015). In India and Turkey however reverse trends were found with higher SES youth sleeping less, mainly due to academic demands (Arman et al., 2011). This latter finding stresses the importance of studying a combination of activity domains of children's time-use. Previous Indian studies emphasized academic stress (Dinakar, Galagali, Kumar, & Abhishekh, 2014; Verma et al., 2002) and parental pressure in higher SES participants (Vohra & Patnaik, 2012; Singh, 2013) as contributing to sleep deprivation. A few adult studies suggest too long sleep durations as being much worse than short sleep durations (Kripke, Langer, Elliott, Klauber, & Rex, 2011; Patel, Malhotra, Gottlieb, White, & Hu, 2006) . Most literature suggests negative effects of both extremes, i.e., too long or too short sleep durations on mental health (Beebe, 2011; Owens et al, 2014; Vriend, Davidson, Rusak, & Corkum, 2015) and linguistic performance of youth (Shochat, Cohen-Zion, & Tzischinsky, 2014; Wolfson & Carskadon, 2003). Researchers acknowledge over 100 years of recommendations being published without proper

rationales or empirical evidence and highlight the importance of cultural determinants (Koulouglioti et al., 2014; Matricciani, Olds, Blunden, Rigney, & Williams, 2012; Owens, 2005); unfortunately, we know of no studies that assess how sleeping habits are related to children's well-being in India, particularly in the lower SES. In the light of this gap in knowledge, we expect lower SES youth to sleep considerably more than their higher SES counterparts, though we do not have specific expectations on how sleeping patterns of low and high SES children would relate to their linguistic achievements and mental health problems.

Current Study

The goal of the current study is to test whether time-use indicators of labour, academic work, and sleep mediate the relation between SES and linguistic and mental health outcomes of 10-15 year old school-going Indian youth. Ours will be the only Indian study to date, that uses comprehensive time-use methodologies with high, middle, and minimally literate, low SES youth, simultaneously including three time-use indicators. Outcomes in terms of linguistic competence and mental health, i.e., both externalizing and internalizing problems are assessed. A risk in time-use research is that a day only has 24 hours, and more time spent on one activity means less time left over for other activities. Even though displacement of activities is in itself an important question, we attempted to account for this in several ways. Firstly, by entering all mediators simultaneously in the model the effects of each variable was controlled for SES, as well as other time spending mediators, showing how each time spending mediator individually is related to developmental outcomes over and above the other mediators. Secondly, we conducted interviews on three separate days on children's time spending, and included only those children that reported at least a weekday and a weekend day in the analyses. This creates more possible variations in time spending patterns and reduces dependency between variables. Children performed other activities over the course of two or three days not included in the present analyses such as eating, grooming, chores and time spent socializing with friends. Thirdly, we asked children about both primary activities (what were you doing?) and secondary activities (were you doing anything else at that time?) for each 10-minute epoch of the day, again increasing variance and reducing dependency on time spending variables.

Based on earlier studies (Arman et al., 2010, De et al., 2011; Kambhampati & Ranjan, 2005; Larson & Verma, 1999; Verma et al., 2002) we expect lower SES youth to spend more time in labour and sleep but less time on academic work than their higher

SES counterparts. It is less known whether these time-use categories mediate SES and linguistic or mental health outcomes in the Indian context. We hypothesize higher SES youth will report fewer mental health problems and better linguistic outcomes (Bradley & Corwyn, 2002; McPherson et al., 2014). We further hypothesize that these relationships are mediated by time-use categories, specifically, the time youth spend in labour and academic work. We hypothesize that more child labour (Putnick & Bornstein, 2016; Weston, 2005) predicts worse language proficiency and more mental health problems and that academic time (Duckworth & Seligman, 2005) predicts better language proficiency and less mental health problems. Sleeping patterns can be strongly predictive of both linguistic scores (Shochat et al., 2014; Wolfson & Carskadon, 2003) and mental health problems (Beebe, 2011; Owens et al., 2014; Vriend et al., 2015), and because a previous study suggests differences between high and low SES youth with regard to sleep times (see Chapter 4), we choose to also include sleep as a mediator. However, since what counts as 'sufficient sleep' may vary largely between cultures (Owens, 2005), and Indian studies on this topic are lacking, we do not formulate any hypotheses on the relation between sleep and linguistic or mental health outcomes.

Time-use in the three domains that we included, may be related. Earlier we already suggested that sleep and academic work compete for time in Indian high SES children. The same could be the case for labour and academic work in low SES children. To this end, we will include all three time-use variables simultaneously in the analyses. A further challenge in the analyses is that SES may not only affect time-use, the stark differences between living conditions may also affect how time-use is related to linguistic and mental health outcomes; SES may simultaneously be a moderator and a mediator. To explore this option, we shall not only test for models of mediation, but also test models of moderated mediation depicted in Figure 1.

5.2 Method

Participants

The study was conducted in Pune, an urban conglomerate in the western state of Maharashtra in India. A total of 268 school-going youth belonging to grades 5-9 completed the study, a drop from the initial sample of 442 students, with several who dropped out belonging to the lower SES and suffering from high absenteeism rates, a common problem in India (De et al., 2011), while from the higher SES there were a few last-minute withdrawals by parents who originally consented but believed that participating in the study would interfere with academic attendance at school. Youth in

the range of 10 to 17 years (*Mage* = 13.85, *SD* = 1.27), 152 boys (56.7%) and 116 girls (43.3%) formed the final sample. Approximately 7% of the participants were illiterate and 36.3% youth had a spelling age of less than 10 years, requiring help with basic reading and writing.

Instruments

Time spending. A pilot study presented a sizeable majority of lower SES students as being unable to read and write age-appropriately prompting the use of interviews rather than written diaries to ensure uniformity of data-collection. The physical use of clocks, the "minutes hand" of which were manipulated to symbolize the elapsed time between two consecutive activities, further ensured precision of event narration. Questions asked included "What was the main thing you were doing?", "What else were you doing?", "Where?", "With whom?", "Who else was there?" in 10-minute epochs spanning 24-hours starting from midnight of the previous day. Though some minor activities might be overlooked, the adoption of diaries to study youth time-use is largely accepted (Larson & Verma, 1999). Verbatim coding of audio-recordings into 24-hour excel sheets was done by an alternate set of multilingual (Marathi, Hindi, English) trained research assistants. For youth who reported two weekdays and one weekend day, as planned, an average of the weekdays followed by an average of the weekdays' average and the day in the weekend was calculated. For youth who completed only a weekday and a day in the weekend, an average for those two days was computed. Daytime naps and night-time sleep constituted total sleep time. Total labour time included manual chores, machine use, babysitting, miscellaneous unpaid labour and paid labour. For academic work we coded study-time in school, tuition, and homework. To get an indication of the inter-rater reliability, ten randomly selected children from private schools (all higher SES) and ten randomly selected children from public school (all lower SES) were double-coded. The intra-class correlation coefficients were .91 for sleep, .96 for labour time, and .93 for time spent in academic activities.

SES. The Family Affluence Scale (FAS II), which consists of four items (Currie et al., 2012) was used to measure Socio-Economic Status. We used the composite score of the four items: "Do your parents have a car or van?" responded to with "*no*," "*yes, one*," or "*yes, two, or more*;" "Do you have your own bedroom?" responded to with "*no*," or "*yes*;" "how many computers does your family own?" responded to with "*zero*," "*one*," "*two*," or "*three or more*;" and "how many times did you travel away on holiday with your family?" responded to with "*not at all*," "*once*," "*twice*," or "*more than twice*." The FAS has been

adopted in previous time-use studies (Carson, Pickett, & Janssen, 2011) and found a valid index of SES in youth populations (Boyce et al., 2006; Lin, 2011; Molcho, Gabhainn, & Kelleher, 2007). Cronbach's alpha for the present study was found to be satisfactory (α =.71).

Schonell graded word spelling test. The Schonell spelling test is a simple yet lengthy English spelling test (Schonell & Goodacre, 1974) comprising a list of 100 words of increasing difficulty, beginning with simple CVC and high frequency words such as "see", "mat", "hat", and progressing to multi-syllabic, polymorphemic and low-frequency words such as "amateur" and "committee". Youth from lower SES schools belonging to semi-English classrooms are taught English, Science and Mathematics entirely in English and hence expected to know basic spelling. The Schonell test has been used but not been validated in India (Dixon, Schagen, & Seedhouse, 2011). Cronbach's alpha for the present study was found to be good (α = .99). We calculated concurrent validity for the test by correlating the Schonell scores with scores on a self-reported language proficiency scale, based on a scale by Kwak (1991) that probes into a participant's ability to understand, speak, read, and write English. Answers ranged from 1 (*not at all*) to 5 (*very well*) and Cronbach's alpha for the scale was found to be .97. Previous studies using such self-reports have found high correlations with objective evaluations of language proficiency (Vedder & Virta, 2005). Correlations [$r(266) = .833$, $p < .01$] between the Schonell spelling test and the self-reported language proficiency scale were positive and significant, rendering the test a valid indicator of participants' English language proficiency.

Strengths and Difficulties Questionnaire. The Strengths and Difficulties Questionnaire (SDQ), is a short behavioral questionnaire for self-completion by youth aged 11 – 17. It comprises 25 items such as "I worry a lot" or "I am kind to younger children" rated on a 3-point ordinal scale labeled, 1(*not true*), 2(*somewhat true*), and 3(*certainly true*). The SDQ consists of five subscales: conduct problems, hyperactivity (together assessing externalizing problems), emotional symptoms, peer problems (together covering internalizing problems), and prosocial behavior. The combined externalizing and internalizing problem scores result in a total problem score, which was used in the current study. The Hindi version of SDQ-Self report is available and has been previously used on Indian youth populations with moderate correlations with the Child Behavior Checklist- Youth Self Report (Devi, Verma, & Shekhar, 2013). In addition Marathi translations were done by two independent bilingual experts, because some students report being more comfortable with Marathi. A neutral expert compiled a single questionnaire from the two translated versions. The compiled questionnaire was

given for back-translation to another bilingual expert. A fourth expert compared the original version with the back-translated version and found "nearly no change in meaning" between the versions, suggesting good linguistic equivalence. The Hindi and Marathi versions of the questionnaire were administered during a pilot study and found to be satisfactory. Internal consistency for the SDQ items contributing to the total problem score was found to be satisfactory ($\alpha = .76$).

Procedure

To ensure inclusion of both the highest and lowest socio-economic strata, public and private schools from a Pune directory were invited to participate. In India, public schools are entirely run by government funding and do not charge a fee whereas private schools - aided and unaided, are governed by private management. Aided schools have partial government aid and unaided school have none (Kingdon, 1996). The condition of public schools was poor and lacking in infrastructure, with unsanitary washrooms, frequent power outages and water-cuts, garbage in corridors and neglected classrooms while private schools had sterile surroundings and generous facilities (see also De, et al., 2011). Consenting schools included both public (eight classes) and private schools (seven classes), with two public and two private school classes each segregated by gender while the remaining classes were mixed-sex. Furthermore, all public school classes were Semi-English, meaning that the medium of instruction was alternated between Marathi and English, whereas all private school classes had English as their medium of instruction. Parents and teachers, via parent-teacher-associations were met with and consent was taken. Students too, were asked to give consent and informed group-wise about the study with the first day being spent in ensuring that they understood the study protocol. Languages for data collection were English, Hindi, and Marathi. Research assistants who interviewed as well as those who transcribed the interviews were proficient in at least Marathi, English, and Hindi, which was necessary because children frequently switched languages during narration, even between sentences. A room was allocated for interviews and data collection took place during school hours. Students and schools were informed that the study was voluntary and anonymity was guaranteed.

Analyses

To analyze whether youth time-use could explain SES differences on linguistic proficiency and mental health problems, mediation analysis was computed using the

bootstrapping approach described by Preacher and Hayes (2004; 2008). This same procedure was used to test for moderated mediation, as depicted in Figure 1. In this approach samples are taken from the original dataset with replacement, and in each sample that is taken from the original dataset estimates of the indirect effects are calculated. The distributions of these estimates then serve as nonparametric approximations of the sampling distributions of the indirect effects. An important benefit of this method over the often used Baron and Kenny (1986) method is that there are no assumptions about the distributions of the data. Furthermore, this method provides a formal test of significance for mediation or moderated mediation, which is lacking in the traditional Baron and Kenny (1986) approach. For the current analyses we used 5,000 bootstrap samples and a confidence interval of 95%. The analyses were controlled for age and gender. If the 95% confidence interval did not contain 0, it was concluded that the indirect effect was significant (Preacher & Hayes, 2004; 2008).

5.3 Results

Table 1 presents the means, standard deviations and zero-order correlations between the variables in this study. The time-use variables are reported in minutes, and the mean scores suggest that on average youth in this sample spends about nine hours sleeping, five hours on academic activities, and half an hour on labour, daily. However, standard deviations for all these variables are relatively large, suggesting large variations between the youth in this sample in the time they reported on sleeping, academic activities, and labour. The correlations suggested sizeable relations between SES and youth developmental outcomes, with higher SES youth reporting higher Schonell scores, and fewer problematic behaviors than the lower SES youth. There were also significant correlations between SES and time-use, with the more affluent youth spending more time on academic activities, but less time on sleeping and labour. Our tests for mediation between SES and total problem scores are reported in Table 2. These results have been controlled for age and gender. When all mediators were simultaneously entered in the model, only labour emerged as a significant mediator between SES and total problem behavior scores. Sleep and academic activities were not found to be significant mediators. Our tests for mediation between SES and Schonell scores are reported in Table 3. These results have been controlled for age and gender. When all mediators were simultaneously entered in the model, labour and academic activities were found to be significant mediators between SES and Schonell scores. Sleep was not found to be a significant mediator.

Table 1

Means and Standard Deviations for the variables in the study

	M (SD)	1.	2.	3.	4.	5.
1. SES	3.53 (2.22)					
2. Sleep	545.41 (128.54)	-.35**				
3. Labour	33.07 (58.01)	-.45**	.13*			
4. Academic	314.25 (137.13)	.39**	-.38**	-.32**		
5. Schonell	57.74 (29.57)	.77**	-.36**	-.50**	.45**	
6. SDQtotal	13.89 (6.31)	-.53**	.23**	.40**	-.36**	-.58**

* $p < .05$; ** $p < .01$

Table 2

Results from the mediation analysis with SES as mediated variable and Total Problem Score as outcome variable. Results are controlled for age and gender

	Indirect effect[1]	SE	95% CI Lower limit	95% CI Upper limit
Total	-.39	.10	-.61	-.21
Sleep	-.23	.70	-.31	.04
Academic	-.15	.08	-.33	.00
Labour	-.15	.06	-.30	-.04

[1] The indirect effect is the product of the a and b pathways.

After testing for mediation we proceeded to test two models wherein sleep, academic activities, and labour were included as mediators between SES and total problem behavior or Schonell scores, and wherein SES also functioned as a moderator between the time-use variables and total problem behavior or Schonell scores. With regard to total problem behavior scores, we found no support for moderated mediation for any of the time-use variables. As regards Schonell scores, we found support for moderated mediation with academic activities [-.24 (95% CI: -.44 — -.07)]. A test for conditional effects revealed that at the lower SES levels (one SD below the mean) relations between academic activities and Schonell scores were stronger [.07 (95% CI: .04 — .09)] than at higher (one SD above the mean) SES levels [.01 (95% CI: -.01 — .03)].

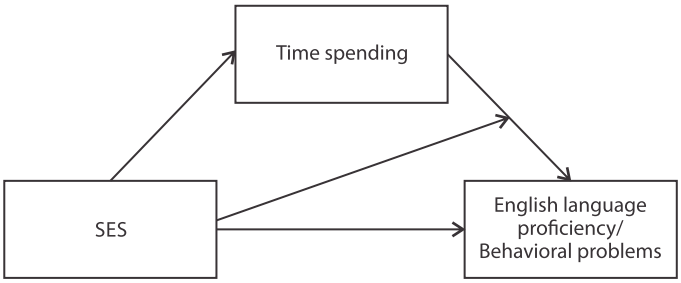

Figure 1. Graphical representation of the model of moderated mediation tested in this study.

Table 3

Results from the mediation analysis with SES as mediated variable and Schonell scores as outcome variable. Results are controlled for age and gender

	Indirect effect[1]	SE	95% CI Lower limit	95% CI Upper limit
Total	2.10	.42	1.34	2.99
Sleep	.40	.25	-.05	.96
Academic	.62	.27	.45	1.58
Labour	.93	.28	.45	1.58

[1] The indirect effect is the product of the a and b pathways.

5.4 Discussion

The aim of the present study was to test for time-use categories that mediate SES and English language proficiency and mental health problems in youth, using daily activity measures. Mediators included categories of labour, academic time and sleep, distinguishing the present study as the only Indian study investigating all three time-use mediators simultaneously and encompassing all economic strata.

We know that time-use impacts developmental trajectories and life chances (Ben-Arieh & Ofir, 2002; Hunt et al., 2014; Larson & Verma, 1999). We predicted time-use patterns and outcomes as dependent on SES (Bradley & Corwyn, 2002; Larson & Verma, 1999) with poorer youth faring worse on language proficiency and mental health problems (French & Kingdon, 2010; McPherson et al., 2014). This assumption was supported by our results, similar to findings in the west (Holz et al., 2015; Kim et al., 2014; Raviv et al., 2004), and in India, where it has been documented that children born into poverty experience persistent and higher levels of physical, mental and academic disadvantage (Boyden et al., 2014; Kalil et al., 2016).

As regards time-use profiles, our hypotheses that lower SES youth engage in more child labour (Khan & Lyon, 2015), less academic work (De et al., 2011) and more sleep (Arman et al., 2011), were supported. It is the poorer youth in our study who, likely to reduce the burden of their families, engage in labour including apprenticeship work, domestic chores and babysitting (Dickey, 2000; Kambhampati & Rajan, 2005; Khan & Lyon, 2015; Pankhurst et al., 2015; Rustagi, 2009; Webbink, Smits, & de Jong, 2012). Moreover, because time is a limited resource, parental reservations about the amount of time they were willing to grant to their children for labour versus academic pursuits could be influenced by an uncertainty about returns from public education (Sequeira, Spinnewijn, & Xu, 2013), and a lack of faith in the system to grant future jobs (Mukherjee & Pal, 2016; Rammohan, 2014). Less academic time could also be the result of public school leniency with rules, absentee or neglectful teachers, and crowded, unsupervised classrooms in the lower SES (De et al., 2011; Sambasivan, Rangaswamy, Cutrell, & Nardi, 2009). In contrast, for more privileged children, academic work is considered to be the pathway to future monetary security via admissions to reputed institutes (Deb, Strodl, & Sun, 2014) even if it means compromising on sleep (see Chapter 4). Such youth have access to house-help, staff and automated machines (Dickey, 2000), leaving them free for exclusive academic pursuits.

We hypothesized that more child labour (Oncu et al., 2013; Putnick & Bornstein, 2016; Weston, 2005) would predict worse language proficiency and more mental health

problems. In our study child labour, mediated poorer linguistic and more mental health problems. It could be that time spent in labour, which is exhausting, negatively impacts school attendance (Woldehanna & Gebremedhin, 2015), displacing time for more stimulating activities conducive to linguistic development (Larson & Verma, 1999). Additionally, for the lower SES, time spent in labour could displace time for academic work which is known to promote cognitive skill development (Fiorini & Keane, 2014), executive functioning (Duckworth and Carlson, 2013) and self-esteem (Baker-Henningham, 2014; Fiorini & Keane, 2014; Nielsen et al., 2015). A moot point to consider is that school-going children who also work before or after school-hours, suffer a double burden of having to juggle between work and study demands (Woldehanna & Gebremedhin, 2016). Our results provide support to the negative mental health outcomes of child labour warranting attention to mechanisms that underlie this pathway. It could be that youth engaging in labour are no longer regarded as children leading to "lost childhoods" (Blanchet, 1996). In addition, child labour augments chances for physical harm, health problems and economic exploitation that impact emotional stability, in addition to the awareness of one's social position and knowledge of the constraints to access and opportunities for social advancement (Boyden et al., 2014). There is the added risk of punishments or intimidation from adults for not performing well enough. Moreover, particular forms of child labour, such as apprenticing as house help, are known to make children more vulnerable to physical and sexual forms of abuse (Pankhurst et al., 2015) and, hence, could be a pathway to worse mental health outcomes.

The hypothesis that more academic time (Duckworth & Seligman, 2005) would predict better language proficiency and less mental health problems was partially supported. Time spent on academic work had a significant and positive effect on linguistic outcomes supporting the view that it scaffolds learning (Duckworth & Seligman, 2005). Academic time, however, did not predict mental health problems. We did see a significant negative correlation between child labour and academic time. This suggests that in the limited time available after-school, those children, especially from the lower SES who spend time studying do better linguistically, but also perform less child labour, protecting them from its harmful mental health consequences. For the middle and higher SES, it could be that fewer mental health problems might be more a function of their socioeconomic advantage, critical early childhood stimulation or nurturing environments offering protection, rather than how much time is spent on academic activities (Nambissan, 1996).

Sleep as a mediator was not significant. In line with our results, a cross-cultural

study (Lushington et al., 2015) found that although Asians sleep less than Westerners on account of academic workloads, these shorter sleep durations do not predict worse mental health outcomes. Although short and long sleep durations are known to correlate with worse outcomes on tests, these are said to be related in a dose-response manner (Hysing, Harvey, Linton, Askeland, & Sivertsen, 2016). In our study, it is therefore possible that youth who slept less did not on average qualify for sleep deprivation (Mattricciani et al., 2012). Similarly, mental health outcomes were not affected; our participants may have stayed within a healthy sleep range, underlining consideration of cultural differences in what is considered as "normal sleep duration" (Owens, 2005).

Some limitations of the current study must be noted. Objective measures like actigraphs, were not used to measure sleep and neither were specific questionnaires that targeted sleep, labour, or academic time, administered (Vogler, Morrow, & Woodhead, 2009). Although English language tests were administered, we did not test for fluency in other languages. The study depended on student self-reports and was neither multimodal nor with multiple informants (Harvey, Lawton, & McColl, 1999). In order to include school-going children from the lowest SES, often excluded from Indian studies on account of their absenteeism, and despite being unable to retain a large number, we identified and persisted with interviewing those whom schools reported were more regular, by making several and repeated visits beyond the data-collection period. It is possible that these absentee children were working or had been kept home to help parents. This phenomenon is common in Indian public schools and cannot be avoided if the goal is to collect data from a broadly representative urban sample (De et al., 2011). Finally, we studied quantity, not quality of time-use. Studying what quality of time spending activities, e.g., the quality of sleep or leisure, children engage in, could further clarify how daily activities contribute to children's health and development.

The present study especially highlights the negative effects of child labour (Putnick & Bornstein, 2016), while studying mechanisms from SES to linguistic and mental health outcomes. When considering what is hazardous to children, mental health problems have been neglected. Indian legislation allows for and endorses home-based as well as after-school work labelling it as necessary, when in fact, it may contribute to the existing burden of morbidity and mortality faced by the state. With a growing concern for youth health in global development (Mokdad et al., 2016), future public health policies and practices must intensively address child labour as a risk and burden for mental health outcomes in India.

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